DOCUMENT RESUME

ED 192 616 FL 011 869

AUTHOR Fisiak, Jacek, Ed.
TITLE Papers and Studies in Contrastive Linguistics, Volume Eleven. The Polish-English Contrastive Project.
INSTITUTION Adam Mickiewicz Univ. in Poznan (Poland).
PUB DATE 80
NOTE 147p.
AVAILABLE FROM Center for Applied Linguistics, 3520 Prospect St., NW, Washington, DC 20007 ($5.00)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS *Contrastive Linguistics; English; Finnish; Negative Forms (Language); Nouns; Phonemes; Phonology; *Polish; Pragmatics; Syntax; Thai; Transformational Generative Grammar; Verbs

ABSTRACT

This volume contains ten articles and a book review. Josef Vachek talks about "Vilem Mathesius as Forerunner of Contrastive Linguistic Studies." In "Contrastive Generative Grammar and the Psycholinguistic Fallacy," Andrew Chesterman discusses methods for accounting for simplification in foreign language learning. Michael Post compares "English 'the-the' Constructions and Their Polish Equivalents," saying that despite different surface structures, they have identical semantic structures. A contrastive analysis of "The Generic Noun Phrase in English and Polish" is done by Janina Smolska and Jan Rusiecki. Ossi Ihalainen's "Some Remarks on Word Order and Definiteness in Finnish and English" discusses passive syntax. Also included are: "Similarities and Differences between Notional Passive Sentences in English and Polish," by Ireneusz Bobrowski; "Non-Typical Cases of Plural Nouns in English and Polish," by Barbara Dancygier; "Lexical Cohesion in Text Analysis," by Aleksander Szwedek; "An Investigation of Thai Interference in Selected American English Phonemes," by Eugene J. Briere and Colonel Sinuan Chiachanpong; and "Some Remarks about the Pragmatics of Negation in Polish and English," by Maria Kawinska. The review is "Phonology and Resonants: Some Remarks on Biedrzycki's 'Fonologica Angielskieh i polskich rezonantow,'" by Edmund Gussman. (PJM)

PAPERS AND STUDIES IN CONTRASTIVE LINGUISTICS

VOLUME ELEVEN

POZNAŃ 1980

ADAM MICKIEWICZ UNIVERSITY, POZNAŃ
CENTER FOR APPLIED LINGUISTICS, ARLINGTON, VIRGINIA

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Proof reading: ANDRZEJ PIETRZAK
Technical layout: MICHAŁ ŁYSSOWSKI

WYDAWNICTWO NAUKOWE UNIWERSYTETU IM. ADAMA MICKIEWICZA W POZNANIU

Nakład 1200+100 egz. Ark. wyd. 11,00. Ark. 9,375. Papier druk. sat. kl. III, 80 g. 70×100 cm. Oddano do składania 29 IX 1979 r. Druk ukończono w kwietniu 1980 r. Zam. nr 713/228 L-6/862 Cena zł 60,–

DRUKARNIA UNIWERSYTETU IM. ADAMA MICKIEWICZA W POZNANIU

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VILEM MATHESIUS AS FORERUNNER OF CONTRASTIVE LINGUISTIC STUDIES

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Vilém Mathesius (1882—1945) has been fairly well known to wide circles of linguists, both in his own country and abroad, as the founder of the Prague Linguistic group and as the first president of the Prague Linguistic Circle (from its foundation in 1926 until his death). Less known has been his contribution to modern linguistic thinking, with the exception of some of his phonological papers, mainly those which examined some quantitative aspects of phonological problems. Especially his programmatic talk on the potentiality of the phenomena of language, going back to as early as 1911 when it was read in one of the sittings of the Royal Czech Society of Sciences, was to remain virtually unknown outside his country because it was published only in Czech (Mathesius 1911, its translation into world languages was to appear only half a century later: into English in 1964, into Russian in 1967).

In the said talk Mathesius emphatically stressed, four years before the publication of F. de Saussure's *Cours* (1915), the necessity of studying language synchronistically, and pointed out the importance of synchronic oscillation in any language system. As Mathesius demonstrated, it is exactly the fact of this oscillation which is able to contribute to the solution of some problems of general linguistics, e.g. the problem of the independence of the word within the sentence, the question of whether individual parts of speech can claim their specific degrees of stress, etc. Answers to such problems were formulated by Mathesius in terms of tendencies obtaining in this or that particular language: such tendencies do not operate absolutely and constantly like physical laws but nevertheless become manifested very clearly and their existence can be demonstrated by statistical methods. In this way, Mathesius was one of the first scholars to perceive that synchrony is not identical with static rigidity but that, even if viewed synchronically, language is always "in a state of flux".

But there is another branch of modern linguistic research which can claim to have had Mathesius as its forerunner, if not initiator, and that is the branch now termed contrastive linguistics. Mathesius himself, of course, used somewhat different terminology. The method he called one of analytical comparison, and the result obtained by it he termed "linguistic characterology". (It should be added that Mathesius' Czech and Slovak followers usually denote the method itself as 'confrontational', because in their view the term 'contrastive' appears to put excessive emphasis on the differences of the compared language systems, while the term used by themselves implies an analysis taking into consideration both the differences and the correspondences of the said systems).

Although Mathesius had been always, from the very beginning of his scholarly career, deeply interested in the synchronistic analysis of the phenomena of language, his activity in the area now termed contrastive linguistics was to become his main preoccupation only in the mid nineteen-twenties, when he had completed the fourth decade of his life. If one surveys the bibliographical list of Mathesius' writings until 1922, one will find in it an imposing number if detailed and delicate analyses of Modern English grammatical phenomena, mainly syntactic, but hardly any specimen of a truly contrastive analysis, systematically confronting English with Czech or any other language. During the said period, Mathesius was also very active in the field of the history of English literature, as is eloquently demonstrated, among other things, by two volumes of his (unfinished) *History of English Literature* (Mathesius 1910—1915). As a matter of fact, one can say that Mathesius was brought to his systematically contrastive research by what was his personal misfortune but what in the end proved to be something like blessing in disguise.

What happened was that, some time in 1924, Mathesius was suddenly afflicted by virtual loss of sight: a severe disease of the retina made him unable to read for the rest of his lifetime, and he had to depend on the help of his student assistants or of the members of his family. This severe blow, which would have completely disabled most scholars, meant for Mathesius only a change of the style of his work and in the choice of his themes. Very naturally, he had to abandon his work in English literary history and to concentrate upon linguistic research. Even there, however, a basic reorientation was necessary. Unable to analyse written texts, Mathesius was becoming more and more attracted by spoken language materials, and these were, understandably, mostly drawn from Czech, which was not only his mother tongue but also the language to the impact of which his hearing had been most intensely exposed.

In this context, one can hardly regard as an accident that after the first Mathesius' paper discussing a point taken from colloquial Czech (Mathesius

1923) his bibliography[1] shows that, as Mathesius was penetrating more and more deeply into Bohemistic problems, his synchronistically orientated linguistic approach was increasingly attracted by the newly emerging possibilities of a non-historical comparison of English and other languages, mainly the linguist's mother tongue. It was only natural that, guided by this new concrete experience, Mathesius' mind logically tended to an attempt at drawing some consequences from it on a higher, more abstract level: Mathesius tried to formulate some consistent theoretical basis which might serve both as an interpreter of the results already obtained and as a guide on the way leading to further results of the kind.

Mathesius' first formulation of such a theoretical basis was presented again in a Czech paper published four years later (Mathesius 1927). The importance which its author himself attached to the issues treated in it is clearly evidenced by the fact that Mathesius did not hesitate to present its modified English version at the First International Congress of Linguists in The Hague in 1928 (cf. Mathesius 1929a). It will be recalled that one of the crucial questions addressed to the participants of the Congress by its organizers concerned the formulation of appropriate methods which could be effectively used for descriptions of language. Mathesius believed to have found such an appropriate method in his approach of analytical comparison whose application was to result in the linguistic characterology of the examined language. The presentation of Mathesius' arguments at the Congress was evidently successful, even if in the following decade the practical application of the principles exposed in this paper was not to hnd too many followers outside Mathesius' own country. One can only speculate whether this relative failure was due to the circumstance that, at the same Congress, the greatest success was scored by Trubetzkoy's, Jakobson's and Karcevskij's presentation of basic principles of phonology. Brilliant as they undoubtedly were, they may have had the effect of shifting Mathesius' idea of linguistic characterology to something like the second plane.

On the other hand, it should be recalled that Mathesius' theses fitted very well with those of the Russian scholars. The fact that Mathesius, Trubetzkoy, Jakobson and Karcevskij (together with two outstanding representatives of the Geneva School, Bally and Sechehaye) united their theses in a joint proposal, unanimously approved by the Congress, gives evidence to the mutual consistency, and indeed complementariness, of the said theses. The main feature that united them all was the functionalist approach of the facts of language, and it was exactly this feature that made it possible, a year later, to incorporate Mathesius' ideas into the framework of the Circle's collective theses

[1] It was published in 1947 by the English Department of Charles University, Prague, together with the Prague Linguistic Circle.

(Cercle Linguistique de Prague 1929) which were then presented to the First International Congress of Slavists held in Prague that year.

As a matter of fact, the whole section 2b of the said theses (entitled "Recherches sur le mot et le groupement des mots", and "Théorie des procédés systématique") were formulated by Mathesius on the basis of his earlier proposition presented at The Hague. It also deserves to be noted that in the introductory section of the theses (1b) it is said expressly: "La tâche la plus pressante et aussi la plus négligée de la linguistique slave est ... de formuler les charactéristiques des languages slaves actuelles", and it is added that unless one proceeds in this way any study of Slavonic languages which might claim deeper significances is absolutely impossible. If, despite the warning, the functionalist principles declared by the Prague theses were to be overwhelmingly followed only in the domain of phonological studies, while the goal set by Mathesius was to remain, at least outside Mathesius' own country, in the background, this was probably due to the above-mentioned attractiveness of phonological analysis and to the fact that phenomena of the phonic level appeared to be more easily analysable than those of the 'higher' language levels, inasmuch as facts of meaning do not interefere with the former as much as with the latter.

Even nowadays, Mathesius' arguments presented at The Hague are well worth reading. A distinctive line is drawn in them between linguistic characterology and descriptive grammar: "If it is the task of the descriptive grammar to give a complete inventory of all formal and functional elements existing in a given language at a given stage of its development, linguistic characterology deals only with the important and fundamental features of a given language at a given point of time, analyses them on the basis of general linguistics, and tries to ascertain relations between them" (1929a: 56). As a basis of such comparative analysis Mathesius recommends mainly the study of the ways in which "common grammatical functions are expressed". It should be pointed out here that this functionalist basis of contrastive research is a matter of fundamental importance because it guarantees the highest possible degree of objectivity in dealing with examined language materials. Since the communicative needs can be regarded as roughly identical in the communities using the compared languages, one can treat them as a safe background against which the characteristic differences of the compared languages will distinctly stand out. Without such a firm functionalist basis the contrastive comparison might easily lose its way in a purely subjective selection of the items to be compared, and the results might then be of doubtless value.

In the following section if his Hague talk Mathesius examines the prehistory of the effort at the establishment of linguistic characterology. He adduces here mainly two lines of development leading to this goal. One goes back to theoreticians like Humboldt and later on, Steithal, Misteli and Finck. The other line is orientated more practically, towards stylistic instruction pointing out the characteristic features of a foreign language for the use of native learners of it. As authors whose work is particularly illustrative of this approach Mathesius mentions especially Strohmeyer and Aronstein; also some aspects of the writings by Max Deutschbein and Otto Jespersen are adduced as containing some valuable materials contributing to the linguistic characterology of Modern English. For all such analogies, Mathesius' own conception of his characterology is unique for the author's effort at a consistently functionalist approach, distancing itself both from the psychologistic haziness of the former of the two above mentioned lines of development, and of the descriptivist practicism often inherent in the effort of the latter. What he himself had in mind is very clearly demonstrated in the third part of his Hague talk.

In it Mathesius produces evidence for an important difference that can be found between Modern English on the one hand and modern Slavonic languages (including Czech) on the other, concerning the different functions of the grammatical subject in these two types of languages. While in Modern Czech it still denotes, essentially, the doer of the action (as it clearly did in ancient Indo-European languages), in Modern English its function has been altered into one denoting the theme of an utterance (in the terminology of some scholars, the topic, as opposed to the comment). In Mathesius' opinion, this alteration accounts for the frequent use in Modern English of the passive voice as opposed to the active found in comparable sentences of Modern Czech (e.g. *I haven't even been allowed to meet any of the company* — *Ani mi nedovolili jen se setkat s někým z té společnosti*). Admittedly, in sentences of this kind the speaker who experiences the content of the utterance is the most feasible starting point in wording such experience.

This explanation of the use of passive constructions in English is borne out by the notorious Modern English instances in which the subject of a passive sentence arose by transformation of an indirect object of a corresponding active sentence (such as, e.g. in *I have been told* as opposed to *Řekli mi*), and by a number of other, equally interesting grammatical features of Modern English all of which can, in the end, be accounted for by the difference of functions of the subject in Modern English on the one hand and in Modern Czech on the other. It should only be added that more details of this difference can be found also in the enlarged German version of Mathesius' paper which he wrote for a representative German linguistic periodical after the Hague Congress (Mathesius 1929b).

In the following decade and a half Mathesius wrote a series of papers in which he subjected to contrastive analysis various points of English and Czech grammar. One of them which especially attracted his attention was the issue of word-order in English and Czech sentences to which he devoted, among other contributions, a paper of basic importance (Mathesius 1942) which has preserved its value until the present day.[2] As a very essential part in the study of word-order is played by the principle of the functional sentence perspective (which distinguishes in the sentence two main communicative component parts, the above mentioned theme, opposed to rheme-corresponding, respectively, to 'topic' and 'comment' of some scholars), also other papers by Mathesius concerning this other issue deserve to be registered here (especially Mathesius 1939a, 1941a). Another field of problems which attracted Mathesius' attention was that of comparative lexicology (see especially Mathesius 1940). Needless to say, also many other papers written by Mathesius, even if they do not deal exclusively with contrastive, but still with general linguistic issues, contain many references to details throwing some new light on the linguistic characterology both of English and of Czech (and occasionally, also of other languages, mainly German, see, e.g., Mathesius 1936a, 1937, 1939b).

Throughout his life Mathesius had hoped to write a synthetizing monograph which would summarize and systematize all the partial contributions scattered over his numerous papers, both English and Czech. A foretaste of such a volume he gave to the Czech public in a booklet containing an enlarged version of his twelve broadcast talks by which he had accompanied a radio course of English broadcast from Radio Prague in the mid nineteen-thirties (Mathesius 1936b). The booklet contains twelve very instructive chapters, written in an easy, clear style and explaining to a Czech learner of English the most characteristic structural features by which Modern English differs from Modern Czech. It starts from the discussion of issues of phonology and graphemics, continues to deal with matters of grammar (where special attention is paid to differences between English and Czech in syntax, in the verbal system and, last but not least, in the nominal tenor of the English sentence as opposed to the verbal tenor characteristic of Czech), and concludes with an illuminating chapter pointing out the differences between English and Czech extralingual realities. Only in passing it should be remarked that Mathesius' booklet was meant as an introductory volume to a series treating also other languages in an analogous manner. And indeed, some six years later another volume of the series was compiled by a young expert in German which in many ways was to prove very helpful to learners of that language (Nosil 1942).

Unfortunately, the above-said Mathesius' booklet was not to be followed, within Mathesius' lifetime, by the bigger volume he had intended to write. An excessive amount of other duties, pedagogical as well as scholarly, had

[2] This value was most convincingly demonstrated by J. Firbas (1962), whose Czech paper, very significantly, was given the same title as that of Mathesius (printed in 1942).

prevented the seriously handicapped writer to realize his plans, especially since his eyesight troubles were to be joined by an agonizing disease of the tuberculosis of spine. Only in his university courses, so far as he was able to give them, he continued to develop his theoretical views and to illustrate them with well-chosen, carefully excerpted examples. He never gave up hope to prepare this course for print, the more so that one of his student assistants, Karel Hais, who regularly attended Mathesius' course in the year 1935/36, provided his teacher with a typewritten verbatim record of the lectures he had attended in it. On the basis of this text Mathesius had hoped to edit, at some future time, his own, authorized version of these chapters for publication purposes. But except for some isolated corrections in a few places of the text, he was never to find the time necessary for this.

After Mathesius' untimely death in April 1945, at a relatively early age of 63, Hais' typescript was discovered among the manuscripts the deceased scholar had left behind. Although it was only too obvious that in its preserved form it could not be submitted to print it was agreed that, if subjected to a detailed editorial work, it might obtain a shape acceptable for publication purposes. The present writer was then entrusted with this honourable but very difficult task, which also included the compilation of a detailed commentary bringing the discussed issues up to date. He completed the revision of the text as well as the compilation of the commentary in the autumn of 1949. But for various reasons of technical character the manuscript could only go to press in 1960. This, naturally, called for a new careful revision of the text as well as for the compilation of a new commentary; finally, a year later, post tot discrimina rerum, the volume appeared in print (Mathesius 1961).

The book is divided into two sections, the first of which discusses problems of naming (in Mathesius' terminology, 'Functional Onomatology') and the other one deals with the problems of combining naming units into utterances (in Mathesius' terminology, 'Functional Syntax'). Although it still bears the signs of the pedagogical motivation of many of its formulations, the book can be said to present an undistorted idea of Mathesius' conception of what he called analytical comparison of languages and of what he himself expected to find in a 'linguistic characterology' of a concrete living language.

Compared with the booklet of 1936, Mathesius' bigger monograph does not deal with facts of the phonic and graphemic level, and also remarks on the differences in the English and Czech extralingual realities have been dropped. Those sections of the manuscript which dealt with phonic and graphemic data were highly antiquated and their publication would have been only of historical interest. Contrary to this, the sections dealing with onomatological and syntactical issues have preserved their topical character and in their entirety present a contrastive sketch which very efficiently contributes to the linguistic characterology not only of Modern English but also of Modern Czech. It is, therefore, hardly surprising that in the present-day period, characterized by intense interest in contrastive linguistics, it has been considered useful to have Mathesius' posthumously published book accessible also to foregin scholars who so far have been ignorant of it because of the language barrier. Therefore, the English version of the book was prepared by Dr Libuše Dušková in Prague and published in 1975, jointly with Mouton and Co., by the Prague publishing house Academia. It again contains an up-to-date commentary prepared by the present writer. It may be said that the English version of the book constitutes not only an interesting specimen of contrastive approach but also a valuable addition to the study of the prehistory of contrastive linguistic research at large, an addition which to many contrastively orientated scholars of today has so far been hardly known.

Two more points should be added which may put in stronger relief the crucial part played by Mathesius in the prehistory of contrastive linguistics. One of them is the fact that a majority of his direct or indirect pupils have continued working in the contrastive spirit inaugurated by their teacher. To mention just a few, Ivan Poldauf contributed not only a theoretical study on the importance of analytical comparison (Poldauf 1954b) but also some concrete papers on particular grammatical issues (e.g., Poldauf 1954a, 1964); the present writer dealt with the expression of universal negation in English and Czech as well as with the preference in Modern English sentences of nominal expression as opposed to the verbal trend of the Czech sentences, and also compared the formal and functional features of the English Possessive Case with Czech possessive adjectives (Vachek 1947, 1961); Jan Firbas pointed out some notable differences ascertainable between the function of the finite verb in Modern English and Modern Czech in the context of his research in functional sentence perspective, and besides wrote a number of papers comparing the two languages also in other important points (Firbas 1962, 1963, 1964, 1968, 1976); finally, Jiří Krámský subjected to his analysis the quantitative aspects of phonology and grammar not only of English and Czech but also of many other languages (Krámský 1955, 1972). This brief list leaves unmentioned a number of younger Czech and Slovak Anglicists who follow in the footsteps of their seniors by upholding the well-established Czechoslovak traditions of synchronistic comparison of English and their mother-tongue (see, at least, A. Svoboda 1968, Dušková 1978).

The other point that should be stressed in this connection is that analogous trends of analytical comparison can be established in Czechoslovak linguistic research also outside the Anglicist domain. This is especially true of Czechoslovak Russian studies where already in the mid nineteen-thirties one of the founding members of the Prague Linguistic Circle, Leontij V. Kopeckij based his textbook of Russian for Czech students on a contrastive methodological approach (Kopeckij 1934). This tradition has been continued ever since both in Prague (cf. B. Havránek et al., 1956) and in Brno (cf. Bauer—Mrázek—Žaža 1960). Among the scholars who work out the theoretical aspects of this type of research one should mention at least Vladimír Barnet, Oldřich Leška and Helena Běličová-Křížková; on the Slovak side, Ella Sekaninová. From the domain of German studies we have already adduced the mame of Jaroslav Nosil; here, too, the tradition has never been interrupted (The best known scholars working in this field are E. Beneš, J. Povejšil, Z. Masařík and others). It should also be noted that specialists interested in the problems of the Funtional Sentence Perspective in various languages discussed the involved issues in 1970 at Mariánské Lázně; their papers were published four years later, in a volume of the proceedings of that meeting (F. Daneš, ed., 1974).

One more feature deserves to be underlined in this context. As is commonly known, present-day contrastive linguistics lays particular stress on the part played by contrastive linguistics in language teaching.[8] It is interesting to note that the Prague scholars who employed the method of analytical comparison never hesitated to deduce practical conclusions from their theoretical principles. One of the domains of practical application here has often been that of language teaching. We have already pinpointed here above Mathesius' booklet by which he accompanied a radio course of English for Czech listeners. It should be added that a large number of Mathesius' pupils applied contrastive methods to teaching purposes in their own textbooks, both of English and of other languages (thus, e.g., Trnka 1927, Vachek 1946, Hais 1958, etc.). Nor has this activity been limited to practical issues; the most obvious proof of this has been the research in Error Analysis pursued by an adherent of the Prague functionalist whose name has already been mentioned here above, Libuše Dušková (see Dušková 1969, 1972, 1978, where problems of error analysis are discussed from the functionalist viewpoint). Also in teaching Russian analogous trends of research may be found (here especially the names of M. Zatovkaňuk, A. Šourková, J. Zajíčková and others should be mentioned).

The very incomplete survey of Czechoslovak activities in contrastive linguistic research given here should show, in our opinion, very convincingly, that the seed sown by Vilém Mathesius more than fifty years ago has yielded rich crops. One can thus assert, without risk of exaggeration, that any survey of present-day contrastive research work would necessarily be incomplete if

[8] Admittedly, some scholars take exception to the usefulness of contrastive linguistics in so far as its ability of predicting pupils' mistakes is concerned (see, e.g., W. R. Lee 1972). In any case, however, the importance of the background of the mother tongue in the process of language teaching can hardly be doubted.

it overlooked the Czechoslovak participation in this kind of activity. It should particularly be emphasized that also in this field, just as elsewhere, Mathesius figures as a forerunner of linguistic thinking which was to emerge abroad only in later decades. Besides, special stress must be laid on the fact that Mathesius' effort in this field does not constitute just a page of the past linguistic history of Czechoslovakia but rather a living tradition which has preserved its vital force and proved to be an inspiration for successive generations of linguists until the present day.

ABBREVIATIONS

BSE	Brno Studies in English
ČMF	Časopis pro moderní filologii
SaS	Slovo a slovesnost
TCFP	Travaux du Cercle Linguistique de Prague
TLP	Travaux Linguistique de Prague

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CONTRASTIVE GENERATIVE GRAMMAR AND THE PSYCHOLINGUISTIC FALLACY

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A recent development in the theory of Contrastive Analysis is the proposal made by Krzeszowski (1976, 1977) to use Contrastive Generative Grammar (CGG) to account for the process of simplification in foreign language learning. This proposal seems to be based on a fallacy similar to that which confused psycholinguistics during the 60's, a blurring of the distinction between the domains of the empirical and the formal.

The distinction is first briefly outlined here with reference to TG, and then discussed with reference to CGG.

I

In principle at least, language may be studied from three points of view: as a mental capacity (what people have in their heads), as a behavioural process or series of processes (what people do), or as a product of this capacity and these processes. Descriptions, theoretical models, may be constructed for any of these viewpoints. We have, then, the following set-up:

A — Capacity	A^1 — Description of capacity
B — Process	B^1 — Description of process
C — Product	C^1 — Description of product

(References will be made to these as A, A^1, etc. in what follows.)

The product is directly observable (sounds, etc.). The processes are observable if they are external (lips, hand movements etc.); some are observable only with difficulty (neurological), and some seem unobservable — so far at least (cognitive). The capacity is largely unobservable at the present time, but its existence (note: not its form) is legitimately inferred from the processes and products it gives rise to. Theories of performance aim to describe A and especially B, while C — the utterances produced — has traditionally been considered the object of decription of grammar (C^1).

However, with the Chomskyan notions of competence and explanatory adequacy, the emphasis given to language acquisition, and the adoption of intuition as an additional data-source, there has arisen and evident desire to extend the realm of grammar into the areas of A^1 and B^1, and to shift linguistics into psychology. (See Derwing 1973).

We now have two possible aims for grammar. One, the traditional one, is that grammar should describe the product alone, making no claims about how people produce or perceive utterances, nor about the form of their mental capacity. The adequacy of such a grammar will be measured internally by the normal formal criteria for any scientific theory (consistency, explicitness etc.), and externally, if it is explicit enough, by testing whether the rules it sets up do actually account for the regularities of observed utterances. (It is unnecessary to scorn such a grammar as being "merely" taxonomic: quite apart from anything else it can be invaluable in pedagogical application.)

In the second case, a grammar would seek to describe actual psychological processes and capacities. As a branch of cognitive psychology it will be expected to formulate its claims in such a way that they can be empirically tested like any other hypothesis in the behavioural sciences. We shall be suspicious, therefore, if this grammar makes claims which appear to be *in principle* not empirically refutable. (See e.g. Itkonen 1978.) We would expect such a grammar to be experimentally based, closely linked to the study of memory, neurolinguistics, cognition, perception, etc.

It needs to be recognized that these two types of description are quite distinct. In particular, the processes involved in each are entirely different. In the product grammar processes are purely formal, such as those known as transformation, substitution, derivation, etc., and the motivation for postulating them is given by the internal requirements of the grammar. In the psychological grammar, on the other hand, processes are behavioural, genuinely dynamic, they take place in time, and they are thus claimed to have a definite objective existence external to the theory.

II

What may be called the psycholinguistic fallacy was to mistake a product grammar for a psychological grammar, to assume that the formal processes used by the product grammar were actually describing the production and perception processes of language behaviour. Hence the flood of (often rather dubious) experiments e.g. on the derivational theory of complexity, and the significance of experimental evidence *against* the hypothesis (see e.g. Slobin 1968, Ingram 1971). The fallacy was further propagated by early models of performance or parts of performance based on TG, such as those suggested by Wales and Marshall (1966) and Halle and Stevens (1962).

That this work was based on a fallacy was frequently pointed out, not least by Chomsky himself, who had written: "A generative grammar is not a model for a speaker or a hearer ... (...) When we say that a sentence has a certain derivation with respect to a particular generative grammar, we say nothing about how the speaker or hearer might proceed, in some practical or efficient way, to construct such a derivation" (1965 : 9).

But the misunderstanding persisted, and in 1968 Osgood could write: "a transformational grammar is now being considered as a possible model for language performance" (1968 : 499).

The confusion appears to have arisen from Chomsky's own work (see Derwing 1973, especially ch. 8). Competence, together with the emphasis laid on the native speaker's intuition, does suggest a capacity postulated in the mind, part of A. As Ingram (1971) says: "to refer to the grammar as describing the competence of the speaker must imply that the rules of the linguist govern the behaviour of the speaker" (1971 : 344). And constructing a theory of grammar that aims at explanatory adequacy ultimately means making "a hypothesis about innate schemata", about "the nature of mental structures and processes" (Chomsky 1965 : 27, 53). If these processes are mental ones, they must presumably take place in time and be genuindy dynamic. But in that case they are not the same as the static, purely formal processes of a product grammar. (Of course, such formal processes, explicitly formulated, are of the type that might be used to programme a computer, a point which has been made many times and as many times refuted.)

There are fundamental ambiguities here, in the stated aims and claims of generative grammar, which can be resolved in three ways. First, TG is to be taken purely as part of C^1, a description of the product C, in which case an infelicitous choice of terminology has led many psycholinguists up the garden path. This view of TG is adopted e.g. by Lipińska (1974): "TG is not a realistic theory but instrumentalistic, i.e. is designed for the sake of convenience in [the] description of languages" (1974 : 10). (See also Derwing 1973, Prideaux 1971.)

The second solution would be to interpret TG as a part of A^1 and B^1, in which case the problems are formidable. For example, it would have to formulate all its major claims in such a way that they could be empirically tested: you can test whether a given output-sentence is accepted as grammatical, but how do you test whether a given sentence is behaviourally produced in a given way, via a given set of transformations from a given deep struc-

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ture? And how is it to account for the differences between perception and production? If generation is to be interpreted as behavioural production, what corresponds to perception, decoding, in the grammar? It would also, of course, have to explain away the experimental evidence against such an interpretation.

The third, least satisfactory solution would be to assume that TG is in fact trying both to have its cake and eat it, to be both a product and a psychological grammar, or simply to be vacillating between the two. What seems to happen in practice is that TG focuses on the product C, and its description of C is just pushed into A and B; theoretical and experimental contributions from psychology, neurology etc. have little effect on its form.

Having said all this, it must nevertheless be stressed that one of the ways in which linguistics as a whole may develop is precisely in the direction of psychology; psychological grammars are undoubtedly going to be more important in the long run. But at the present stage of the art we have a right to be suspicious about product grammars which are *a priori* claimed to represent psychological reality, when they offer little empirical evidence for this or even appear to rule out in principle the possibility of their ever being empirically tested.

III

Contrastive Analysis is a way of describing utterances from two languages it is a part of C^1. A contrastive analysis may take the form of a contrastive generative grammar, such as that proposed by Krzeszowski (1974).

In Krzeszowski's CGG there are five levels of representation:

— semantic (fundamental meaning relations acting as input to sentence derivation)

— categorial (where language-specific categories are assigned to the input)

— syntactic (where transformations produce the basic linear order of the categories)

— lexical (where lexicalization takes place)

— post-lexical (where cosmetic transformations deal with minor categories, concord, etc.).

These levels are connected to each other and to the dictionary by means of formal processes such as transformation, mapping, lexicalization.

I shall not be concerned here with CGG as such (see van Buren 1976 for a detailed review), but with its proposed application to language learning, for it is here that CGG appears to succumb to the psycholinguistic fallacy.

(I refer to Krzeszowski 1976, which also appears more or less unchanged as Krzeszowski 1977.)

From the study of learners' target language utterances there has recently arisen the notion of simplification (Richards 1975, Widdowson 1977, Corder 1977). This is argued to be a basic strategy in the learner's approach to and use of the target language, underlying for example the various psychological processes suggested by Selinker (1972), such as generalization, transfer, L2 communication strategy, etc. Thus Widdowson (op. cit.) claims that such processes are "tactical variations of the same underlying simplification strategy", and that these simplifying procedures "lie at the heart of communicative competence" (op. cit., quoted in Krzeszowski 1977:7). Corder suggests further that language learning may be seen as a process of complication, by means of which the early simplified codes, similar to those of pidgins and creoles, are gradually elaborated into a standard code.

In the light of the significance of these notions of simplification and complication, and recent evidence that transfer may not be as important as previously thought, Krzeszowski wonders whether these developments "suggest a further regress of relevance of CA conducted for pedagogical purposes" (1977 : 10). He goes on to imply that this need not be the case, since CGG can accommodate this "vertical" dimension of complication as well as its established "horizontal" dimension of relations between native and target language; CGG thus "seems to be well fitted for providing a fairly explicit account of the process of complication associated with second language learning" (1977 : 12). Krzeszowski then discusses how the simplified code of the learner can be described in terms of the place of lexicalization in the generation of a sentence; how in principle CGG could formulate the various complication routes from the simplified code to the standard language; and how it could account for certain errors by formulating a wrong complication route which had led to them.

True, a *code* can be formally described in this way. But can "complication" and "simplification" be so treated? Are these terms as ambiguous as the TG use of words like "process"? If they are linguistic processes like generation, well and good: CGG can in principle be used to relate a simplified code to a complicated code, and suggest all manner of formal complication routes by which the latter may be derived from the former. But: are they not intended to be *psychological* processes, part of what the learner *does* when he learns? Presumably, that is, the learner is understood to simplify the target language input for memory storage, to simplify what he knows of the target language in his own production of it; and as learning proceeds he gradually "complicates" his target language repertoire. Admittedly, even as psychological terms, complication and simplification are at the moment so wide that they explain virtually nothing; yet it would surely seem that they are indeed intended to be psychological, not formal, in which case CGG, as a description of a product, can have nothing to say about them.

On the one hand then, Krzeszowski seems to be trying to smuggle behavioural processes into his product-description; on the other, genuine linguistic processes are pushed out of the product-description level onto the behavioural process level. Lexicalization, for example, is evidently no longer a part of the description of the code, but something the learner does: "... the degree of syntactic complication of a construction actually uttered by the learner is directly dependent upon the stage of derivation at which *the learner lexicalizes his construction*" (1977 : 13, my italics). This looks like the psycholinguistic fallacy again: an aspect of a formal description of a product is being applied to the description of a behavioural process; formal generative processes are being taken to represent what goes on in the learner's head.

This confusing of linguistic and behavioural processes is even more explicitly revealed when the two non-like terms appear in parallel as likes: "a foreign learner may ... lexicalize prematurely ... or he may pursue a complication route ..." (loc. cit.).

But what empirical evidence is there that a learner "lexicalizes" from a structure? More important, how could an experiment be set up to test this claim? *Could* one be set up?

Apart from the suspicion that CGG is trying to do the impossible here, the model proposed also projects a rather counter-intuitive image of the process of language learning, in particular of the learner's production of a target language utterance, since it claims that the learner at some stage has a "lexically empty" target language construction available and then puts words into it. Is it not much more likely, on the contrary, that the learner starts off with words, choosing these first, and then tries to create a structure around them? (See e.g. Bolinger 1970.) To some extent at least, perception may work in much the same way: i.e. the lexical items, the main content words, are registered and interpreted first, and then semantic, logical, situational and structural cues are used to relate the items in an appropriate structure. Full structural decoding may not even be necessary at all, and lexicalization seems an irrelevant notion here. (See e.g. Sutherland 1966, Cohen 1966, Kelly 1970, Carton 1971.)

The blurring of the distinction between the formal and the empirical also leads to a confusing view of the practical relevance of CA, and its relation to Error Analysis. As a description of a product CA may or may not make use of formal generative processes; the aims of Error Analysis, on the other hand, explicitly include the description of genuine behavioural processes such as transfer, generalization, etc. CA has pedagogical relevance, therefore, in that it provides invaluable information about the similarities and differences between the mother tongue and the target language, and it may thus suggest formal (but not efficient) causes for errors. (It is perhaps worth pointing out that *pedagogically* the most useful contrastive analyses are probably the simple, surface-structure ones advocated by Twaddell back in 1968.) However, at least as it is done at present, CA is not of direct behavioural relevance; it is not the right tool to describe the learning process.

Finally: a plague on all double-think terminology!

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ENGLISH THE—THE CONSTRUCTIONS AND THEIR POLISH EQUIVALENTS

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This paper treats sentences such as (1)—(4):

(1) The more I thought of her, the more I missed her.

(2) The less he sleeps, the more restless he becomes.

(3) Im więcej o niej myślałem, tym bardziej było mi jej brak.

(4) Im mniej śpi, tym bardziej staje się niespokojny.

The English constructions are formally marked by the occurrence of two *the's* (henceforth TT) followed by the comparative. Polish equivalent sentences have two formal markers *im-tym*, (henceforth IT) each introducing a clause and being followed by an adjective inflected for the comparative degree.

Our discussion rests on the assumption that equivalent constructions in any two languages have identical semantic structure, even though on the surface they are different, cf. Krzeszowski (1974), Lipińska (1975). Thus the semantic elements and situations dealt with in this paper are taken to be figuring in the semantic base of both English and Polish, and possibly of all languages, that is, they are taken to constitute a part of universal semantic organization.

The present analysis is broadly located within the framework of generative semantics. Accordingly, a semantic relational structure underlying TT and IT constructions will be proposed, and a step-by-step derivation establishing a relationship between semantic configurations and observable surface sentences will be indicated.

It is also assumed that lexical insertion rules apply at various stages of the derivation, replacing portions of a tree that terminate in semantic material by complexes of syntactic and phonological material, cf. McCawley (1968).

SEMANTIC PROPERTIES OF THE-THE AND IM-TYM CONSTRUCTIONS

What we intend to say about the semantic characteristics of the constructions in question will largely be based on our earlier discussion of TT constructions, cf. Post (1977).

In pre-transformational grammar of English, sentences like (1—2) were classified with other complex sentences. Some grammarians treat them as constructions of proportionate agreement (Curme 1931, Poutsma 1914, Quirk et al. 1972). Others like Jespersen (1940) and Grzebieniowski (1964) think they are adverbial clauses of parallelism; Ganshina & Vasilevskaya (1964) subsume them under the class of adverbial clauses of comparison.

In standard grammars of the Polish language, IT's are assumed to be adverbial clauses of degree and measure (Klemensiewicz 1957, Szober 1947). In a recent work on adverbial clauses (Ampel 1976), it is suggested that IT sentences, being adverbial in function, define degree of intensity through comparison. To our knowledge, there does not exist a detailed discussion of semantic and syntactic aspects of IT constructions in the Polish grammar.

Even a superficial examination shows that TT's and IT's have certain formal characteristics in common. Thus, the subordinate clause regularly precedes the main clause in both languages. The constituent clauses open with the formal markers *the-the* in English and *im-tym* in Polish, which, in turn, are followed by *comparative+NP+VP*. We conclude then that the corresponding constituent clauses in English and Polish have the same gross structure o. they are congruent in the sense of Krzeszowski (1971).

(5) a. the—Comp—NP-VP, the—Comp—NP-VP
b). im—Comp—NP-VP, tym—Comp—NP-VP

We also suggest that *the-the* and *im-tym* are syntactic correlates of the same semantic material. The justification for this claim will be presented below.

Crucial to our discussion of TT constructions was the historical source of their formal markers. Some grammarians argue that neither of the *the's* is a development of the old definite article (Jespersen 1940, Curme 1931, House & Harman 1946). Jespersen holds that one of the *the's* is a development of þy, the OE instrumental of the determinative pronoun *that*. The other *the* originates from the relative þe. In Curme's opinion the *the's* are the OE double determinative. The first *the* is a determinative; i.e. neuter instrumental case of the determinative þæt. The second *the* is a demonstrative þæt. House & Harman maintain that the *the's* in OE were the instrumental case of the demonstrative þæt. In Jespersen's interpretation the two *the's* mean "by how much — by so much", while in Curme's they have the meaning akin to "in that degree — in that degree". House & Harman propose "by that much — by that much" to render the meaning encoded in the *the's*. Accordingly, a sentence like (6) seems to mean something like (7):

(6) The more money he makes, the more he wants.
(7) In that degree: he makes more money, in that degree he wants more.

Since *im-tym* are the Polish counterparts of the English *the's*, we suggest they mean "(o) tyle — (o) tyle samo". Thus, the Polish equivalent of (6) should be interpreted as in (9):

(8) Im więcej zarabia, tym więcej pragnie.
(9) (o) tyle; zarabia więcej, (o) tyle samo: pragnie więcej.

Considering the origin and the meaning of the *the's* we hypothesize that the relationship between the degrees of properties encoded in the constituent clauses of (6) and (8) is that of equality. But such an assertion of identity as holding between invariant values of properties contradicts a universally recognized dynamic character of TT and IT constructions. Jespersen (1910 : 3 80) says that TT's indicate a "parallel increase in two interdependent cases". Ampel (1976 : 86) observes that IT's "define the degree of a property as changeable and dependent on another property".[1] It is plausible then that in sentences like (1—4) one has to do with a change of two qualities, cases, propositions etc.

Now we shall attempt to reconcile the apparently static statement of identity holding in TT's and IT's with their implicit dynamism. To show this, we propose to examine the following sentences:

(10) The wealthier he grew, the stingier he seemed
(11) Im bardziej był bogaty, tym bardziej stawał się skąpy.

In keeping with the above, we suggest that in (10) and in its Polish equivalent (11) two scales are involved; i.e. the scale of wealthiness/zamożności and the scale of stinginess/skąpstwa. (10) and (11) assert, among other things, that his being stingy/skąpym has a degree, and his being wealthy/zamożny also has a degree. These degrees, however, are not constant values but are subject to change; i.e. any change on the first scale is accompanied by a change on the other scale. If we now represented the increase of wealthiness/zamożności as an imaginary movement along the axis of wealthiness/zamożności from point to point, then each of the degrees of wealthiness/zamożności would have its corresponding degree of stinginess/skąpstwa. Graphically, this might be represented as in (12):

[1] ... mogą określać stopień cechy jako zmienny i zależny od innej cechy. (Ampel 1976 : 86).

(12) wealthiness/zamożność stinginess/skąpstwo

x_n.............................y_n
x_{n-1} ....y_{n-1}
x_1..............................y_1
x ....y

where arrows indicate the direction of the change. It follows from the diagram that the quantities of the properties at any x_n and the corresponding y_n are larger than the respective quantities of the properties at x_{n-1} and y_{n-1}. Needless to say, the quantitties at the starting points of the movement along the axes; i.e. x and y, are irrelevant. They can be identical but not necessarily so.

In our earlier paper (Post 1977), we suggested that the quantitative increase of two qualities measured at any of the corresponding points along the dimensions involved is identical. More precisely, the increased quantity of wealthiness/zamożności at x_1 is equal to the increased quantity at y_1 the increased quantity at x_2 is equal to the increased quantity at y_2; the increased quantity at xs is equal to the increased quantity at ys. It would seem then that at every point along the axes we have the relation of equality holding between the corresponding quantities of properties, the total semantic content of TT's and IT's being a "sum" of n comparisons of identity.

However, there is a different view on between what and what the identity relationship holds. In Zandvoort's opinion what TT's express is "that two qualities increase or decrease at an equal rate" (Zandvoort 1968 : 224). Thus in TT's and IT's either 1) quantitative increase of two qualities is equal, or 2) the rate of quantitative increase of two qualities is equal.

In Post (1979) we subscribed to view 1. As far as the second view is concerned, we hypothesized that the relation of identity remains unchanged under the condition that the degrees of properties change at the same rate, and proposed that asserting the propositions of (1–4) presupposes the same as to the rate, change in the interdependent cases described in the main and subordinate clauses respectively.

Since writing the mentioned paper, we have come to believe that view 2 is the correct one. The chief reason for the change of our opinion is that the majority of the speakers of English that we consulted find the second interpretation corresponding with their own understanding of the meaning of TT's. What's more, they consider view 2 as more realistic, while the former as improbable, though not impossible.

Having subscribed to view 2, we feel obliged to explain how we interpret Zandvoort's phrase *at an equal rate*. In our discussion, rate will be denoted by the semantic predicates INCREASE and DECREASE. *Equal* is a derived semantic relationship meaning SAME QUANTITY.[2] Thus the expression *at an equal rate* means to us something like "the quantity of the increase described in the main clause is the same as the quantity of the increase described in the subordinate clause. But recall that in TT and IT constructions we already deal with the quantities of properties (wealthiness/zamożność and stinginess/skąpstwo in (10) and (11) respectively). These remarks seem to indicate what a well-formed semantic representation underlying the constructions in question should be like. At this stage of the discussion, we envisage the obligatory part of such a representation as something approximate to (12), for English, and (13) for Polish:

(12) the quantity$_h$ of the increase$_l$ of the quantity$_l$ of the property$_l$ is the same as the quantity*ć* of the increase*i* of the quantity*i* of the property*t*.

(13) iiość*s* wzrostu*t* cechy *t*jest taka sama jak ilość*s* wzrostu*j* ilości*j* cechy*j*.

The last statement of the preceding paragraph implies that an adequate semantic representation of both TT and IT constructions should include other semantic material as well. This is exactly what we mean and intend to show later in our paper.

In the above formulae we have two predicates INCREASE/WZRASTAĆ, which by no means implies that this is the only possible combination of change predicates in the structures underlying TT's and IT's. In the mentioned paper of ours, we observed that depending on the type of the change predicate in the constituent clauses, two semantic types of TT's can be distinguished. We called them symmetric and asymmetric TT's, respectively. It appears that exactly the same observation applies to Polish equivalent constructions. Consider the following sentences:

(14) The longer I think of your proposal, the less I like it

(15) Im dłużej zastanawiam się nad twoją propozycją, tym mniej mi się ona podoba.

Structually, (14) and (15) are similar to all other constructions we have discussed above; i.e. we find a comparative in both clauses preceded by the *the's* and *im-tym*. Semantically, however, (14) and (15) differ from (10) and (11). In (10) and (11) it made sense to have predicates INCREASE/WZRASTAĆ

[2] In our dissertation (Post 1978) we assume that the relations of comparison can optionally be quantified. Accordingly, we distinguish between quantitative and qualitative comparison constructions. The basic comparison relations are IDENTITY and DFFLERENCE. EQUAL is a derived semantic relationship; i.e. a quantified relation of IDENTITY. [QUANTITYi[SAME[QUANTITYj]]] → EQUAL

in the sentential arguments of SAME/TAKI SAM indicating the growth of degrees; in (14) and (15) it seems that we should have INCREASE/WZRASTAĆ in the subordinate clauses, and DECREASE/MALEĆ in the main ones. (14) and (15) assert that duration of my thinking/myślenia increases at the same rate as my liking/lubienie decreases.

One should not be surprised to find sentences with the DECREASE/MALEĆ predicates in the subordinate clauses, and INCREASE/WZRASTAĆ in the main clauses, as in (16) and (17):

(16) The less he sleeps, the more restless he becomes.
(17) Im mniej śpi, tym bardziej niespokojny się staje.

Naturally, we also find constructions with the DECREASE/MALEĆ predicates in both constituent clauses:

(18) The less he sleeps, the less effective his work becomes.
(19) Im mniej śpi, tym mniej efektywna staje się jego praca.

The above examples indicate that both in English and Polish we deal with 1) symmetric constructions, based on INCREASE-INCREASE/WZRASTAĆ-WZRASTAĆ or DECREASE-DECREASE/MALEĆ-MALEĆ predicates, and 2) asymmetric constructions, based on DECREASE-INCREASE/MALEĆ-WZRASTAĆ and INCREASE-DECREASE/WZRASTAĆ-MALEĆ pairs.

Now we wish to indicate one more semantic property of TT's and IT's, which, we believe, should be represented in the semantic structures underlying them. It is plausible that, semantically, the constructions involved are more than just comparison constructions founded on the relation of identity. That we are right in this claim becomes evident when one examines the nature of the interdependence of two situations described in the subordinate and main clauses respectively.

Consider the following sentences:

(20) The noisier they were, the more impatient their mother was.
(21) The longer he stayed, the more sullen he became.
(22) The more I thought of her, the more I missed her.
(23) Im bardziej hałasowali, tym bardziej niecierpliwiła się ich matka.
(24) Im dłużej przebywał, tym bardziej stawał się ponury.
(25) Im więcej o niej myślałem, tym bardziej było mi jej brak.

It can be said about (20) through (25) that if the situation described in the subordinate clauses (S_1) had not taken place, the situation described in the main clauses (S_2) would not have taken place either:

(26) $\sim S_1 \supset \sim S_2$

But what precisely are the situations described by S_1 and S_2? We said above that TT and IT constructions describe quantitative increase/decrease of certain properties. Thus, it is probably more accurate to say that if there had not been the increase/decrease in S_1, there would not have been the increase a decrease in S_2. Or in more general terms, we should say that if there had not been the quantitative change in S_1 there would not have been the quantitative change in S_2:

(27) $\sim C_1 \supset \sim C_2$

In view of the above, it is only natural to claim that the change in S_1 causes the change in S_2 and the change in S_2 is the result of the change id S_1. But to suggest that is tantamount to saying that we deal with cause-result relation in TT and IT constructions. If this argumentation is true, then we are dealing with two semantic relationships in TT's and IT's, namely of cause and equality.

But the notion of causation is far from being homogeneous. In an important paper entitled *Remarks on What Can Cause What* McCawley (1976) observed that in the following sentences two different types of causation are involved:

(28) John boiled the eggs for five minutes.
(29) John boiled the eggs in five minutes.

In (28) the caused proposition — the eggs are boiling — is a condition that the activity maintains at each instant. It is noncommital as to whether the activity ends with the eggs in a cooked state. (29) involves the causal relation present in (28) and additionally the fact that the activity ends with the eggs in a cooked state. The activity is at each point causing the eggs to be boiling and the total activity causes the eggs to be cooked. McCawley calls the two types of causation CONTINUOUS CAUSATION and CULMINATION respectively.

It seems to us that in TT's and IT's we deal with the first of the two types of causation described by McCawley. For example, in view of what has been said about the properties of TT's and IT's so far, it is true to say about (30) and (31) that the increase of the quantity of thinking is causing at each instant the increase of the quantity of missing her:

(30) The more I think of her, the more I miss her.
(31) Im więcej o niej myślę, tym bardziej mi jej brak.

It goes without saying that the "at-each-instant-causation" can be easily extended to all TT and IT constructions. Thus we suggest that in the constructions involved the proposition described by the main clause is caused and maintained at each instant by the process described in the subordinate clause.

It appears then that the relational meaning of TT's and IT's involves two semantic relationships, namely, of cause-result and equality. Consequently, the semantic structure which we would like to assign for TT's and IT's will involve the assertion of identity and the assertion of causation, respectively. The first assertion can be spelled as in (12) and (13), repeated here for convenience:

(32) the quantity$_h$ of the increase$_i$ of the quantity$_i$ of the property$_i$ is the same as the quantity$_k$ of the increase$_j$ of the quantity$_j$ of the property$_j$

(33) ilość$_h$ wzrostu$_i$ ilości$_i$ cechy$_i$ jest taka sama jak ilość$_k$ wzrostu$_j$ ilości$_j$ cechy$_j$

For the second we propose the following formulae:

(34) the increase$_i$ of the quantity$_i$ of the property$_i$ causes the increase$_j$ of the quantity$_j$ of the property$_j$

(35) wzrost$_i$ ilości$_i$ cechy$_i$ powoduje wzrost$_j$ ilości$_j$ cechy$_j$

The appropriate semantic representation for TT's and IT's will be formed through a combination of the two types of formulae, represented by (32), (33) and (34), (35) respectively. We can think of two ways this could be accomplished: either through coordination or subordination. Of the two, only subordination is consistent with our earlier (Post 1977) recognizing of the fact that TT's are identity constructions involving causation. Accordingly, we propose (34), (35) [illegible] embedded in (32), (33) in the manner to be described below.

DERIVATION OF TT AND IT CONSTRUCTIONS

Before starting the discussion proper, we wish to make some remarks on the notation we intend to use. As may have been noticed by the reader, in representing semantic material we refrain from employing tree diagrams. Instead, we use prose, cf. formulae (32) through (35). Consequently, what we present in this section should be viewed as a prose derivational sketch in which various semantic entities are spelled with capital letters.

Now we shall outline the derivation of a typical English TT construction and its Polish equivalent, believing the proposed route to be essentially the same for all TT's and IT's. The semantic structures underlying (36) and (37)

(36) The more they drank, the noisier they were.
(37) Im więcej pili, tym bardziej hałasowali.

involve assertions of the identity of rates and assertions of of causation, illustrated here in (38—39) and (40—41):

(38) the QUANTITY$_h$ of the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK is the SAME as the QUANTITY$_k$ of the INCREASE$_j$ of the QUANTITY$_j$ of X be NOISY
(39) ILOŚĆ$_h$ WZROSTU$_i$ ILOŚCI$_i$ X PIJE jest TAK$_s$ SAMA jak ILOŚĆ$_k$ WZROSTU$_j$ ILOŚCI$_j$ X HAŁASUJE
(40) the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK CAUSEs the INCREASE$_j$ of the QUANTITY$_j$ of X be NOISY.
(41) WZROST$_i$ ILOŚCI$_i$ X PIJE POWODUJE WZROST$_j$ ILOŚCI$_j$ X HAŁASUJE.

Considering the matching of semantic material in (38—40) on the one one hand, and (39—41) on the other; i.e. the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK and WZROST$_i$ ILOŚCI$_I$ X PIJE, the most likely position for embedding seems to be immediately after the first occurrence of X DRINK and X PIJE.

(42) the QUANTITY$_h$ of the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK (the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK CAUSEs the INCREASE$_j$ of the QUANTITY$_j$ of X be NOISY) is the SAME as the QUANTITY$_k$ of the INCREASE$_j$ of the QUANTITY$_j$ of X be NOISY.
(43) ILOŚĆ$_h$ WZROSTU$_i$ ILOŚCI$_i$ X PIJE (WZROST$_i$ ILOŚCI$_I$ X PIJE POWODUJE WZROST$_j$ ILOŚCI$_j$ X HAŁASUJE) jest TAKI SAM jak ILOŚĆ$_k$ WZROSTU$_j$ ILOŚCI$_j$ X HAŁASUJE.

At the next stage, the underlined portions of our representation are replaced by the derived predicates EQUAL and RÓWNY, yielding the intermediate structures like (44) and (45):

(44) the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK (the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK CAUSEs the INCREASE$_j$ of the QUANTITY$_j$ of X BE NOISY) EQUAL$_s$ the INCREASE$_j$ of the QUANTITY$_j$ of X be NOISY.
(45) WZROST$_i$ ILOŚCI$_i$ X PIJE (WZROST$_i$ ILOŚCI$_I$ X PIJE POWODUJE WZROST$_j$ ILOŚCI$_j$ X HAŁASUJE) jest RÓWNY WZROSTOWI$_j$ ILOŚCI$_j$ X HAŁASUJE.

The deletion of the material to the left and right of the causal predicates,

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followed by the conflation of these predicates with EQUAL and RÓWNY, yields the structures illustrated by (46) and (47):

(46) the INCREASE$_i$ of the QUANTITY$_i$ of X DRINK CAUSEs EQUAL INCREASE$_j$ of the QUANTITY$_j$ of X be NOISY.
(47) WZROST$_i$ ILOŚCI$_i$ X PIJe POWODUJE RÓWNY WZROST$_j$ ILOŚCI$_j$ X HAŁASUJE.

At this point of the derivation, actual lexical items start replacing portions of the representations. The first lexical insertion takes place in the lowest S's; i.e. in X DRINK/X PIJE and X be NOISY/X HAŁASUJE. As a result, the following intermediate structures are generated:

(48) the INCREASE$_i$ of the QUANTITY$_i$ of [they drank] CAUSEs EQUAL INCREASE$_j$ of the QUANTITY$_j$ of [they were noisy]
(49) WZROST$_i$ ILOŚCI$_i$ [oni pili] POWODUJE RÓWNY WZROST$_j$ ILOŚCI$_j$ [oni halasowali.]

The first lexicalization is followed by a non-lexical rule of COMPARATIVE SPELLING, which is basically a replacement rule. A set of derived comparative predicates is the output of this rule:

(50) [[INCREASE [QUANTITY]] → MORE
[[WZRASTAĆ [ILOŚĆ]] → WIĘCEJ

and

(51) [DECREASE [QUANTITY]] → LESS
[MALEĆ [ILOŚĆ]] → MNIEJ

in cases involving DECREASE/MALEĆ predicates. The COMPARATIVE SPELLING rule yields structures like (52) and (53), in which the comparative predicates have clauses in their scope:

(52) MORE [they drank CAUSE EQUAL MORE [they were noisy]
(53) WIĘCEJ [oni pili] POWODUJE RÓWNIE WIĘCEJ [oni hałasowali]

It seems that the selection of the actual morphological for the comparative predicates is contingent on the prior lexicalization of the S's in their scope. For example, in Polish, for the proposition X HAŁASUJE, besides the option we chose, there are other options as well. Thus apart from *oni hałasowali*, *oni byli hałaśliwi* and *oni zachowywali się hałaśliwie* are perfectly possible. For all three cases, predicate WIĘCEJ may surface as an analytical form "bardziej":

(54) oni byli bardziej hałaśliwi
oni zachowywali się bardziej hałaśliwie
oni bardziej hałasowali

For the first two, however, one might choose synthetic forms as well, under the circumstances which we shall not specify here:

(55) oni byli hałaśliwsi
oni zachowywali się hałaśliwiej

In short, the choice of appropriate exponents for the comparative predicates is determined by the prior lexicalization of the propositions in their scope. The actual insertion of selected forms does follow a non-lexical rule of COMPARATIVE LOWERING which brings the comparative predicates into the clauses in their scope. The output of the two rules is presented in (56) and (57):

(56) [they drank more] CAUSE EQUAL [they were noisier]
(57) [oni pili więcej] POWODUJE RÓWNY [oni bardziej hałasowali]

Next, a conflation rule brings together the predicates given in (58) and (59), thus creating the inputs for the lexical rule to insert the *the's* and *im-tym* markers:

(58) [INCREASE [EQUAL [INCREASE]]] → the-the
(59) [WZROST [RÓWNY [WZROST]]] → im-tym

Notice that the non-lexical rule proposed above is a global one. It "looks back" to the earlier stage of the derivation, where the semantic predicates INCREASE_i INCREASE_j and WZROST_i and WZROST_j were explicitly present. At this point of the derivation, they have been incorporated in the comparative morphemes.

In our grammar, we also need a rule responsible for the shift of the already inserted markers to the position which they occupy on the surface; i.e. sentence initial position. The output of this rule is given in (60) and (61):

(60) the [they drank more] CAUSE the [they were noisier]
(61) im (oni pili więcej] POWODUJE tym [oni bardziej halasowali]

The last two prosesses involved in the derivation of TT's and IT's are the deletion of the causal predicates, and the shift of the comparative morphemes to the position between the subject NP's and the *the-the/im-tym* markers. In the case of synthetic forms of the comparative morphemes, the forms themselves plus whatever they are attached to are subject to shifting. The

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output of the two operations are the actual surface structures, exemplified by (62) and (63):

(62) the more they drank, the noisier they were
(63) Im więcej pili, tym bardziej hałasowali.

SUMMARY

The primary objective of our paper was to discuss the semantic and syntactic properties of Engli h the-the constructions and their Polish equivalents. We assumed that the constructions involved can be adequately interpreted in terms of the interpretation of their formal markers. Thus, we found crucial to our discussion the historical source of the *the's*, which seems to indicate that TT's are an instance of comparison expressions of equality. Then, we suggested that Polish *im-tym* markers encode the same semantic material as the *the's*, and thus the constructions containing them should also be treated as equative. Since the degrees of the properties defined in the constituent clauses are changeable, we proposed to regard TT's and IT's a dynamic equative constructions.

Considering the type of the change predicate in the constituent clauses, we distinguished two semantic types of TT and IT constructions; symmetric constructions, based on INCREASE-INCREASE or DECREASE-DECREASE predicates, and asymmetric constructions based on DECREASE-INCREASE and INCREASE-DECREASE pairs. We also pointed out to the fact that TT's and IT's display an interesting interplay of two semantic relationships; equality and cause.

As far as the proposed derivation is concerned, it has been confined to only those processes which are involved in the derivation of both English and Polish constructions. We do not intend, however, to say that no language specific proces: are involved in the derivation of the constructions in question. Simply, a thorough derivational sketch lay beyond the scope of our paper.

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THE GENERIC NOUN PHRASE IN ENGLISH AND POLISH

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I

This study is an attempt at a contrastive analysis of generic noun phrases in English and Polish. Such an analysis requires, first of all, a consistent description of generic noun phrases in English. This is not an easy task, in view of the diversity of descriptions to be found in the existing literature on the subject.

Comprehensive grammars of English, both old and new, speak of the so-called *generic article*, and all of them treat it in more or less the same way. They usually distinguish the following three types of generic NP's:

1) Def Art+N_{Sg}
2) Indef Art+N_{Sg}
3) ø Art+N_{Pl}

The presentation given by Jespersen and, fifty years later, that given by Quirk et al. may be regarded as representative for the traditional approach to the problem of the generic NP in English.

In vol. II of Jespersen's *Modern English Grammar on Historical Principles* (1954 : 131) we find the following statement:

"An assertion about a whole species or class — equally applicable to each member of the class — may be made in various ways:

(1) the sg without any article: man is mortal;
(2) the sg with the indefinite article: a cat is not as vigilant as a dog;
(3) the sg with definite article: the dog is vigilant;

(4) the pl without any article: dogs are vigilant;
(5) the pl with the definite article: the English are a nation of shopkeepers".

Jespersen then points out that (1) is restricted to the two nouns *man* and *woman*, while (5) is restricted to "adjectives without a substantive".

In vol. VII, however, (most of which was written by Niels Haislund from Jespersen's notes) it is suggested that perhaps we should reserve the term *generic* for the use of a sg. noun with the definite article and a pl. noun with zero article. "With *a* the sb refers to all members (or any member) of the class or species it denotes, but only as a representative of the members. It does not denote the class or species in itself". (page 424). Further on (page 491) we read: "The commonest way of expressing a generic sense is by means of (3), the singular with the definite article, and this is perhaps in a strict sense the only way".

No suggestion that the label "generic" be restricted in the above way is to be found in the writings of other scholars. In the most recent comprehensive grammar of English, namely that of Quirk et al. (1972), we find the following presentation of "generic reference".

"Singular or plural, definite or indefinite can sometimes be used without change in the generic meaning:

$\left.\begin{array}{l}\text{The German}\\\text{A German}\end{array}\right\}$ is a good musician.

$\left.\begin{array}{l}\text{The Germans}\\\text{Germans}\end{array}\right\}$ are good musicians.

At least the following three forms of *tiger* can be used generically:

$\left.\begin{array}{l}\text{The tiger}\\\text{A tiger}\end{array}\right\}$ is a dangerous animal.

Tigers are dangerous animals."

We are not told, however, whether the above forms can be used interchangeably, and, if not, what determines the speaker's choice.

Evidence of restrictions on the interchangeability of the three "generic" forms presented by Quirk et al. (1972), namely Def Art+N_{Sg}, Indef Art+N_{Sg}, and Zero Art+N_{Pl} can be found in the writings of many other authors. We shall now give a brief review of the more prominent publications on the subject of generic NP's, arranged chronologically.

Hill (1966 : 229) writes: "I lump generic uses of nouns, whether like *man*, or like *the horse*, with names. The justification is that names are (as many scholars have said) in some sense unique — classes of one member. When we speak of *a man* or *a horse* we are specifying single members of large classes. When we speak of *man* and *the horse* we are specifying the abstract notion of the species, which is necessarily a single member class".

The most significant statement here seems to us to be the last sentence, in which Hill regards the generic NP of the type Def Art+N_{Sg} as specifying the *abstract notion* of the species.

In Vendler (1967), of particular relevance for the present paper is the example he uses to show irreplaceability of the generic Def NP's in certain contexts:

There are two kinds of large cat living in Paraguay, the jaguar and the puma.

Deriving *the jaguar* and *the puma* from *the [(kind of) large cat that is a] jaguars* and *the [(kind of) large cat that is a] puma*. Vendler points out that neither *a jaguar and a puma* nor *jaguars and pumas* will do to replace *the jaguar and the puma*, and concludes:

"Thus the generic *the* is not a mere variant of other generic forms. It has an origin of its own". (1967 : 128).

Vendler's view that the three types of NP's traditionally regarded as generic are not always interchangeable seems to us crucial. However, we regard Vendler's example as unconvincing, since several native informants we asked have accepted the variant:

There are two kinds of large cat living in Paraguay, jaguars and pumas.

For Robbins (1968 : 239) the generic Def NP is equivalent to a plural NP without an article, but not equivalent to an NP preceded by a "primitive universal quantifier"; e.g.

The cheetah attains great speeds
is equivalent to
Cheetahs attain great speeds
but neither to
All cheetahs attain great spe[illegible]
nor
Any cheetah attains great speeds.

Robbins concludes: "Generic *the* is generalizing in the direction of what is normal or typical for members of a class, which only sometimes coincides with what is true of all the members".

This formulation seems to us the most adequate of all we have studied. In the second part of the paper, however, we shall adduce examples to show that plural NP's preceded by zero article may have two readings.

Perlmutter (1970 : 239—242), in an extensive footnote, concentrates on producing evidence that the following three types of "generic statements" are not interchangeable:

(a) A beaver builds dams.
(b) The beaver builds dams.
(c) Beavers build dams.

He shows that while types (b) and (c) can be conjoined by *and*, (a) cannot:

The beaver and the otter build dams.
Beavers and otters build dams.
* A beaver and an otter build dams.

Moreover, (b) and (c) can by passivized, while (a) cannot:

Dams are built by the beaver.
Dams are built by beavers.
* Dams are built be a beaver.

On the other hand, Perlmutter regards as acceptable the sentence

A beaver or an otter builds dams.

and also

Any beaver or any otter builds dams.

He quotes some more examples to show that whenever the "generic" *a* is acceptable, it can be replaced by *any*, and concludes that the "generic" indefinite article should actually be derived from *any*. Clearly, he envisages a different derivation for the "generic definite article" and the "generic zero article" preceding a plural noun, which problem, however, is outside the scope of this paper.

We quite agree with Perlmutter's view that statements (a), (b), (c) are not interchangeable. In particular, we think that there is sufficient evidence to show that Def Art+NP_{Sg} and Indef Art+NP_{Sg} require an entirely different treatment. Incidentally, we are a little dubious about the acceptability of sentences with NP's conjoined by *or*.

Langendoen (1970 : 125—6) is alone in regarding "generic" sentences containing definite singular, indefinite singular; and indefinite plural NP's as mere stylistic variants; he maintains that the sentences

The elephant never forgets.
An elephant never forgets.
Elephants never forget.

all have the same interpretation, namely:

If something is an elephant, it never forgets.

This view seems to us to defy all available evidence.

For Chafe (1970 : 168, 190—192) the generic meaning of a noun is automatically determined by the generic meaning of the verb to which the noun is attached. Thus, if the verb in

A bird sings

is understood generically (i.e. timelessly), the noun is generic and means 'any bird'. As regards the difference between

(a) The elephant likes peanuts.
(b) An elephant likes peanuts.
and
(c) Elephants like peanuts.

he explains it in the following way: In (a) the class of elephants is regarded as an undifferentiated whole, in (b) and (c) it is thought of as composed of separate individuals. He introduces the term "aggregate" to denote the type of generic NP occurring in (a) and regards *aggregate* as a subspecification of *generic*.

Chafe's contribution to the problem of generic NP's seems very important. He is the only one among the authors quoted here to make it clear that the generic character of the NP depends on the semantics of rest of the sentence. He is also the only one to use a separate label *aggregate* for singular NP's with the definite article.

Hutchins (1971 : 89) devotes to generic NP's the following short passage:

"In sentences such as

The horse in an animal.
The cheetah attains great speeds.
The marten is a close relative of the sable.

the referent of *horse*, *cheetah*, etc. is the whole genus, and not one specific member. Constructions with the generic *the* (as Robbins calls this usage) have synonyms with constructions containing unmarked plurals:

Horses are animals.
Cheetahs attain great speeds.
Martens are close relatives of sables.

It is perhaps open to question whether we are f[illegible] justified in deriving both forms from the same, i.e. (horse, pl.)=G/the horse and G/horses; (cheetah, pl.)=G/the cheetah=G/cheetahs".

The solution of the problem posed by Hutchins in this last sentence may probably be found in our treatment of plural NP's as having two readings. This is discussed in the second part of the paper.

Jackendoff (1972 : 309) in his discussion of the term "generic" deals with sentences of the types

A rhinoceros eats small snakes.

and

Any beaver can build a dam.

He regards them as semantically equivalent to sentences with a universal quantifier, and suggests the following paraphrases for them:

Every rhinoceros eats small snakes.
All beavers can build a dam.

This seems to contradict what Jackendoff says earlier (op. cit., p. 16) about "genericity" being a semantic property of the species as such. The use of *any, every, all* suggests referring to *individuals*, regarded singly or collectively as members of a class, rather than to the class as such.

Strangely enough, sentences with the Def. Sg. NP's, such as

The rhinoceros eats small snakes

are not included in Jackendoff's discussion of the term "generic".

Leech and Svartvik's *Grammar* (1975) closely follows Quirk et al. (1972) in its presentation of the generic NP. Briefly, in sentences like

The tiger is a beautiful animal

the is said to refer to what is general or typical for a whole class of objects. *The tiger* in the sentence above indicates the class of tigers and not one individual member of the class, and thus the sentence expresses essentially the same meaning as

Tigers are beautiful animals.
A tiger is a beautiful animal.

The tiger, however, refers to the species as a whole, while *a tiger* refers to any member of the species. That is why we can say

The tiger is in danger of becoming extinct.

but not

A tiger is in danger of becoming extinct.

As can be seen, Leech and Svartvik do not go beyond Quirk et al. (1972), and leave the question of interchangeability unresolved.

Burton-Roberts (1976) takes a unique stand in that he regards the "generic indefinite article" as the only true mark of genericness in an NP. He derives *a whale* in

A whale is a mammal

from the subjectless predicate *to be a whale*. He maintains that *a whale* in the above sentence stands not for an *individual*, not for an *object*, but for a *concept* ("whaleness"). He sees a fundamental semantic difference between the "generic" *the* and the "generic" *a* in sentences like

The whale is a mammal
A whale is a mammal,

regarding *the whale* as referring to the objective class of whales itself and *a whale* as denoting "membership of that class (whaleness)". He defines a generic sentence as one that has an underlying structure

to be NP is to be VP (where VP can contain a copu la).
This, for him, excludes the possibility of regarding

Whales are mammals
as a paraphrase of
A whale is a mammal

since, as he says, nothing can be predicated of "* to be whales".

Thus the Generic Indefinite Article is not related either to the Generic Definite Article or to the Generic Zero Article. Burton-Roberts regards the "plural indefinite generic" as not generic at all but as "plural non-specific". Thus in the sentence

In Canada beavers are hunted by professionals.
In Canada professionals hunt beavers.

both "beavers" and "professionals" are "non-specific indefinite", and not "generic".

This is a highly idiosyncratic treatment, and hard to accept. In particular, there seems to be no convincing reason for regarding *a whale* as more abstract than *the whale*; we presume that this is what the author means when he makes *the whale* refer to "the objective class of whales" and *a whale* to "whaleness".

Lyons (1977 : 194—196) assumes that each of the sentences in sets such as

The lion is a friendly beast.

A lion is a friendly beast.
Lions are friendly beasts.

can be used to assert a generic proposition, which might be formalized within the framework of the predicate calculus as

$$(x)\ (L\,x \rightarrow F\,x),$$

i.e. "For all values of x, if x is a lion, then x is friendly". He points out, however, that universal quantification seems too strong in cases like the above. It would be falsified by a single x for which $F\,x$ did not hold, e.g. a single unfriendly lion. Actually we do not take the above statements about lions to mean that all lions are friendly beasts. All that we do mean is that lions are "generally", or "typically", or "normally" friendly. It is arguable, says Lyons, that there are several different kinds of generic propositions, merging into one another and difficult to distinguish, and only one kind, which he proposes to call essential propositions, should be interpreted as saying that such and such a property is a necessary attribute of the class referred to.

Lyons considers the non-substitutability of the definite noun phrase and the indefinite noun phrase in certain kinds of generic propositions, such as for instance

The lion is extinct.
vs. * A lion is extinct.

and The lion is no longer to be seen roaming the hills of Scotland.
vs. * A lion can no longer be seen roaming the hills of Scotland.

but the comment he makes upon this fact is somewhat baffling. This is what he writes:

"One obvious difference between definite and indefinite noun phrases, used generically, is that, with definite noun phrases both a collective and a distributive interpretation is possible, but with indefinite noun phrases in the singular the collective interpretation is excluded". This fact, according to Lyons, accounts for the unacceptability of "a lion" in the examples above.

However, if we understand the term "distributive" here as "ascribing a certain property to each member of a class" and the term "collective" as "ascribing a certain property to all members of a class" (and how else are we to understand these terms?), it seems more than doubtful whether we should so interpret a statement like

The lion is extinct.

Is every lion extinct? Are all lions extinct? The sentence does not seem to mean either of these things (cf. Robbins (1968 : 239)).

II

We shall now outline our own proposals concerning the interpretation of genericity of NP's. We shall confine our attention to: 1) count nouns, and 2) NP's other than predicate nominals, since the latter seem to us to constitute a highly complicated problem, both syntactically and semantically, and therefore require separate treatment.

Let us begin by discussing singular NP's only. Now, it is a fact which has not been questioned by any of the authors we have quoted so far that there exist sentences in which *the*+N_{Sg} is not replaceable by *a*+N_{Sg}. Compare again:

The whale is becoming extinct.
* A whale is becoming extinct.
The tiger is an interesting species.
* A tiger is an interesting species.
Edison invented the gramophone.
* Edison invented a gramophone.

What is more, it appears that the opposite also holds true, namely that in certain apparently generic statements *a*+N_{Sg} cannot be replaced by *the*+ +N_{Sg}. To our knowledge, this fact has not been investigated. Compare:

A tiger, even a young one, is a dangerous animal.
* The tiger, even a young one, is a dangerous animal.

The phenomenon of non-interchangeability illustrated above seems to us to provide sufficient grounds for recognizing two different classes among singular NP's traditionally placed under the single label "generic". We propose that as regards singular NP's the term "generic" be retained only for NP's with the definite article. In agreement with Jespersen (1954), Hill (1966), Robbins (1968) and Hutchins (1971), we think it is this type of NP that the speaker chooses when he wants to refer to a class regarded as a whole and not to its members, taken either singly or collectively.

Support for this interpretation is found in the fact that whenever an NP of the type Def Art+N_{Sg} is not replaceable by one containing the indefinite article, it is not replaceable by *any*+N_{Sg} or *all*+N_{Pl}, either. Compare:

The whale is becoming extinct.
*A whale is becoming extinct.
*Any whale is becoming extinct.
*All whales are becoming extinct.

(cf. Robbins (1968)).

The so-called "generic" *a*, on the other hand, seems to admit replacement by *any* and *all* without restrictions. Compare:

A bull can be dangerous.
Any bull can be dangerous.
All bulls can be dangerous.

Following Hill (1966), we are inclined to say that in making a truly generic statement the speaker has in mind the abstract notion of the class in question, and not the physical objects which are understood to belong to it. If what he wants to say about that class can only apply to the class as such, and not to its individual members, either singly (*any*) or collectively (*all*), he is forced to choose the generic NP, i.e. Def Art+N_{Sg}. On the other hand, if what the speaker wants to say can refer equally well to the class as a whole and to its individual members, he is free to choose either Def+N_{Sg} or Indef Art+N_{Sg}. Hence the large number of instances where *the* and *a* are felt to be interchangeable. Compare:

The horse is a mammal.
A horse is a mammal.
The horse is a beautiful animal.
A horse is a beautiful animal.

The choice which the speaker makes reflects the interpretation he imposes upon the noun *horse* at the moment of making his statement.

Thus, in stating

The horse is a mammal

the speaker may be said to mean something like "the class 'horse' has, among its various features, the feature of mammality". By saying

A horse is a mammal

the speaker simply states that every horse is a mammal.

Thus we claim that in pairs like the above, the two statements do not mean exactly the same, although for practical purposes they seem to be fully interchangeable.

The validity of this claim can be checked by what we propose to call the embedding test. To begin with let us take the following two statements:

The horse was domesticated thousands of years ago.
The whale is an interesting species.

In neither of them can the definite NP be replaced by an indefinite one; this, as we argue above, is the true mark of genericity. Let us now try to embed these statements as postmodifiers of nouns in other statements of the kind we have just been discussing; for example:

{The horse a useful animal.
{The horse was domesticated thousands of years ago.
The horse, which was domesticated thousands of years ago, is a useful animal.

{A horse is a useful animal.
{The horse was domesticated thousands of years ago.
*A horse, which was domesticated thousands of years go, is a useful animal.

{The whale is a mammal and not a fish.
{The whale is an interesting species.
The whale, which is an interesting species, is a mammal and not a fish.

{A whale is a mammal and not a fish.
{The whale is an interesting species.
*A whale, which is an interesting species, is a mammal and not a fish.

Thus it would seem that the possibility of embedding in an NP a relative clause of an unquestionably generic character is a sure indication that the speaker interprets the NP in question as generic. It is only NP's of the Def Art+N_{sg} type that admit of this kind of embedding.

Incidentally, it should be observed that a pair of examples such as

$\left.\begin{array}{l}\text{The horse}\\ \text{A horse}\end{array}\right\}$ is a beautiful animal.

illustrates a point that was made by Robbins (1968) and Lyons (1977), namely that a generic statement does not have to assert something that is literally true of all the members of a class, but may generalize features that are normal or typical for them. As regards the second sentence of the pair, we can defend our interpretation of *a horse* as *any* (*every*) *horse* by saying that this version rather than the truly generic one would probably be chosen by a genuine horse-lover, who either really believes that every horse is beautiful, or simply exaggerates.

It would be interesting to find out what clues can be found in the sentence to explain why the speaker chose to use a generic NP. It seems to us that such clues are essentially semantic, and not grammatical. To quote just one example, in *Edison invented the gramophone* the object of the verb *invent* cannot refer to a physical entity, or even a collection of physical entities: the inventor invents a formula for a new thing and not the material thing itself. A similar argument can be applied to the noun *invention* in the sentence *The telephone is a useful invention* (but compare *A telephone is a useful thing*).

Let us now pass to statements containing plural NP's. Our evidence shows that in most cases Zero Art+N_{Pl} can be substituted both for Def Art+N_{Sg} and for Indef Art+N_{Sg}, that is even in cases where the latter are not interchangeable. Thus we can say

The whale is becoming extinct.
or: Whales are becoming extinct.
A bull can be dangerous.
or: Bulls can be dangerous.

As regards sentences in which Def Art+N_{Sg} is replaceable by Indef Art+N_{Sg}, pluralization results in a sentence which may be said to have two readings. Thus, for example, we can say both

This is a problem for a psychologist.
and This is a problem for the psychologist.

The plural form

This is a problem for psychologists

has two readings, according to what interpretation the speaker puts on it The plural NP is thus a very convenient device to use in all those (not infrequent) cases where the speaker does not want to commit himself, or even is not quite sure what he wants to say.

The question arises, however, whether pluralization of generic NP's is always possible. Vendler's (1967) example about jaguars and pumas is unconvincing, but other sentences can be quoted which, when put into the plural, sound positively awkward, if not unacceptable. Compare:

Edison invented the gramophone.
Edison invented gramophones.

This would suggest that we should posit two types of generic NP's: one (the more common) which can be pluralized, and another which cannot.

To sum up, we would postulate the following classification of generic NP's.

Generic NP

Def Art+N_{Sg} — paraphrasable as Zero Art+N_{Pl}

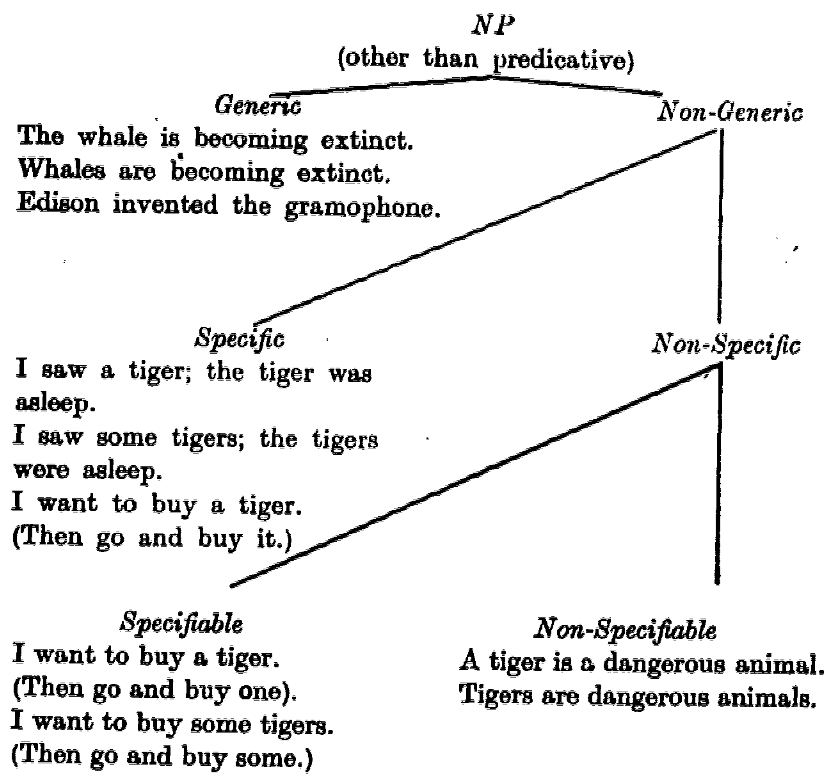
Def Art+N_{Sg} — non-paraphrasable as Zero Art+N_{Pl}

There is some doubt as to the interpretation of the NP in sentences such as

I like books.

If we interpret the noun *books* as equivalent to *reading*, it obviously is not replaceable by *all books* or *any books*, and thus seems to be generic. However, it is not replaceable by *the book* either. Thus it would seem that we should perhaps postulate one more type of generic NP, namely Zero Art+N_{Pl} which is not paraphrasable as Def Art+N_{Sg}.

Our interpretation of generic NP's leads to one very important conclusion. The exclusion of singular NP's with the indefinite article from the category "generic" makes it necessary to revise the overall division of NP's into generic and specific (as exemplified in Quirk et al. 1972: 147). We propose the following tentative taxonomy of NP's (other than predicative).



III

Now we proceed to discuss the problem of genericity of noun phrases in Polish. Problems which Polish learners have with English articles have already been the subject of several studies, notably Szwedek (1975), the recent grammar by Fisiak, Grzegorek-Lipińska and Zabrocki (1978), and the forthcoming grammar by Krzeszowki. The *generic* use of the articles, however, has not been discussed in detail. In order ot establish whether native speakers of Polish distinguish between generic and non-generic NP's we have applied to Polish an equivalent of the *any/all* test mentioned above. 70 native speakers of Polish were presented with a list of 25 sentences, each containing an NP in the singular (see Appendix to this paper). They were asked to perform the following three operations:

1. Pluralize the underlined nouns, making all the necessary changes in the structure of the sentences.
2. Add the word *każdy* (*każda, każde, każdego,* etc.) to the nouns in the singular wherever this seems appropriate.
3. Add the word *wszyscy* (*wszystkie, wszystkich,* etc.) to the nouns in the plural wherever this seems appropriate.

The subjects were told to use their linguistic intuition: to ask themselves in each case the question "Would I be likely to say such a sentence?"

In six cases there was virtual unanimity among the respondents as to the inapplicability of either *każdy* in the singular or *wszystkie* in the plural. The sentences concerned were the following:

(6) Statystyczną analizę mowy umożliwił dopiero *magnetofon*. (The statistical analysis of speech was only made possible by the tape-recorder).
(13) *Laser* jest ważnym wynalazkiem.
(The laser is an important invention).
(14) *Telefon* wynaleziono sto lat temu.
(The telephone was invented a hundred years ago).
(20) *Nietoperz* jest ciekawym okazem ssaka.
(The bat is an interesting species of mammal).
(21) Będziemy się teraz uczyć o *słoniu*.
(We shall now study the elephant).
(22) Jest to problem dla *psychologa* raczej niż *socjologa*.
(This is a problem for the psychologist rather than the sociologist).

In two more instances the overwhelming majority of respondents rejected *każdy* and *wszystkie*:

(8) *Telewizor* niszczy życie towarzyskie.
(The television set is destroying social life.)
(23) *Dziobak* jest rzadkim gatunkiem zwierzęcia.
(The platypus is a rare species of animal.)

Let us consider the first six sentences. It can be observed that what is being said about the referent of the noun phrase underlined is characterized in each case by a high degree of abstractness. This is indicated by noun phrases such as *analiza mowy* (analysis of speech), *wynalazek* (invention), *ssak* (mammal), *problem* (problem), and by verbs such as *wynaleziono* (was invented) and *będziemy się uczyć* (we shall study). In the remaining instances we have noun phrases *życie towarzyskie* (social life) and *gatunek* (species). Lack of unanimity in (23) was probably due to the fact that pluralization was here awkward for syntactic reasons, while in (8) some respondents apparently hesitated between the abstract interpretation of *telewizor* (i.e. 'telewizja') and the concrete interpretation.

Thus it seems that in (6), (8), (13), (14), (20), (21), (22), (23) we have instances of truly generic noun phrases. They were interpreted as such by the respondents on the basis of the semantic clues in the context. Thus, for example, they refused to add *każdy* and *wszystkie* to (14) or (21) because the context makes it quite clear that it is concepts and not objects that the statements are about. As we said before, what the inventor invents is formulas for new things, and not the things themselves. The subject of *study* may be either a specific object (eg. *ten słoń* 'this elephant') or a class or category of objects (eg. *słoń* 'the elephant').

At the other end of the spectrum we have the following sentences:

(2) *Turysta* powinien ochraniać zabytki.
(Tourists ought to protect historical monuments).
(5) *Studenta* obowiązuje dyscyplina studiów.
(Students are bound by university regulations).
(12) *Człowiek* musi umrzeć.
(All men must die).
(15) *Psa* trzeba szczepić przeciw wściekliźnie.
(Dogs out to be vaccinated against rabies).
(17) *Nauczyciel* powinien być bezstronny.
(A teacher ought to be impartial).
(24) *Lekarza* obowiązuje tajemnica lekarska.
(Doctors are bound by an oath of secrecy).

As regards these sentences, we have either complete or almost complete agreement of the respondents as to the applicability of the quantifiers *każdy*, *wszystkie*. It is interesting to note that in all these instances there is an element of modality in the sentence: namely obligation. This seems to have an influence upon the interpretation of the NP in the sentence. The problem, however, requires investigation.

Sentence (12) is an interesting case. It would appear that in this sentence it is the verb that excludes the generic interpretation of the NP: *umrzeć* (die), unlike *wymrzeć* (die out), can only be predicated of individuals, treated singly or collectively, but not of classes.

Let us now consider the following two sentences:

(7) *Dziecko* może zachorować na odrę.
(Children are liable to catch measles).
(16) *Lekarz* może się mylić.
(A doctor can make mistakes).

In these two instances the respondents were virtually unanimous in adding *każdy* to the NP's in the singular, but only about two thirds added *wszyscy* (*wszystkie*) to the NP's in the plural. A possible explanation of this fact is that the Polish quantifier *wszyscy* (*wszystkie*) in conjunction with the modal *może/ /mogą* may be taken to mean either 'all together at a given time', (which, obviously, does not fit the sentences in question), or 'each separately at different times'. Those respondents who construed the quantifier in the former sense refrained therefore from using *wszyscy/wszystkie*.

We now pass to the following group of sentences:

(25) *Dziecko* jest wrażliwe na zarazki odry.
(Children are susceptible to measle bacteria).
(4) *Koń* jest czworonogiem.
(The horse is a quadruped).
(3) *Człowiek* jest istotą rozumną.
(Man is a rational being.)
(10) *Samochód* jest groźbą dla środowiska naturalnego.
(The car is a threat to the environment.)
(9) *Bocian* odlatuje na zimę do ciepłych krajów.
(In winter the stork flies off to warmer countries.)

In these sentences non-generic interpretation varied from 75 per cent down to 30 per cent. This reflects the fact, which we commented upon in Part II of the paper, that in a large number of cases both generic and non-generic interpretation is possible.

The last group consists of four sentences:

(18) *Koń* jest pięknym zwierzęciem.
(The horse is a beautiful animal.)
(1) *Kangur* żyje w Australii.
(The kangaroo lives in Australia.)
(11) *Piosenka* jest dobra na wszystko.

(A song is a remedy for everything.)

(19) *Wielorybowi* grozi wymarcie.

(The whale is threatened with extinction.)

As regards the first three, there is a high degree of agreement (85 to 90 per cent) on the generic interpretation. The fact that 10 to 15 per cent of the respondents did select *każdy* and *wszystkie* is rather baffling. A possible explanation is that some of the respondents yielded to the pressure of the instructions to the test: their use of the quantifier *każdy* and *wszyscy* did not coincide with what they might have said spontaneously.

Sentence (19) is particularly baffling, because 9 respondents added *każdy* and as many as 26 added *wszystkie*, although we had expected results close to zero. We are at a loss how to explain this anomaly.

It is very significant that several respondents stated that they found some of the pluralizations awkward and definitely preferred the singular versions. In the case of sentences (20) and (23) the reason seems purely stylistic: they would not have aroused doubt if they were formulated as follows: *Nietoperz to ciekawy okaz ssaka* and *Dziobak to rzadki gatunek zwierzęcia*. Much more significant were the doubts expressed by many respondents as to the acceptability of the plural version of (8), (13), and (14). Thus it turns out that evidence of the existence of non-pluralizable generic NP's can be found in Polish as well.

The next step in our investigation was to ask two native speakers of English with a very good knowledge of Polish to translate our twenty-five Polish sentences into English. There was complete agreement as to sentences (2), (5), (12), (15), (17), (24): they were all rendered with the definite article plus noun in the singular, thus supporting the generic interpretation. The interesting fact is that where the non-generic interpretation of NP's dominated among the Polish informants, the native speakers of English not only adopted the non-generic interpretation, but also showed clear preference for the plural form of the noun phrases: they put the sentences into the plural without this possibility having been suggested to them.

We do not know whether native speakers of Polish would also spontaneously use the plural form in such cases; the problem requires further investigation.

IV

We shall now try and formulate very tentative conclusions resulting from our investigations so far.

The first thing to be stated is that the category *generic* is psychologically real in Polish, even though there are no overt grammatical signals of it, such as the definite article followed by a noun in the singular.

Genericity of NP's is determined by semantic factors; both in English and in Polish similar semantic factors influence the speaker's choice of the generic NP, and similar semantic clues enable the listener to interpret it as such. A convenient rule of thumb for distinguishing generic NP's in English and Polish is the *any/all* (*każdy/wszystkie*) test: namely *any/all* (*każdy/wszystkie*) are inapplicable in generic NP's. Incidentally, this test could probably be used quite effectively in teaching Polish students to use the definite article in singular generic NP's. The choice between singular generic and plural generic NP's (where both are possible) is probably stylistic. The question when pluralization of a singular NP is possible remains open.

APPENDIX

(1) *Kangur* żyje w Australii.
(2) *Turysta* powinien ochraniać zabytki.
(3) *Człowiek* jest istotą rozumną.
(4) *Koń* jest czworonogiem.
(5) *Studenta* obowiązuje dyscyplina studiów.
(6) Statystyczną analizę mowy umożliwił dopiero *magnetofon*.
(7) *Dziecko* może zachorować na odrę.
(8) *Telewizor* niszczy życie towarzyskie.
(9) *Bocian* odlatuje na zimę do ciepłych krajów.
(10) *Samochód* jest groźbą dla środowiska naturalnego.
(11) *Piosenka* jest dobra na wszystko.
(12) *Człowiek* musi umrzeć.
(13) *Laser* jest ważnym wynalazkiem.
(14) *Telefon* wynaleziono sto lat temu.
(15) *Psa* trzeba szczepić przeciw wściekliźnie.
(16) *Lekarz* może się mylić.
(17) *Nauczyciel* powinien być bezstronny.
(18) *Koń* jest pięknym zwierzęciem.
(19) *Wielorybowi* grozi wymarcie.
(20) *Nietoperz* jest ciekawym okazem ssaka.
(21) Będziemy się teraz uczyć o *słoniu*.
(22) Jest to problem dla *psychologa* raczej niż *socjologa*.
(23) *Dziobak* jest rzadkim gatunkiem zwierzęcia.
(24) *Lekarza* obowiązuje tajemnica lekarska.
(25) *Dziecko* jest wrażliwe na zarazki odry.

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SOME REMARKS ON WORD ORDER AND DEFINITENESS IN FINNISH AND ENGLISH

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In his study of definiteness in Polish, Aleksander Szwedek argues that there are three possible ways of showing the definite vs. indefinite distinction in Polish:

a. pronouns;
b. stress and intonation;
c. word order. (Szwedek 1974a)

In the light of the little evidence available, it would seem that these devices are operative in Finnish, too, although the primary function of stress appears to be to signal information structure rather than the identifiability of the referent.[1] Of course, information and reference are interlinked since the question of definiteness necessarily involves the question of whether something is "known" or "new": but the two are not co-extensive, and should therefore be kept separate in analysis.[2]

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[1] For a discussion, see Wiik (1977) and Chesterman (1977). To put the matter simply: when familiarity increases, stress decreases. Marked stress, then indicates that the information is "new".

[2] The following example shows that givenness does not necessarily imply definiteness:

A: John bought a house.
B: No, you are wrong. It was Harry who bought a house.

Obviously, "house" must be old information on the second mention; nevertheless, it is not grammatically definite.

Furthermore, Andrew Chesterman (1977) has argued that, in Finnish, the grammatical devices for expressing definiteness form a hierarchy: function words ("substitute articles") override word order.

Although there are scattered remarks in the literature to the effect that in Finnish stress and word order have some kind of function as markers of the psychological subject, or of what has been previously mentioned, no comprehensive study of definiteness has appeared (see Chesterman 1977 for a survey of the state of the art). This is probably due to the fact that Finnish has no system of articles and that, further, the published literature provides very little information about stress and word order.

However, some recent studies of word order (e.g. Hakulinen 1976, Heinämäki 1976) look promising in that they are amenable to contrastive analysis, and one can only hope that more work along these lines will appear soon. And one can only hope that phoneticians will do their bit, too, so that a large-scale study of definiteness in English and Finnish can be carried out. In the meantime one must confine oneself to rather limited problems in this area of grammar.

In this paper I shall look at the distribution of the subjects of English and Finnish passives. I shall argue that in the Finnish equivalents of the English passive sentence, the nouns which can occur in subject position are restricted to what, in English, are definite nouns. Of course, the restriction that the subject should be definite holds for some English sentence types as well (consider the ungrammaticality of **A book belongs to Henry*); however, since English has a morphologically realized marker of definiteness, one would expect there to be less constraint on placing nouns in subject position in English than there is in Finnish. The constructions discussed in this paper show that this is indeed the case.

Furthermore, it will be seen that since there is less freedom in placing nouns in subject position in Finnish than there is in English, certain kinds of English passive sentences have no formal equivalent in Finnish.[3]

The general pricniple governing the definiteness of Finnish nouns in the constructions dealt with in this paper can be roughly formulated as follows

In phonologically unmarked sentences, nouns occurring in subject position (i.e. preverbal position) are interpreted as definite.[4] (Hereafter this principle will be called the No Initial Indefinite Constraint.)

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[3] The notion "formal equivalent" is used in the following sense:

Two sentences are formally equivalent if they show identical deep categories and identical transformational derivations.

"Translation equivalence" is related to "formal equivalence" in the following way: "translation equivalence" is a necessary, but not a sufficient condition of "formal equivalence".

[4] I shall assume that the sentences discussed in this paper have unmarked focus.

Although only two sentence types are discussed in this paper, the above restriction appears to hold for a number of other sentence types, as can be seen from the following sentences:

1. Kirja on pöydällä.
   (book is table-on)
   The book is on the table.
2. Pöydällä on kirja.
   (table-on is book)
   There is a book on the table.
3. Talon rakensi Henry.
   (house-accusative built Henry)
   The house was built by Henry.
4. Henry rakensi talon.
   (pronounced: Henry rakensi tálon.)
   (Henry built house-accusative)
   Henry built a house.
5. Henryllä on kirja.
   (Henry-on is book)
   Henry has a book.
6. Kirja on Henryllä.
   (book is Henry-on)
   Henry has the book (i.e. he is using it).

To illustrate how definiteness and word order are related in English and Finnish, two constructions will be discussed here: the simple passive (*Henry was seen*) and the agentive passive (*Henry was seen by Mary*).

It is possible to interpret initial nouns as indefinite, but those sentences are clearly contrastive. Consider the following:

Talon rakensi HENRY.
(house-accusative built Henry)
"It was Henry w! o buil a house/the house".

I shall also assume tha .e sentences with indefinite subjects discussed in this paper are used to introduce a discourse topic, i.e. that they establish a "first mention" of the referent involved. I find these specification absolutely necessary, as it seems to me that much of the muddle that one finds in discussions of the problem of definiteness is simply caused by the failure to distinguish between sentences that are not alike.

Furthermore, the discussion will be restricted to referring expressions, as non-referring expressions exhibit a number of syntactic peculiarities that would unnecessarily complicate my presentation.

THE SIMPLE PASSIVE

In F:·nish sentences corresponding to the English passive, the verb is marked for voice by a specific ending. I shall indicate this by the label "passive" (it is worth noting that "passive" can be added to both transitive and intransitive verbs). With the exception of personal pronouns, the underlying object surfacing in subject position is a nominative, or perhaps one should say that it is "unmarked" (in Finnish surface objects are usually accusatives). The following sentences show the correspondence:

7. Henry was seen.
8. Henrynähtiin.
   (Henry saw-passive)

The English passive presents no problems for Finnish word order so long as the object is definite:

9. The bottle was broken.
   (Answers the question: "What happened to the bottle?")
10. Pullo rikottiin.
   (bottle broke-passive)

It seems to me that (10) is a natural translation of (9). It also seems that there is no natural context where (10) would be a translation of *A bottle was broken.*[5] How, then, is one to render *A bottle was brokens* One's immediate reaction is to move the noun into complement position, which, as can be seen from sentence (5) above, is not subject to the No Initial Indefinite Constraint. However, the result of doing this is not quite satisfactory, either. Consider the following sentence:

11. Rikotti:n pullo.
   (broke-passive bottle)

The noun is certainly indefinite (i.e. it can be translated "a bottle"); but the sentence sounds odd.[6] Sentence (11) is only natural if it is colloquial for "We broke a bottle"; but that, of course, is not the intended meaning.

In order to discover the equivalent of *A bottle was broken* I shall place the sentence in context and then determine what kind of Finnish sentence would occur in that context. Consider the following situation: A asks, "What happened?" and B answers, "A bottle was broken". It would seem that the following are good candidates for translation equivalents:

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[5] I assume, of course, that these sentences have unmarked stress. See note 4 above.

[6] For conditions under which verb-initial sentences occur in Finnish, see Hakulinen (1976 : 8 ff.).

12. Siellä rikottiin pullo.
    (there broke-passive bottle)
13. Joku rikkoi pullon.
    (somebody broke bottle-accusative)[7]

Obviously, (13) is not formally equivalent to the English sentence. Sentence (12) shows the passive verb, and the indefinite noun is where one would expect to find it, but the subject slot is filled with a locative.[8] Unlike some other languages, Finnish has not developed a system of formal subjects; nevertheless, it seems to require that in these constructions, empty subject slots should be filled with something or other. In English, indefinite nouns can freely occur in subject position. In Finnish something else must be placed there. The following sentences will illustrate the difference:

14. A lot of money is needed for this project.
15. Tähän projektiin tarvitaan paljon rahaa.
    (this project-illative need-passive a lot of money)
16. A letter was sent to Henry.
17. Henrylle lähetettiin kirje.
    (Henry-to sent-passive letter)
18. A school is being built near my house.
19. Taloni lähelle rakennetaan koulua.
    (house-my near build-passive school)

Occasionally one comes across English sentences that allow (at least) two translations, one of which appears to contradict the No Initial Indefinite principle. The reason for this is that, in Finnish, promoting an element to subject can mean two things: either the promoted element is old information or that it is definite. Consider the following sentences:

20. Money is needed for this project.
21. Tähän projektiin tarvitaan rahaa.
22. Rahaa tarvitaan tähän projektiin.
    (money need-passive this project-illative)

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[7] Paul Neubauer pointed out that (13) violates the No Initial Indefinite Constraint, but that the violation is accounted for by the specification that function words override word order. Of course, I only intended the Indefinite Constraint to handle the equivalents of English passive sentences, but it will be interesting to study how widely it is applicable in Finnish.

[8] Björn Hammarberg pointed out to me that "siellä/there" is not really a locative because it does not answer the question "Where?". I find the suggestion that Finnish has formal subjects intriguing. Definitely, the question deserves closer scrutiny.

Rahaa/money in (22) violates the No Initial Indefinite principle, as there is no need to translate it as "the money". It is placed in subject position because it represents old information in the sentence (the sentence answers the question "Why is money needed?"). Therefore, (22) does not establish a counter-example to the No Initial Indefinite principle, because the application of the principle was restricted to nouns that introduce a discourse topic, i.e. to nouns that represent new information (see Note 4 above). The interrelationship between thematization and definiteness is an interesting one, but this question will not be pursued here.

THE AGENTIVE PASSIVE

There is no one-to-one formal equivalent of the English agentive passive in Finnish. There are a number of ways of translating the English construction into Finnish (see Itkonen-Kaila 1974 and Karttunen 1977 for a discussion); but it seems to me that the construction that comes closest to being a formal equivalent is the following:[9]

23. The house was built by Henry.
24. Talon rakensi Henry.
    (house-accusative built Henry)

In sentence (24), the object is simply placed in subject position, and the Actor NP occurs in complement position. The object is in the accusative form. The verb is not modified in any way. In other words, the fact that the first noun is the object is signalled by its case form. I shall call this construction the reversal-of-roles construction.[10]

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[9] Heinämäki (1976 : 99), too, appears to regard this construction as equivalent to the English passive. Referring to a comparable type in Czech (the Latin translation of it is "Discipulum instruit magister"), Mathesius (1975 : 107) calls "extreme" the view that this construction is a passive.

For the purposes of my discussion, sentences that show Object-Subject reversal are called "passive" regardless of whether or not the verb is marked for voice. This is also the working definition of "passive" adopted by E. J. W. Barber ("Voice — Beyond the Passive", *Proceedings of the First Annual Meeting of the Berkeley Linguistics Society*, Berkeley, California: the Berkeley Linguistics Society, 1975: 16—24) and Alexandre Kimenyi ("Subjectivization Rules in Kinyarwanda", *Proceedings of the Second Annual Meeting of the Berkeley Linguistics Society*, Berkeley, California, 1976: 258—268).

[10] Object-Subject reversal seems to be a rather common phenomenon in language. Viljo Kohonen has studied the conditions under which it occurred in Old English ("A Note on Factors Affecting the Position of Accusative Objects and Complements in *Aelfric's Catholic Homilies I*" in Enkvist, N. E. and Kohonen, V. (eds), 1976: 175—196. Perhaps not surprisingly, he notes that information structure is one of the conditioning

I am not claiming that this sentence type covers all the functions of the English passive. All I am claiming is that reversal of roles is often used to translate English agentive passives.

If the underlying object in the English sentence is definite, Finnish seems to allow the reversal-of-roles operation quite freely. Consider the following:

25. The girl was seen by the men.
26. Tytön näkivät miehet.
    (girl-accusative saw men)
27. The signs were made by the painters.
28. Kilvet tekivät maalarit.
    (signs-plural made painters-plural)

If the actor and the object are identical in form, which they are in (27), reversal of roles is only allowed if it is not possible to interpret the first noun as actor. Contrast the following:

29. Tytön näkivät miehet.
    (girl-accusative saw men)
30. The girl was seen by the men.
31. Tytöt näkivät miehet.
    (girls saw men; the endings are identical)
32. The girls were seen by the men.

Sentence (31) can only mean "The girls saw the men", not "The girls were seen by the men". Compare (28) with (31). In (28) the passive reading is imposed on the sentence for pragmatic reasons. Signs do not paint; therefore, the first noun must be an object rather than an actor.

Let us call the restriction on the use of the reversal-of-roles construction the No Sidetracking Constraint. The constraint can be formulated as follows:

Roles can be reversed to translate the English passive if the resulting construction does not sidetrack the listener into taking the object for the actor.

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factors: initial accusative objects are clearly connected with givenness. Unfortunately, Kohonen does not discuss the definiteness of the promoted objects. Thus, it is impossible to say whether the No Initial Indefinite Constraint holds for Reversal-of-Roles constructions in OE. However, there is evidence that the constraint is rather general. For example, Alexandre Kimenyi notes that in Kinyarwanda only definite objects can be promoted to subject. There are similar observations in the literature elsewhere. For a discussion, see Ki[illegible]nyi (op. cit.).

The reversal-of-roles construction is also constrained by the No Initial Indefinite Principle. In English, of course, both definite and indefinite nouns may occur in subject position.

That the Finnish reversal-of-roles construction is in fact equivalent to the English agentive passive with definite subject only can be seen from the following example:

33. A: What was the program?
    B: Well, a sonata was played by Henry and...
34. A: Mitä ohjelmaa siellä oli?
    B: *Sonaatin soitti Henry ja...
    (sonata-accusative played Henry)

Although the Finnish sentence is fully acceptable in isolation, it cannot be used in the above context, the reason being that it suggests a previous mention of the sonata in question. It would appear that the Finnish sentence (34B) is odd in the above context exactly in the way the sentence "The sonata was played by Henry" would be in (33B). I conclude that the translation equivalent of the Finnish Subject-Object reversal construction "Sonaatin soitti Henry" (sonata-accusative played Henry) is "The sonata was played by Henry" rather than "A sonata was played by Henry".

The question that immediately arises is how Finnish would communicate the information contained in "A sonata was played by John". In other words, how would Finnish indicate, (a) that the underlying object is the topic of the discourse, and (b) that the underlying object is indefinite? It would appear that Finnish has to resort to the following device: first, some sentence or other is used to introduce the topic, and then another sentence is used to comment on it. The following example will illustrate what I believe is going on here:

35. Minkälaista ohjelmaa siellä oli?
    ("What was the program?")
    Siellä oli sonaatti, jonka soitti Henry.
    (there was sonata, which-accusative played H.)
    or
    Siellä oli sonaatti. Sen soitti Henry.
    (there was sonata. It-accusative played Henry)

That is, there appears to be no formal equivalent of the English agentive passive if the underlying object is indefinite and if it is also the topic of the discourse. Some roundabout way of giving the information included in the English sentence must be used instead.

SUMMARY

Comparison of the English passive and its formal equivalents in Finnish shows that there is a general requirement in Finnish to the effect that the subjects of such sentences should be definite. In equivalents of agentless passives, elements such as locatives, datives, etc. are promoted to subject in those cases in which the underlying object is indefinite and so cannot be fronted. The same generalization holds for agentive passives.

An interesting problem is posed by English agentive passives with no locative. If the underlying object is indefinite, it cannot be fronted. In these cases, the English passive has no formal equivalent in Finnish. Instead, some roundabout way must be used to convey the information contained in the English sentence. One device is to split the information in two: the first sentence introduces a topic and the second comments on it. (In English the article makes it possible to indicate that an initial noun is not necessarily definite: therefore, English allows one to introduce a topic and thematize it simultaneously.)

The differences in subjectivization between English and Finnish may or may not have pedagogical implications, depending on whether or not Finnish learners actually have difficulty working out the way information is organized in English. Preliminary results of research carried out on the English of Finnish schoolchildren suggest they do have problems with their subjectivization, and that their strategies are those of Finnish rather than English.[11]

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[11] For instance, in their early stages learners produce sentences such as *There was nice* and *In summer is hot* (pro *It was nice there, It is hot in summer*). Later, when the use of the formal subject is fairly well established, learners tend to overgeneralize; for instance, they produce passives like *It is needed money* (pro *Money is needed*).

A report on these findings will appear in *Jyväskylä Contrastive Studies*.

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SIMILARITIES AND DIFERENCES BETWEEN NOTIONAL PASSIVE SENTENCES IN ENGLISH AND IN POLISH

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The transformational contrastive description of Polish and English notional passive that is proposed by A. Wołczyńska-Sudół does not take into account Polish sentences that can be doubly interpreted. It seems that the relationships between the elements of the following Polish sentence:

Papier toaletowy jest rozrywany szybko

are possible to represent in two diagrams which have been proposed by Wołczyńska-Sudół (1977 : 156—7). First, it is an agentless formal passive construction,

$$\boxed{\text{Papier toaletowy}} \rightleftarrows \boxed{\boxed{\text{jest rozrywany}} \leftarrow \boxed{\text{szybko}}}$$

second, it is a notional passive one

$$\boxed{\text{Papier toaletowy}} \leftarrow \boxed{\boxed{\text{jest rozrywany}} \leftarrow \boxed{\text{szybko}}}$$

Let us note that if the relationships between the elements of the sentence are as in the second case, the verb *rozrywać* means only 'buy quickly'. If the relationships are as in the first case, the verb has an etymological meaning.

In addition, Wołczyńska-Sudół proposes different deep structures for Polish and English passive sentences, as she introduces the following phrase rules:

E PS 3 VP → V
P PS 3 VP → Vrfl[1]

[1] Wołczyńska-Sudół formulates a third, more "extensive" phrase rule: E PS 3: VP → V(psv)

$$\text{P PS 3 VP} \rightarrow \text{V}\begin{pmatrix}\text{rfl}\\ \text{psv}\end{pmatrix}$$

However, there is no passive element in the deep structure of the notional passive sentence.

In this paper I shall try to construct identical deep structures for the Polish and English notional passive sentence. They contain the same phrase rule:

EP PS 3 VP $\rightarrow$ V NP

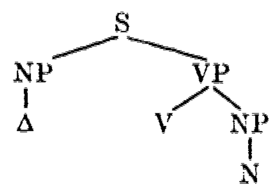
According to this, the relevant fragment of the base component should be as follows:

EP PS 1 S $\rightarrow$ NP VP

EP PS 2 NP $\rightarrow \left\{\begin{matrix}\Delta \\ N\end{matrix}\right.$

EP PS 3 VP $\rightarrow$ V NP

It may be represented in a phrase marker[2] which will also be the propositional deep structure of notional passive sentences:



(where the symbol Δ represents an unlexicalized NP).

The descriptions of Polish and English notional passive sentences should be different in the transformational component (and in the lexicon). The following transformational rule is postulated for English:

ET 1 NP_1 V $NP_2 \Rightarrow NP_2$ V[3]
condition: $NP_1 = \Delta$

It is an obligatory transformation.

It seems that in Polish the situation is more complex. There are the following transformational rules there:

PT 1 NP_I V $NP_2 \Rightarrow NP_2$ V
condition: $NP_I = \Delta$

PT 2 NP V $\Rightarrow$ NP Vpsv
condition: V is transitive

PT 3 NP V $\Rightarrow$ NP Vrfl[4]

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[2] Horn (1977) has proposed the deep structure that is proposed in this paper but he made two mistakes:

a) he proposed a base rule V $\rightarrow$ Vsię

b) he did not differentiate the notional passive from the formal one.

[3] ET 1 (or PT 1) is not a passive transformation, because we believe that there is no such rule in grammar; see below.

[4] The symbol Vrfl is not the equivalent of the term "reflexive verb", but of the term "a verb that is united with *się*".

condition: V is intransitive
V is united with *się*
PT 4 NP Vpsv ⇒ NP Vrfl
condition: V is united with *się*

All the transformations are obligatory. If the verb is intransitive and is not united with *się*, the structure undergoes only PT 1. zf the verb is intransitive but is united with *się*, the structure undergoes PT 1, thereafter PT 3. If the verb is both transitive and united with *się*, the structure undergoes in succession PT 1, PT 2, PT 4.

Let us examine some sentences (for the most part adopted from Wołczyńska-Sudół).

ES 1 The mechanic stopped the train.
ES 2 The train was stopped by the mechanic.
ES 3 The train was stopped.
ES 4 The train stopped.
ES 5 *The train stopped by the mechanic.
PS 1 Zupa smakuje dobrze.
PS 2 Papier toaletowy jest rozrywany szybko ...
a) ... przez Janka.
b) ...przez to, że go brakuje.
PS 3 Papier toaletowy rozrywa się szybko ...
a) ... *przez Janka.[5]
b) ... przez to, że jest delikatny.
PS 4 Książka rozchodzi się szybko.
PS 5 Pociąg zatrzymał się.
PS 6 Pociąg został zatrzymany.
PS 7 *Pociąg zatrzymał się przez maszynistę.

There are three types of sentences here:

a) active (ES 1),
b) formal passive (ES 2, ES 3, PS 2 — the first meaning, PS 2a, PS 6).
c) notional passive (ES 4, PS 1, PS 2 — the second meaning, PS 2b, PS 3, PS 3b, PS 4, PS 5).

PS 2 is ambiguous (see above): first, it is considered to be a formal passive without an agent when the verb *rozrywać* has an etymological meaning; secondly, it is a notional passive when the verb means 'buy quickly'. If in the PS 2 an agent appears (as in PS 2a), the sentence has only a formal passive meaning. PS 2b perhaps has only a notional passive meaning. In the PS 3,

[5] If the word *Janek* is treated as a cause (not as the agent) the semi-sentence PS 3a (and, under similar conditions, PS 7, too) will be unequivocally a notional passive sentence. The verb *rozrywać* will have only the etymological meaning.

which is unequivocally a notional passive sentence, the verb *rozrywać* has only an etymological meaning, because it is not united with *się* in the meaning 'buy quickly'.

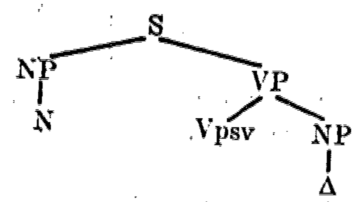
ES 4 and PS 1 have in their derivations ET 1 and PT 1, respectively (both transformations are of the same form). ET 1 is the only relevant transformational rule for English, whereas Polish has four, but the underlying structure of PS 1 does not undergo the remaining transformations because the verb *smakować* is not transitive and is not united with *się*, either. In the case of verbs like *smakować*, Wołczyńska-Sudół proposes to include in the lexicon a new sort of constraint. The present description need not postulate this constaint, because the conditions of the remaining transformations are not met and the transformations are not applied. The underlying structure of PS 2 (in the notional passive sense) undergoes PT 1, later PT 2; it does not undergo PT 4, because the verb *rozrywać* in the meaning 'buy quickly' is transitive but is not united with *się*. The structures of PS 3 and PS 5 undergo in succession PT 1, PT 2 and PT 4, as the verbs *rozrywać* (in the etymological meaning) and *zatrzymać* are both transitive and united with *się*.

The sentences that have a verb that is not united with *się* can be doubly interpreted. If in the deep structure of a notional passive sentence there is a verb that is united with *się*, PT 4 is obligatory. A sentence that has in its derivation history only PT 1 and PT 2 and a verb which is not united with *się* is only formally passive. A national passive sentence should differ from a formal passive one, if that is possible; in the case of PS 2 it is not possible.

It seems that the deep structure of notional passive sentences that is proposed in this paper could be universal. This hypothesis is confirmed by other Indo-European languages. The differences are in the transformational and lexical components. Some languages perhaps do not have the transformations that are proposed; some languages may have other rules in addil tion to the ones given here. In languages that have a structure of notional-passive voice like that in Polish (e.g., the Slavic languages, Spanish, Italian) the differences will concern the arrangement of the transformations, their conditions, etc. The hypothesis, however, must still be verified and so it is necessary to do further detailed contrastive research.

In order to avoid methodological misunderstandings let us specify our theoretical assumptions:

A) It seems that there is no passivisation in the grammar of natural languages, as formal passive sentences have a passive deep structure. It is impossible to identify a notional passive sentence with a formal passive one without an agent (ES 3, PS 2 in the second meaning, PS 6), because the former has a deep-structure different from the latter. The deep structure of form passive sentenalces without an agent is as follows:



There are two possible explanations of the ungrammaticality of ES 5, PS 3a, PS 7:

a) it may be explained in the deep structure of notional passive sentences,

b) it may be explained in the deep structure of formal passive sentences. The sentences are a result of contamination of notional and formal passive.[6]

B) We are not adherents of a transformational incorporation of pronouns, but we think that there is a phrase rule like the following:

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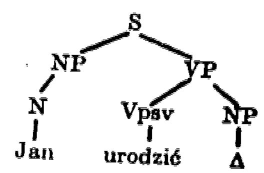
[6] The contamination is a frequently occurring mistake of performance, because some formal passive sentences without an agent may appear in the form uniting with *się* (Szliferształnowa 1968); for instance, the sentence *Jan urodził się*, which has a deep structure like this



undergoes the following transformations:

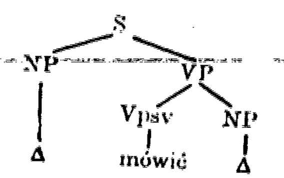
$NP_1\ Vpsv\ NP_2 \Rightarrow NP_1\ Vpsv$

condition: $NP_2 = \Delta$

$NP\ Vpsv \Rightarrow NP\ Vrfl$

condition: V is united with *się*

It seems that sentences that are made up only of the verb+*się*, e.g., *Mówi* się, are formal passive sentences, too. The underlying structure is as follows:



It undergoes these transformations:

$NP_1\ Vpsv\ NP_2 \Rightarrow Vpsv$

condition: $NP_1, NP_2 = \Delta$

$Vpsv \Rightarrow Vrfl$

condition: V is united with *się*

This is another argument in favour of the present description of notional passive sentences.

$$NP \rightarrow \begin{Bmatrix} N \\ Pron \end{Bmatrix}$$

It seems, however, that *się* performs two functions:

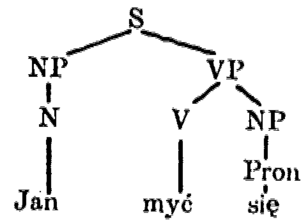
a) it may be a reflexive pronoun and it is inflected (see Szober 1953 : 228 and Saloni 1975),

b) it may be a component of the verb.[7]

Się in the first fuection is incorporated in the deep structure, e.g., in the sentence PS 8:

PS 8 Jan myje się

which has the followig deep structure:



In the surface structure *się* of this kind has an alternative form *siebie* (Szober 1953 : 325) and it can be used in oblique cases, e.g.

PS 9 Jan myje siebie.

PS 10 Jan mówi o sobie.

PS 8, PS 9 and PS 10 are sentences in the so-called reflexive voice in that *się* is co-ordinated with a verb. In the notional passive, *się* always functions in the verb component (the verb is united with *się*). This is why *się* need not appear in the deep structure of notional pasive sentences in Polish.

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[7] The multifunctionality of *się*, has been observed by Wilczewska (1966), who has even attempted to treat it as a formative morpheme of some verbs.

NON-TYPICAL CASES OF PLURAL NOUNS IN ENGLISH AND POLISH

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The aim of the present paper is to survey the contexts allowing the usage of plural forms the sense of which goes beyond the standard concept of plural. The considered examples are claimed to be non-typical not because of their syntactic form but because of the new semantic values they bring about the forms presented below exceed the limits of standard definitions of plural, which specify its meaning as "more than one" or "other than one" (Strang 1964 : 85, Quirk et al. 1972 : 165).

The problem of singular/plural distinction is closely connected with the mass/count distinction and some linguists claim these two distinctions to be inseparable. Gleason, for instance, suggests that, since in fact every common noun can occur both as mass and as count, the count/mass distinction does not divide the English nouns into two separate subclasses. It is thus similar to the singular/plural distinction in that it affects nearly all nouns and takes similar forms in the surface structure (Gleason 1965 : 134—137).

Katz's proposals are still more radical: the [+Count] and [—Count] features determine the co-occurrence relations between determiners and nouns and between nouns and singularity and plurality (Katz 1972 : 374).

Gleason's and Katz's statements, which associate number with countness and massness, were accepted as the basic assumption of the present paper. However, although Gleason's claim is that almost every noun can be used both as count and as mass, only the plurals of [+Count] nouns will be here considered as standard.

Although many linguists have been concerned with some aspects of the phenomenon of non-typical plurals, it seems that its scope and frequency of occurrence have not been fully recognized yet. Most authors treat non-standard plurals marginally, and their presence in dictionaries is also rather incidental. My tentative classification and rich exemplification are thus supposed to signal that the phenomenon is common and varied enough to attract greater attention and to be taken into account by grammarians and lexicographers.

All the analysed material is based on information given by British and Polish informants, but, since dictionaries often do not confirm this information, each part contains some brief comments as to the dictionary interpretation.

Two dictionaries have been consulted in all the discussed cases, these are: *The Shorter Oxford English Dictionary* and *Słownik Języka Polskiego*, but the nouns which appeared to be controversial have also been looked up in *Webster's Third New International Dictionary*, *Słownik Ortograficzny Języka Polskiego* and *Słownik Poprawnej Polszczyzny*.

In the approach taken so far the problem of non-typical plurals concerns mainly those nouns which, being basically [−Count] occur in [+Count] form as well. However, the reclassified plurals cannot be interpreted as true count nouns, since the addition of the plural ending is always accompanied by a change of meaning and in its new sense the noun can occur in plural only. Presumably, we are here concerned not with syntactic shift, but with semantic reclassification.

It is very difficult to specify the scope of the changes brought about by semantic reclassification. In a great number of cases the reclassification will in fact result in a new lexical item, but on etymological grounds and because of the high degree of sense similarity the two meanings are usually considered to be contextually conditioned variant readings of the same noun. The other possible result of reclassification is a modification of the field of reference — the modification which does not influence the basic meaning of a noun.

There is still one more argument for accepting the semantic source of non-typical plurals, namely, the fact that very few of them can be modified by a numeral. Thus, contrary to the standard concept of countness, the presence of the *-s* ending is not accompanied by true countability. To be able to account for this in my paper I assume two distinctions instead of one, i.e., count/mass distinction is here supplemented by countable/uncountable distinction which determines the presence or absence of numeral modification. Needless to say, "count" does not imply "countable".

1.1. Mass nouns denoting metals will start our discussion of reclassified plurals: *iron* as well as Polish *żelazo* is basically a mass noun, but we can produce a plural form *irons* in such expressions as *fire-irons*, *irons* in the sense of "stirrups" or *put somebody in irons* — an equivalent for Polish *zakuć kogoś w żelaza*, i.e., in cases where features of the substance are in a way transposed on the product. However, this pluralization is not followed by countability;

for none of these examples allow numeral modification. A plural form of *iron* accompanied by a numeral (*two irons*) is also acceptable, e.g., in the very common shortening of *flat-iron*. In Polish the form *żelaza* cannot be modified by a numeral.

The next example, *bronze*, is used in the plural form *bronzes* in the sense of works of art, statues made of bronze. *Bronze* in English, however, corresponds to two different terms in Polish: *brąz* and *spiż*. The plural form *brązy* is parallel to English *bronzes* (works of art), whereas the form *spiże* is restricted to two meanings: cannons and bells. *Brass* also has the plural form *brasses* denoting things made of brass, but the Polish equivalent *mosiądz* cannot be pluralized. All of these plurals, in Polish as well as in English, do not allow numerals as modifiers.

Silver does not have a plural form in English except for a colloquial use with the "a" article or in plural when we speak about sports medals.[1] In Polish the plural form *srebra*, which cannot be modified by numerals, again denotes products made of silver, namely, tableware or liturgical vessels.

Copper and *nickel* both have a very common plural form meaning "coins", which can be modified by numerals: *five coppers* or *three nickels* is perfectly acceptable in English.

In Polish *miedź* does not have a plural form, whereas the plural *nikle*, as well as *chromy*, denotes nickel or chromium ornaments (e.g. of motorcars); neither form can be modified by numerals. Surprisingly enough, SJP,[2] while taking into account the common usage of *nikle*, adds the specification "no plural" to the entry of *chrom*.

Złoto is basically not pluralized, although SJP allows the plural, but uncountable, use of *złota* in the sense of liturgical vessels ("złota kościelne"). The countable form of *gold* is acceptable only in the case of "medals" (see note 1).

Finally, the mass noun *marble* can be pluralized to denote marble sculptures, as in *the Elgin Marbles*.

Another group of nouns which are subject to reclassification is the group of fabrics.[3] *Silk* has the plural form *silks* in the sense of "garments made of silk", *cotton* is pluralized to *cottons* (cotton garments), but *wool*, according to SOED, cannot be reclassified in this way, as there is a separate form *woolens* to express the same kind of dependency (see also part 2). In Polish *jedwab*

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[1] "International Herald Tribune" of February 14/15th 1976 says that one of the competitors in Olympic Games won "two golds and a silver".

[2] For the sake of convenience titles of dictionaries are here used in an abbreviated form: SJP — *Słownik Języka Polskiego*, SOED — *Shorter Oxford English Dictionary*.

[3] As regards fabrics see also part 2.

is pluralized into *jedwabie* — silk dresses and *welna* into *welny* — woolen clothes; *bawelna* cannot be reclassified in this way. All these pluralizations of fabrics, in Polish as well as in English, do not allow numeral modification.

The next examples in this section are *paper* and *glass*. *Paper* can have a plural countable form in several meanings, but not when *papers* mean: notes, documents, letters, memoranda. In Polish we predominantly use *papiery* in the sense of documents.

The mass noun *glass* has the plural form *glasses*, which denotes any article made of glass, in particular it can stand for spectacles, and thus remain uncountable, or for drinking vessels, and thus become countable. The Polish equivalent *szklo* is pluralized mainly with regard to spectacles or to the very lenses. Like in English, this form cannot be modified by numerals.

The Polish noun *slodycz* denotes the quality, the feature of being sweet, and thus its plural uncountable form *slodycze* stands for sweets. The relation in English is not so clear, since *sweets* are derived from the adjective *sweet* and not from the noun *sweetness*.

A somewhat obsolete synonym of *slodycze* is the uncountable pluralization of *cukier* — *cukry*. Another meaning of *cukry* is that of chemical compounds.

The noun *weight*, which basically stands for a specific characteristic of objects, can also be applied to denote an object or objects used for measuring weight: *a weight* or (*two*) *weights*. In Polish the case is somewhat different, as we have two separate items to cover these readings: *waga* (or *ciężar*) for *weight* and *odważnik* — *odważniki* for *a weight* — *weights*.

Finally, the Polish *fiolet* is reclassified into the uncountable plural form *fiolety* when it stands for bishop's robes, as their colour is their essential feature.

There is another interesting example concerning garments. The word *gronostaj* — *ermine* can be pluralized in two ways: when the animal is meant we are allowed to use numerals, but when we mean trimmings or garments made of ermine only the plural form can be used, as in: *przybrany w gronostaje* — *wearing ermines*.

The above examples present the linguistic phenomenon that can hardly be interpreted within the frame of the so far established syntactic and semantic terms. The derived nouns are not always standard plurals — most of them cannot be modified by numerals. What is more, in this new, derived sense they are often used in plural only, whereas true count nouns have the possibility of forming both singular and plural. Finally, they involve changes in meaning which are not accounted for by syntactic relations.

The semantic interpretation of the above examples will involve semantic ambiguity, as they all have at least two readings: one stands for the substance, the other for the product, but their identical phonetic form is not incidental, on the contrary, the semantic markers which are essential for the "substance item" are also essential for the "product item", and thus we are here concerned with a high degree of semantic similarity. With regard to this I claim the two forms to be two readings of the same noun, not separate lexical items.

The above discussion concerns one type of semantic reclassification, but further considerations will attempt to point to some more examples of this kind of regularity.

1.2. As Grzebieniowski has noted in his analysis of the English morphology and syntax, the plural form of some abstract nouns has concrete meaning, as e.g. in "force" — "forces" (military) (Grzebieniowski 1964 : 42). This type of semantic reclassification — the one in which the possibility of using the plural comes with the specification or individualization of some general concept or phenomenon — will be discussed in this section.

1.2.1. We can quote a number of general or even abstract concepts and notions which can be assigned the exact, but concrete equivalents. Thus, the abstract concept of *height* as a measurement from bottom to top, has its concrete counterparts in various *heights* or *a height* of a particular object. Another meaning of the plural form *heights* is synonymous with *hills* — but in this sense it is uncountable.

Altitude — almost an equivalent of *height*, but more often used in a geometrical sense, also has its plural form *altitudes*.

Polish *wysokość* reveals the same kind of regularity, producing the plural form *wysokości*.

However, all these plurals can hardly be used with numerals alone, except perhaps for such a geometrical description as *dwie wysokości trójkąta*, but they are often accompanied by the adjective *różny — different*, as in: *Obserwacje prowadzono na dwu różnych wysokościach — Observations were carried out on two different heights*. Besides that, the adjectival modification of this noun is also rather limited.[4]

The same opposition of abstract and concrete, and the same kind of modification, is revealed by the three remaining dimensions: *depth*, *width* and *length* (*głębokość*, *szerokość*, *długość*). However, *width* and *length*, as well as Polish *szerokość* and *długość*, can also become countable when they denote

[4] Interestingly enough, in Polish we use such adjectives as *duży* or *mały* in order to modify *wysokość*, whereas in English *high* and *low* are used (e.g. *high altitudes*). This is certainly due to the fact that *niska wysokość* would be felt self-contradictory, and *wysoka wysokość* redundant on etymological grounds.

the dimensions of a swimming pool: *He managed four widths (two lengths) of a swimming pool — Przepłynął cztery szerokości (dwie długości basenu).*[5]

Length and *długość* may also be used in the set phrases: *to win by two lengths — wygrać o dwie długości* (mainly in horse racing, cycling and boat racing).

The Polish noun *pieniądz* is an abstract economic concept, whereas its plural form *pieniądze* stands for funds, banknotes and coins. Interestingly enough, this relation in English works the other way round. Singular *money* is concrete, whereas plural *monies* is an abstract term used in banking. None of these forms can be modified by a numeral.

Weight behaves similarly to measurements: it is often met in plural when expressing heaviness of particular objects, often in a numerical form, (e.g. *the weights of the planets*).

The Polish noun *waga* (*ciężar*) is rarely used in plural *wagi*, except for set expressions *miary i wagi — weights and measures* and *podnoszenie ciężarów*.

Another abstract concept, *time*, is often pluralized to denote a specified period, such as: *the times of Henry VIII*. Parallelly in Polish: abstract *czas* versus *czasy stanisławowskie*. Numerals never modify *times* or *czasy*, but adjectives do, e.g. *good times — dobre czasy*.

The undoubtedly abstract noun *love* can have a plural form *loves* in the sense of love affairs, such as: "loves like ours have always been hated" (Jones 1975 : 603). In Polish this form is even more common: *miłości Woltera, miłości mojego życia.*[6] Numerals are hever used in such phrases.

The item *beauty* has mainly the qualitative character, but it can also denote a person or an object which is particularly beautiful: *two famous beauties of those times, the beauties of Donne's poetry.*

Evil is an abstract concept of wrong-doing, but it can be reclassified to mean an evil thing or deed, as in: *choosing the lesser of the two evils*. Polish *zło* has no plural form in any case.

Art (as well as Polish *sztuka*) stands for all creative skills and achievements of humanity, but when we want to stress its concrete branches we can use the plural form *arts* (e.g. *fine arts, Master of Arts*) *sztuki* (*sztuki piękne, sztuki plastyczne*). None of these forms can be used with a numeral, and, since all these expressions are kind of set phrases even the adjectival modification is very limited.

The noun *good* denotes some abstract qualities, but *goods* have gradually come to mean commodoties or merchandise. Polish *dobro* is also used as an abstract concept, whereas its plural form means either real property (e.g. *dobra ziemskie*) or good things (e.g. *dobra doczesne*). Both forms, *goods* and *dobra*,

[5] SJP and *Słownik Poprawnej Polszczyzny* do not confirm this usage.

[6] The entry *miłość* is specified "blm" in SJP and in *Słownik Poprawnej Polszczyzny*.

cannot be modified by numerals, except for a specific economic use, e.g., *są to dwa różne dobra*.

Basically *life* denotes a state of being alive, and as such cannot be pluralized, but when it means a state of existence of an individual or when it refers to tenacity of life it has a plural form as in: *How many lives were lost in the accident?*, *A cat has nine lives*.

The plural form of *życie* is not acceptable in Polish (unless we consider highly colloquial "uratował dwa życia ludzkie"), except for one very specific colloquial use: the Warsaw daily "Życie Warszawy" is often abbreviated to "Życie", and thus we sometimes buy *dwa "Życia"*. The same applies to other names of newspapers: "Kultura", "Polityka", etc.

Besides denoting dying in the general sense *death* can also apply to individual instances of death, as in: *There were many deaths of influenza last winter.* In Polish we have two separate items: non-pluralized *śmierć*, and pluralized, countable *zgon*.

Finally, abstract nouns with *-ness* suffix can be found in such phrases as: *small kindnesses* — acts of kindness, *difficulties* — difficult problems, or seemingly odd "obviousnesses" (Althusser 1970 : 145) or "bitternesses" (Jones 1975 : 25). The phenomenon is much more common in Polish, e.g. *świadczyć grzeczności*, *prawić uprzejmości*, *mówić złośliwości*. Both Polish and English examples cannot be modified by numerals.

Finally, the abstract noun *oszczędność (czasu, pieniędzy)* — *saving (of time, of money)* can be pluralized to *oszczędności* — *savings* to denote the money saved up.

1.2.2. Another type of reclassification from the general to the particular is represented by various skills, which, abstract in themselves, result in concrete products.

For instance, such nouns as *sculpture*, *painting*, *engraving*, *writing*, *poetry* are not pluralized when they stand for a skill, but they can have a plural countable form when they denote a concrete product of this skill. Thus we can have: *two ancient sculptures*, *several impressionist paintings*, *five valuable engravings*.

Apparently the form *writings*, e.g. *Ben Jonson's writings*, cannot be preceded by a numeral, since it is predominantly used as a collective noun denoting the writer's literary output as a whole. The form *poetries* is possible, but very rare.

This kind of relation is much less common in Polish; apparently, it concerns only three nouns: *rzeźba*, *poezja* and *pismo*. However, while plural *rzeźby* can be preceded by a numeral when individual works of art are meant, the form *poezje* and *pisma* are used similarly to *writings*, i.e. as collective nouns denoting the literary output, e.g. *poezje Norwida, pisma Bolesława Prusa.*[7] While speaking about individual countable pieces of poetry we have to use the form *poems — wiersze.*

1.2.3. The next type of reclassification concerns continuous, non-concrete natural phenomena and elements, such as *light, fire, snow, rain, water* and *sand*, and their individual, concrete, non-continuous forms and instances of occurrence, i.e. *lights* (sources of light), *fires* (instances of burning), *snows* (snowfalls or snow expanses), *rains* (rainfalls), *waters* (water expanses), or *sands* (sand expanses). Countable form of these is hardly possible, and must be definitely rejected in the case of *waters* and *sands*. The countable form of *fires* seems to be acceptable only when we speak about instances of destructive burning, such as: *We have already had two forest fires this week.*

The Polish equivalents reveal the same kind of regularity: *światło, ogień, dym, mgła, śnieg, deszcz, woda, piasek, lód* as general denotations of natural phenomena are always singular. The possibility of a plural form appears with individual instances of their occurrence, as in: *zapalone światła, dymy fabryczne, ognie ofiarne, mgły i zamglenia, głębokie śniegi, ulewne deszcze, wody terytorialne, piaski Mazowsza, lody na rzece.* Numerals are basically not used in such phrases, except perhaps for *światła* and *ognie.*[8]

1.2.4. The last section in this paragraph presents several examples which do not fit into patterns outlined above but which still stand in accordance with the general pattern given in 1.2. For instance, the plants such as *grass* or *paprika* are not generally pluralized when they stand for a species, but when we mean individual plants of grass or individual pods of paprika we often use the form *grasses* or *paprikas*. Polish equivalents follow the same pattern: *trawa* — (uncountable) *trawy*, as in *trawy pożółkły*, and *papryka* — (countable) *papryki*, as in *pokroić dwie papryki.*

The last problem in this section is pluralizing the nouns in set phrases: *smelling salts, Epsom salts, table waters, sole trzeźwiące, ruchome piaski, wody zdrojowe.* Obviously, numerals are not acceptable in these phrases.

1.3. The hitherto applied criteria do not cover a number of semantically reclassified pluralizations which appear in a very specific, usually unique context. For instance, the shareholders of steel and oil corporations would ask *How are steels?* or *How are oils?* — meaning, of course, the position or price of shares of oil and steel companies.

[7] There is still another meaning of *pismo* — "an official document", in which it is also used as a countable plural.

[8] I do not consider here such idioms as: *gra w dwa ognie, zostać wziętym w dwa ognie* — parallel to English *between two fires.*

Some restaurants serve set meals called *tea* or *afternoon tea* and in this sense *tea* can be used in the countable plural, as in: *The waitress has served fifteen teas since three o'clock.*

Both Polish and English nouns expressing numbers can be reclassified into the plural, e.g. when we mean size of shoes (*Czy są siódemki?*, *I wear sevens*) or tram numbers (*Przejechały dwie trzynastki*). Another interesting example of such usage is the sailor's term *the roaring forties* — *ryczące czterdziestki* denoting the stormy regions between 40° and 50° south latitude.

The plural form of *lód* — *lody* is also used in the sense of frozen sweets. Interestingly enough, the plural has to be maintained regardless of the number of portions. The English equivalent, *ice-cream*, is similarly reclassified, or rather, abbreviated to *ice* or *ices*, but the plural and singular forms are here used regularly, i.e. we ask for *one water-ice* or *two lemon ices*.

One of the meanings of *air* denotes appearance or manner, as e.g. *He has an air of importance*, but when used in plural, in such an expression as *give oneself airs*, it slightly changes its meaning into unnatural pretentious behaviour.

The Polish noun *chleb* can also be used in plural in the sense: "loaves of bread", but, unlike the previous examples, where the numeral modification was only acceptable, it is now necessary, as in: *Mam kupić dwa chleby.*

Our final example here is the pluralization of *kurz* in *ścierać kurze.*

1.4. In this section we shall deal not only with number, but also with gender. Namely, some of the nouns which distinguish masculine and feminine forms have the possibility of reclassifying their plural masculine forms to stand for dual gender as well. Thus, while the singular form *actor* refers always to a man, the plural form *actors* denotes either both men and women or men only. In fact, the sense of *actors* as regards gender is solely dependent on the context, for it means "two men" in: *Golas and Brando are actors*, but men and women in the dictionary entry of *cast* in SOED: "...the set of actors collectively...".

Among the nouns which are morphologically unmarked for gender (*brother* — *sister*, *brat* — *siostra*) only a few can presumably be used in the dual gender sense, e.g. *dogs* — *psy*. An additional example in Polish is the dialectal use of *ojcowie* in the sense of "parents".

Morphologically marked nouns, both Polish and English, allow possibilities for the dual gender plural. In English this would concern the nouns taking *-ess* feminine suffix: *god*, *steward*, *lion*, *tiger*, and, especially, *author* and *poet*, since *authoress* and *poetess* forms are rare. Polish nouns taking feminine suffixes *-ica* (*kot* — *kocica*) and *-ka* (*kelner* — *kelnerka*) are also subject to reclassification.

There are, however, several pairs which will probably not be reclassified, apparently because the masculine/feminine distinction is unlikely to be disregarded (*duke — duchess, emperor — empress, książę — księżna, cesarz — cesarzowa, król — królowa*).

Interestingly enough, *stallions* and *mares*, which are masculine and feminine respectively, are supplemented by the third, only dual form — *horses*. (In Polish *ogiery — klacze — konie*).

Contrary to English, the Polish system of numerals can disambiguate the gender of personal nouns. Namely, *czterej nauczyciele* refers to men, *cztery nauczycielki* to women, whereas *czworo nauczycieli* — to both men and women. Still, as the collective numerals can modify only personal nouns, the problem of gender of animal nouns remains unsolved.

2. The second part of the present paper presents another basis for pluralization of mass nouns, the one which was briefly mentioned by Quirk et al. (1972), Katz (1972), Gleason (1965), Lyons (1968) and Jacobs and Rosenbaum (1968).

A Grammar of Contemporary English considers the plural form of such mass nouns as *bread*, as in: *What breads have you got today?* to be the case of conversion of a mass noun into a count noun; *breads* in that case means kinds or types of bread (Quirk et al. 1972 : 128 n. [a]).

This explanation, however, cannot be accepted as satisfactory, since [+Count] and [—Count] are syntactic features and the conversion from [—Count] to [+Count], being an example of syntactic, not semantic, shift, cannot account for the new interpretation of meaning. The syntactic shift from mass to count can also be understood as the shift from the collective reference to the distributive one. It is the case in Quirk's example, but such a statement does not exhaust the semantic interpretation of the sentence, since what the speaker has in mind is not loaves of bread, but kinds of bread, i.e. distributive reference is here a reference to variety as well.

There are other reasons to claim that it is semantic, not syntactic reclassification that underlies such forms. First, the addition of the plural ending does not automatically entail countability, i.e. acceptability of numeral modification. What is more, the plural form itself often requires some contextual justification. The most common contextual means which enables us to use the plural in the sense of "kinds" is the adjective *different* — in Polish, parallelly, *różny*. The need to use *different* becomes more obvious if we try to modify the "kinds" plurals with numerals. In the majority of cases native speakers confirm that phrases with numerals and *different* — *różny* (*two different inks, dwa różne atramenty*) are perfectly acceptable and unambiguous, while these with numerals only (*?two inks, ?dwa atramenty, ? five fuels,*

?pięć paliw) are at the best substandard. *Different* — *różny* can obviously be substituted by other contexts, or even extra-linquistic situation, as long as the reference to types is clearly indicated.

Contrary to most examples in part 1, none of the cases of "kinds" reclassification brings about the formation of a new lexical item — the only modification concerns the field of reference.

The examples from both languages are presented in Table 1.

TABLE I*

English lexical item	SOED	British informant	Polish equivalent	SJP	Polish informant
gold	+	—	złoto	—	—
meat	+	+	mięso	—	±
cheese	—	+	ser	—	+
bread	—	±	chleb	—	—
sugar	+	+	cukier	blm	—
coal	—	±	węgiel	—	±
ink	+	+	atrament	—	+
oil	+	+	olej	—	+
fuel	+	+	paliwo	—	+
tobacco	—	+	tytoń	—	+
wood	+	+	drewno	blm	—
wool	+	+	wełna	—	+
silk	—	+	jedwab	+	+
cotton	—	+	bawełna	blm	+
wine	—	+	wino	—	+
beer	—	+	piwo	+	+
brandy	—	+	koniak	—	+
red	+	+	czerwień	blm	+
violet	—	+	fiolet	—	+
steel	—	±	stal	+	+
glass	—	—	szkło	+	+

* "+"—"kinds" plural confirmed,
"—" not—confirmed,
"±"—doubtful, "blm"—dictionary symbol for 'no plural'.

Only some of the entries in SOED have "kinds of" in the list of their readings. We could assume that separate entries are given to those items which are very common in this particular form but it is impossible to judge whether the form *wools* is more popular than *silks*, still, *wools* in the sense "kinds of wool" have a reading in SOED, while *silks* do not. Even if we refer to reality, it is equally easy to enumerate kinds of wool (shetland wool, lamb wool) and the kinds of silk (natural silk, Chinese silk).

The examples of "kinds" plural in SJP are very rare and many nouns are classified "blm". It seems that the examples given are in a way incidental, while the regularity as such is not recognized at all. It is probably due to the fact that the examples in SJP are taken from literary works, whereas the usage in question is colloquial.

Czerwień, for instance, is specified "blm" while art critics often use the form *czerwienie* to denote various shades of red.

Ser in SJP is assigned the plural form *sery*, but only as lumps of cheese we can buy in shops, whereas we undeniably can say: *Nie lubię ostrych serów.*

Atrament has not "blm" specification, but the entry does not give any plural example, while we often produce such a form in sentences like: *Nie podobają mi się kolorowe atramenty.*

SJP gives the example of the plural form *oleje* only in the context *oleje święte*, which would rather fit into the pattern of 1.2.4., whereas there is a popular form *smary i oleje* which denotes "kinds of". Analogously, *paliwo* is pluralized to *paliwa* when different kinds of fuel are meant, e.g. *paliwa płynne*.

The pipe smoker will certainly say *tytonie* to denote different blends of tobacco.

Wełna has not "blm" specification in SJP as *bawełna* has, but the examples given in the entry again do not include the shop advertisment *wełny*. Of all fabrics only *jedwab* entry contains adequate examples (*jedwabie sztuczne i naturalne*).

The treatment of the names of drinks is also incoherent: *piwo* has the example *piwa jasne*, while *wino* has none, although we can say *wina czerwone, wina stołowe*, etc.

As regards other dictionaries, Webster's dictionary does not recognize such possibilities of plural formation, although some entries contain a few uncommented examples, e.g. *writing inks*. Identical approach can be observed in *Słownik Poprawnej Polszczyzny* — in some entries we are given an example, e.g. *soki warzywne* in the entry of *sok*, but in the remaining cases the "kinds" plural is disregarded.

3. In the present part I intend to analyse a very specific usage of plurals of both mass and count nouns, when the phrases in question stand for portions.

3.1. Let us first consider "portions" pluralizations of mass nouns. For instance, in Polish we order *dwa mleka, trzy kawy, dwie herbaty, cztery piwa, dwa soki pomarańczowe* or *trzy koniaki*. SJP confirms only the most common forms of the "portions" plural: *kawy, herbaty* and *piwa*, whereas the other examples are not mentioned, and *mleko* is even marked as "blm".

Also in the entry of the basically mass noun *zupa* the phrases denoting portions, such as: *dwie zupy mleczne* are not discussed. The other, still more colloquial, form of ordering soup — *dwie pomidorowe, dwie ogórkowe*, etc., is not considered either.

Presumably, SJP acknowledges the possibility of such a reclassification of nouns into the "portions" plural, but only in the most common cases.

Parallel English nouns can often be found in similar contexts: *two coffees, four brandies, two beers, four juices*. The case of *milk* is a little doubtful, as not all my informants confirmed the possibility of plural. As regards SOED, it does not exemplify such a regularity at all, while Webster's dictionary discusses the "portions" plural of *coffee, beer* and *whiskey* — *juice* and *tea*, however, are again left out.

Contrary to the examples in parts 1 and 2 "portions" phrases are obligatorily modified by numerals, as without the need to express plurality, definite number of portions, the reclassification of a noun would be unnecessary and the plural form nonsensical. Thus, this time, the syntactic change accompanying the semantic reclassification is fully regular: [—Count] changes into [+Count].

3.2. Types of reclassification presented so far concerned only mass nouns. The "portions" shift, however, covers count nouns as well, and, since their plural form is grammatical, the reclassification enforces its reformulation.

A pea, a bean, a noodle, a mushroom have regular plural forms *peas, beans, noodles, mushrooms*, which, except being standard plurals, are used to denote the name of a dish or a portion of this dish. Thus the numeral modification of these nouns, e.g., *two peas, three beans*, is meaningful only when we speak about separate items, as in: *There were only two peas in the pod.*

Using numerals as modifiers to cases denoting portions of a dish would be confusing, hence the natural way to ask for a given number of portions is: *mushrooms for two, peas for one*, etc.

The regularity is also very common in Polish, i.e. nouns such as: *naleśnik, pieczarka, pyza, knedel, pieróg*, etc., have regular plural forms which can be modified by numerals when denoting separate objects (e.g. *zjeść dwa naleśniki*), but the same plurals are pre- or post-modified by the phrase composed of a numeral and *razy* when they stand for more than one portion, e.g. *pierogi dwa razy, trzy razy knedle*, etc., or by the word *raz* when only one portion is meant (*raz naleśniki*).

Groszek is a singular collective form for pea seeds,[9] so when it stands for a portion of peas the form *groszki* is definitely rejected and it is pluralized by means of *razy*. *Fasolka*, however, can be unambiguously pluralized in both

[9] The plural form *groszki* is used only in the sense of "polka dot pattern".

ways: *Poproszę dwie fasolki po bretońsku* or *Poproszę dwa razy fasolkę po bretońsku*.

A diminutive form *buraczek* has a regular countable plural form, thus a portion of a vegetable called *buraczki* has to be pluralized with *razy* or equivalent phrases.

The same rule will also hold for the nouns not having a singular form, e.g. Polish *frytki*. As regards English *chips*, this form can be referred to the singular *a chip* in the same way as, e.g., *noodles*.

SOED, as well as Webster's dictionary, do not consider the possibility of plurals meaning dishes in any of the cases mentioned above; all the nouns are analysed only from the point of view of their singular form and plural forms are not assigned any specific meaning.

SJP acknowledges plural forms in the sense of "portions" in those cases where this very form is the dominant one (*kluska, knedel, pieróg, pyza*), and in these entries the nouns in question are followed by "zwykle lm" specification (usually in plural).

In the entries of *pieczarka* and *naleśnik* there is no "zwykle lm" and thus the plural examples quoted do not exemplify the issue now under consideration.

Also the entries of *groszek* and *fasolka* do not emphasize the possibility of reclassification, both nouns are defined as collective for seeds or plants.

The specific plural usage of *buraczki* is discussed as a separate item and classified "zwykle lm".

Finally, *frytki*, as not having a singular form at all, are classified "blp" (no singular).

3.3. The last section in this part presents a few items of minor importance, which, however, add something to our discussion of specific behaviour of plurals in contexts denoting portions.

The English nouns *cake* and *pie* can have two lexical readings expressed by Polish *ciasto* and *ciastko*. However, not all kinds of cakes are available in both variants, and thus a customer asking for *a cheese-cake* or *two apple-pies* will be served a piece or pieces of cake, not the whole cake or even more than one.

In Polish we presumably can cite only two nouns which allow such a usage: *tort* and *keks* (we order *dwa torty, trzy keksy*, etc.). *Sernik* and *piernik* are common both as big and small cakes so the order *dwa serniki* clearly refers to small cakes.

Except for the possibility of count and mass usage of *cake*, the dictionaries do not confirm the acceptability of the above phrases.

Presumably, the examples analysed in this part show that the name of a dish or a drink, when printed in a menu card, can be treated as a singular unmodified form denoting a portion. Since this form may be mass or count, or even plural, its numeral modification or plural form may deviate from what we consider to be correct phrases. However, these "deviations" not only do not make the phrases nonsensical, but, on the contrary, are the only means to make them meaningful in a given context.

What is also worth noticing is the fact that the reclassification presented in this part allows for true countability, including singular and plural. Namely, the form *one beer* — *jedno piwo* is as much reclassified as *two beers* — *dwa piwa*, since *beer* is basically not countable.

Finally, it is the first case in this paper in which one semantic regularity results in more than one kind of phrase in the surface structure: *one brandy* and *peas for one*, *two brandies* and *peas for two*, etc. This confirms our earlier claim that semantics is here prior to syntax.

4. The final part of the present paper discusses stylistic and semantic consequencies of form variance — generally speaking, the variant plurals are overt signs of ambiguity, which in singular can be revealed only by the context.

4.1. The first section of the present part is devoted to the analysis of these nouns which have more than one plural form and the variant forms of which belong to different registers of the language or are stylistically marked for some specific use.

For instance, foreign plurals of English nouns often occur in variation with regular plurals. As it was pointed out by Quirk et al. (1972 : 181), the foreign plurals, such as: *formulae*, *antennae*, *appendices*, etc., tend to occur in technical usage, whereas the regular ones, such as: *formulas*, *antennas*, *appendixes*, etc., — in everyday speech.

However, when we consult the dictionaries many cases appear to be controversial (e.g. SOED claims the form *antennas* to be occasional, while *The Advanced Learner's Dictionary* rejects it altogether).

In Polish the irregular stylistically marked plural form is to be found in the class of masculine human nouns, such as *doktor*, *robotnik*, *Francuz*, etc., which, having the regular plurals, like: *doktorzy*, *robotnicy*, *Francuzi*, etc., (i.e. according to human declension) can also be used in the derogatory sense in the form *doktory*, *robotniki*, *Francuzy*, (i.e. according to non-human declension). However, not all the nouns have the variant derogatory form, and in these cases the demonstrative adjective remains as the only sign of sylistic marking, e.g., *ci malarze* — *te malarze*.

The noun *anioł* is also a very interesting example from the stylistic point of view; there are three plural forms of *anioł*: *aniołowie* — found in religious texts, *anieli* — emotional, somewhat obsolete, and *anioły* — used in everyday style.

4.2. The present section is devoted to the problem of nouns having more than one lexical reading when one of these readings requires a different plural form. In these cases the plural form can be interpreted to have the quality of differentiating not only stylistic, but also semantic values, the more so as in all the examples below the singular declension does not have any overt signs of ambiguity.

The English examples are not numerous and they are included in most English grammars. They are: *brother* — *brothers* (members of the same family) and *brethren* (members of the same religious society); *penny* — *pennies* (individual coins) and *pence* (items in British currency); *index* — *indexes* (tables of contents, lists of items given at the end of books) and *indices* (forefingers, markers). Finally, there is a group of animal names (*fish, antelope, reindeer, flounder, herring*) which take the *-s* ending when they denote different individuals (*the fishes of the Baltic Sea*) and the ø ending when they stand for hunting quarries (*they caught only a few fish*).

In Polish such meaningful variants are much more common. Let us consider two examples suggested by J. Tokarski (1973 : 99): *akt* and *organ*. *Akt* is usually pluralized to (countable) *akty*, but when it stands for official documents, it receives the Latin ending *-a* (*akta*[10], and the numeral modification is rejected. *Organ* has the plural form *organy* in biological sense, but *organa* when it denotes institutions, offices or journals. This distribution of plurals is confirmed by *Słownik Ortograficzny* and *Słownik Poprawnej Polszczyzny*, but not by SJP, which gives the form *organa* only as an obsolete one, and does not quote any examples of this use. Like *akta*, the form *organa* seems to be somewhat "reluctant" to accept plurals.

The noun *oko* has two possible plurals: *oczy* (the former dual number) — eyes, and *oka* — eyes of fat on soup, meshes in a net. *Ucho* has the plural form *uszy* (also former dual number) in the sense of ears, but *ucha* when it means "a handle" .Interestingly enough, the forms *oczy* and *uszy* never occur with ordinary numerals, but with collective ones, as in: *dwoje oczu, uszu*.

The noun *król* has the plural form *królowie* (human declension) when it means "male ruler of a state", but *króle* (non-human declension) when it denotes a playing card with a picture of a king. The entry of *król* in SJP discusses both readings, but the change of declension and plural form is not en-

[10] It is not the same case as *koszty -a, grunty -a*, since there the *-a* ending is obsolete.

countered. *Słownik Ortograficzny* and *Słownik Poprawnej Polszczyzny*, on the other hand, discuss each of the readings and its declension in separate entries.

Hetman, *goniec* or *skoczek* follow human masculine declension and have the plural forms *hetmani*, *gońcy* and *skoczkowie* when they denote a military commander in former Poland, an errand-boy and a jumper respectively, but when they denote pieces in chess, i.e., a queen, a bishop and a knight, respectively, the declension becomes non-human and the plural forms have different endings: *hetmany*, *gońce*, *skoczki*.

The dictionary interpretation of these plurals does not always confirm our observations. SJP, for instance, classifies the form *hetmany* as obsolete. Also the forms *gońce* and *gońcowie* are given in SJP as obsolete plurals of *goniec*, while the form *gońcy* is classified as the only modern one. However, the part of the entry devoted to chess gives the example "gońce jednokolorowe", although no plural variants are acknowledged at the beginning. *Słownik Po-Poprawnej Polszczyzny* omits the "chess" meaning in the case of *hetman* and *skoczek*; the entry of *goniec* has this meaning in the list of its readings, but no variance of forms is here encountered. *Słownik Ortograficzny*, on the other hand, leaves out the variants of *goniec* and *skoczek*.

The noun *szach* is perhaps the most controversial in this group. When it stands for a monarch its plural form is *szachowie*, but its second plural variant *szachy* is also ambiguous. It can denote the game of chess, or a chess set and in these senses it occurs only in plural, or it can stand for a check position in chess, and it is then common both in singular and in plural, e.g., *dać komuś dwa szachy w jednej partii*.

In SJP the entry *szach* is formally assigned the plural form *szachowie* and the other form is not given in any of its subsections, although it is present in the examples to the sections discussing the game and the set of pieces. A part of the entry devoted to a check gives neither forms nor examples of plural.

In *Słownik Ortograficzny* we can find three entries: 1. *szach* — *szachowie* (shah), 2. *szach* (a check) — no plural form given, and 3. *szachy* (chess) — no singular form. The interpretation in *Słownik Poprawnej Polszczyzny* is more or less the same, but the entry of "a check" is classified "zwykle lm" (usually no plural).

4.3. Finally, we must consider the cases where the plural form of a noun can be used in two or more different meanings. For instance, *względy* (*powodowały nim względy polityczne* versus *darzyć kogoś względami*), *strony* (*dwie strony zagadnienia* versus *jego ojczyste strony*), *barwy* (*barwy zasadnicze* versus *barwy klubowe*), *kolory* (in the sense of "colours" versus "rosy complexion"). And in

English: *colours* can be interpreted in three ways — 1. tints, hues, 2. a flag, 3. colours of a club, regiment, etc.

I found only one example common to Polish and English: *ash — popiół* denotes a powder remaining after something has burnt. Its plural *ashes — popioły* either means the same as *ash* or refers to burnt or cremated remains of the human body.

4.4. This section discusses subject names with *-ics* ending: *mathematics*, *linguistics*, etc.; both English subject names and their Polish equivalents are usually not pluralized. There are several studies, however, which developed more than one system that can bear the name of the study itself and thus created the need for using them in the plural form.

In this sense these terms are usually modified by an adjective, e.g., *many-valued logics*, *modal logics*, *non-Euclidean geometries*, *Boolean algebras*. The Polish equivalents are analogous except for *algebry Boole'a*.

Neither Polish nor English dictionaries consider the possibility of such a use: *Słownik Poprawnej Polszczyzny* classifies all the three nouns as not having the plural form ("blm"); in SJP only *logika* is specified in this way.

4.5. The last section in this part is devoted to several miscellaneous cases.

There are some nouns, like, for example, *fume*, which can be used both in singular and in plural without a change of meaning. The same applies to *sky — skies*, but the plural *skies* has an additional, metaphorical interpretation — as a synonym of heavens (Polish *nieba* is used only in this metaphorical sense).

The singular forms of the nouns *ryby* and *książka* are sometimes used in a collective sense, as in: *ryba dziś bierze* or *książka polska ma dobrą sławę za granicą*.

The following examples illustrate the possibility of using a singular form with collective reference in the phrases concerning doing shopping. Masculine nouns are here used in plural: *kupiłam ziemniaki*, *buraki*, while feminine nouns in singular: *kupiłam marchew*, *pietruszkę*. The names of fruit, however, are used in plural regardless of gender.

Interesting examples can also be encountered among geographical names, e.g. the form *Ameryki* denoting North and South America and *the Americas* — for both continents and Central America considered together; different meanings of *India — Indie*, *India — Indies*; the form *the Two Chinas* often used by journalists to denote China and Taiwan; and, finally, the name of the former kingdom including Naples and Sicily — *Królestwo Obojga Sycylii*, in English — *The Kingdom of Two Sicilies*.

CONCLUSIONS

The general conclusions can be summed up in the following statements:

1. Mass nouns can be used in the plural (but not in the standard sense), when a semantic reclassification, i.e., a partial change in meaning, is involved.

2. As a result of the reclassification we often obtain a new lexical reading of an item, which, however, preserves high degree of semantic similarity. In other cases the field of reference of the item is altered (limited or modified).

3. Semantic reclassification may account for such regularities as: substance — product relation, particularization of general concepts, plurals of mass nouns meaning "kinds", plurals of mass and count nouns denoting portions, etc.

4. Reclassification originates on the semantic level and thus its formal, syntactic aspect reveals many irregularities (possibility of the plural form is not always followed by the use of the *a* article in singular, numeral modification is often restricted or unacceptable, in many cases the presence of the adjective *different* — *różny* is the prerequiste of acceptability, etc.).

5. If the noun has more than one plural form, its plural variants may be stylistically marked or reveal semantic differences within an ambiguous item.

6. The final conclusion is that in certain contexts the plural is an overt sign of semantic reclassification, and not just a grammatical device used to indicate plurality pure and simple.

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LEXICAL COHESION IN TEXT ANALYSIS

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1. Besides grammatical cohesion expressed by such means as tense sequence, reference, given new information structure, etc., there is also a condition on the well-formedness of a text from the lexical point of view—LEXICAL COHESION. In the sequence of sentences like (1)

(1) I heard footsteps. A man was coming.

cohesion relation holds between *footsteps* and any of the using-feet-as-the-main-source-of-motion verbs, as well as between *footsteps* and *man*. It wouldn't hold between *footsteps* and *crawl* in the same example although feet are also involved in crawling (as some of us have no doubt experienced), or between *footsteps* and *sing*. Likewise it wouldn't hold between *footsteps* and *car*.

Lexical cohesion ranges from a very simple case of repetition of the lexical item, as in (2)

(2) He arrived at 10:00. In London his arrival was a real sensation.

to cases in which lexical cohesion is not explicitly expressed, as in (3)

(3) He hit hard and felt excruciating pain in his hand.

where the cohesive items are *hit* and *hand*, no matter whether *hand* is Patient or Instrumental; to cases requiring fairly well developed deduction and/or "knowledge of the world", as in G. Lakoff's (1971) example

(4) Nixon was elected, but the blacks won't revolt.

The interpretation of (3) and (4) in terms of cohesion requires recognition of a number of presuppositions.

2. The term presupposition has been used in a variety of senses, most often without sufficient clarity (cf. Chomsky's (1972) statement "there are a

number of different kinds of presuppositions that have not been distinguished with sufficient clarity" (p. 112). Fillmore (1969) defines the presuppositions of a sentence as those conditions which must be satisfied before the sentence can be used to make an assertion, ask a question, give a command, express a feeling, etc. R. Gardner (1971) discusses a number of various senses in which the term has been used by Frege, Strawson and Sellars (see also Keenan (1971) for the discussion of logical and pragmatic presuppositions). Jens Allwood (1971) for the discussion of logical and pragmatic presuppositions). Jens Allwood (1975) distinguishes five different types of presuppositions:

1) the speaker's actual belief,
2) the listener's actual belief,
3) exhibited conventional presuppositions,
4) exhibited rational presuppositions,
5) exhibited natural presuppositions.

3) is further subdivided into

a) presuppositions tied to lexical items — LEXICAL PRESUPPOSITIONS;
b) presuppositions tied to conventional means for marking the information structure of a sentence, i.e. word order, intonation and duration, to mark topic and focus of a sentence — THEMATIC PRESUPPOSITIONS.

An example of lexical presupposition in (5)

(5) John hit Bill again.

is the word *again* which implies that John hit Bill before, at least once.

In spite of many attempts to clarify the concept, it still remains vague and more and more often called in question. Lightner (1976), in his review of Chomsky's paper (1972) says: "Chomsky simply ASSUMES that presuppositions, conditions on discourse, etc. are in the same domain of grammar. That this assumption is correct is not at all clear to me; [...] many of the statements about what one is entitled to assume, what is natural to assume, and so on, seem to be more sociological than linguistic". Quite recently Lycan and Boer criticized the concept of presupposition very strongly, questioning the very foundation of it.

3. In his book *Some aspects of text grammar*, van Dijk (1972) suggested that in addition to the deep structure postulated for sentences and information on relations between various text elements, the deep structure of a text will have to contain all presuppositions for all sentences in the text: "Since presuppositions are always represented as sentences, we may consider the set of presuppositions, followed by the sentence(s) presupposing them, to be part

of a text" (p. 103). "We assume that presuppositions are preceding sentences". This is also what Gleason (1968) seemed to have in mind when he wrote: "Sentences will never be fully described apart from the discourse in which they occur, and by which they are moulded" (p. 45–46). R. Lakoff (1971) wrote that "we need to incorporate the concepts of presuppositions and deductions in our grammar" (p. 148).

It would seem then, that if presuppositions take the form of sentences, deep structures of a text will contain a set of sentences, each of which will represent a minimal step in the "cause and consequence" (cohesion) continuity. In such a case the deep structure of a text would be equivalent to a full explication (description) of the discourse (of which the text would be only an incomplete written record). It would also mean that the deep structure would always be fully cohesive and would gradually lose (in many cases) its cohesiveness, working its way up to the surface. Thus the transfer from cohesion to coherence is a gradual one and cohesion can be viewed as a special case of coherence, as a full lexical explication of coherence.

Anyway, in such a case rules would have to be formulated that would tell us which sentences of the set could or would have to surface to form a text, and which would remain as presuppositions. Thus for the deep structure of a text T

(6) $T_{deep}=S_1-S_2-S_3-S_4-S_5-S_6-S_7-S_8-S_9$

we could have a rule saying that if the sequence T satisfies certain conditions then

(7) $S_1-S_2-S_3-S_4-S_6-S_5-S_7-S_8-S_9 \Rightarrow S_1-S_5-S_9$

in which case S_2, S_3, S_4 are taken as presuppositions to S_5, and S_6, S_7, S_8 as presuppositions to S_9.

4. In 1971 G. Lakoff suggested that the following presuppositions account for cohesion of (4)

(8) a) Nixon is a Republican.
b) If a Republican is elected, the social welfare programs will be cut.
c) If social welfare programs are cut, the poor will suffer.
d) Blacks are poor.
e) Blacks are discriminated against.
f) Blacks form a substantial part of the population.
g) One would expect that poor, suffering people who are discriminated against and who form a substantial proportion of the population would revolt.

For any two sentences we would like to find those elements that they have in common and that make them cohesive. However, the above presuppositions not only do not exhaust all possible presuppositions, but do not explicitly link the two sentences. The question one asks upon hearing (4) is "Why?" (if one does not understand, of course), and the same question is asked when one is given presupposition b), for example.

In view of what was said in 3. it seems necessary to extend Lakoff's presuppositional component to something close to Table I (although the description is given in the form of features, they can be put into sentences quite easily, to satisfy van Dijk's postulate).

Two problems arise here:

a) infiniteness of referential features and consequently of the deep structure,

b) description of the meaning of a lexical item by other lexical items.

With a), a further question concerns the scope of the deep structure, i.e., whether deep structure should contain all referential features (an impossible solution, it seems), or only some of them, and if so which. With b) the question concerns description of lexical items by other lexical items which in turn must also be described in some way; a procedure which results in a vicious circle. Or should one use semantic primitives, and if so what are they?

If we accept the type of representation given in the Table, further questions have to be asked. On is whether there is any limit to the ability of deduction (number of presuppositions one can or has to go through to find the element linking two given sentences), i.e. the distance between cohesive elements in terms of degree (depth) of embedding, e.g., between feature 10 and 28 in the Table (can we have cohesion between, for example, feature 3 and feature 532?; if the answer is positive, then on what conditions; if negative then where is the limit?). Another question is whether we can have cohesion between two underlying features, or must one of the items used as a feature appear on the surface.

There is also the problem of a difference of presuppositions between the speaker and the listener. Every text has a certain thread of expectations. One result of the difference in presuppositions (change of the thread of expectations) can be exemplified by the following story:

(9) Husband to his wife returning at three on a winter morning:
   a) H. Where have you been? What have you been doing?
   b) W. Picking cherries.
   c) H. Cherries?! In winter?!
   d) W. I wasn't cold. I had my furcoat on.

where c) has a different presupposition than d) (c) — you can't pick cherries

CHAPTER V

CONCLUSION

The role of visuals as a learning aid is undeniable; studies over the past few years have conclusively established that. What is still interesting researchers is the way visual material is absorbed, the ways in which visuals should be used, and how they should be designed, developed and presented, and research already shows that their usefulness notwithstanding, they should be used intelligently with a realistic appraisal of their uses. Clearly they are not endlessly applicable, nor is one type of visual useful in all circumstances.

The variables are many. The subject matter influences the kinds of visuals used: geography, for example, is likely to use a large number of maps and graphs. Similarly the behavioural objective will have an effect: whether it is factual or visual information which needs to be understood, explained or rehearsed, and what needs to be recalled from the experience - concepts or facts.

The students themselves influence not only what is likely to be recalled but what form the visuals should take. Children, for example, learn differently from adults who, because of their greater experience and knowledge, learn concepts with the pictures. Mental ability has been examined in its bearings on learning from visuals, and it appears that high IQs learn readily from either the visual or verbal approach. Lower IQs achieve better from visual aids than they do from verbally emphasized work as long as those aids are keyed to the level of the students. Indeed, visuals, in these circumstances, can act as excellent motivational devices.

Motivation is another variable in the effectiveness of visual education, as it is in most educational circles. Students learn any content matter much better when they are interested in what is before them. For this, visuals can be both a cause and an effect. Visual materials play an important role in raising motivation and interest, and the information they contain is better transmitted when motivation and interest are high. This situation is achieved, too, when the visuals are part of a programme which is seen by the students to be valid and attuned to their needs, a factor especially true of adults, and when the visuals are well incorporated with the material being taught.

Cultural factors may affect what students interpret as important and what they see as worthwhile learning techniques. In addition, such factors will influence what they absorb from a visual. Objects and concepts which are not in their own culture or which that culture underemphasizes may be misinterpreted, or, indeed, not noticed at all in visual materials. Visuals can be very effective in this context in realigning cultural acceptance patterns.

The way in which the illustrations are presented is yet another variable. Are they to be in a programme paced by the teacher or one where the students work at a more leisurely or self-controlled pace? Whichever is chosen, the matter of exposure time becomes increasingly important, as numerous studies have shown. A system such as charts allows the students to refer to the visual at any time they need. So, too, do textbook and workbook illustrations. Slides and transparencies may have much the same advantage if the students are given enough viewing time. Films, television and the like are excellent for the presentation of concepts involving movement, but frame time is externally dictated, and the speed at which viualized information passes before students may become a cause of interference.

Interference must be kept in mind when considering what form the visuals will take, and here one should give attention to the ideas of design and realism. All visuals should be clear to all students which means that their size, clarity, spacing and color are all important. It sounds unnecessary to say that a picture in education should not be too small and should not be too large. If it is too small, many details will be indecipherable and hence confusing; if it is too big, a sense of unity will be sacrificed as students, in trying to scan the whole picture, will tend to have their attention taken by a small section. Spacing is part of this concern as well. When parts of the visual are spaced well, the scanning eye moves smoothly and logically from one to another.

The matter of complexity or simplicity is a feature which is in the context of interference. As was noted in Chapter II the realism continuum does not reflect the "learning continuum" and increasing detail tends, instead, to decrease the teaching potential of the visual. However, this remains an inconstant feature. Dwyer found in his study that realistic, colored photographs were useful in certain proscribed areas of a lesson on the part of the heart. All the same, on the whole, studies suggest that less complex illustrations are more readily understood and better for the transfer of information.

In the context of realism should be considered the matter of color. Again it is hard to be definite in any conclusions for sometimes it is true that black and white illustrations can be extremely effective - the contrast is strong. On the other hand, color can be important for clarification, for attention-getting, for visibility considerations, for the interpretation of relationships and for the subtle transmission of attitudes. Children tend to react to color, especially strong color, more definitely than adults who are accustomed to the symbolism of black and white and the ideas it transmits, but all people can absorb a great deal from color. Wise use of color can add to the learning experience; undisciplined use adds nothing and can become an overload, resulting in a decrease of understanding.

Using the visuals requires cueing methodology. Adults in particular need to feel in touch with the work being presented and prefer to be told of the learning objectives in front of them. This has the advantage of focusing their attention and receptive concentration. Questions have a similar effect, written or oral, and are also vital for follow-up recall. Printed material, such as arrows, may continue this role. This rehearsal is important to the retention of learned material. All of these gambits, including patches of color in an otherwise black and white illustration, are further variables.

What this points to is that there is no single approach to visuals, and that there are no hard and fast rules for their use. The variables are vitally concerned in what is right for one situation and what is right for another; in order to adapt a visual for another use it may be necessary to change only one or two of these aspects. Educational effectiveness is dependent upon small things and cannot be made constant.

The variables do not change the fact that visuals are useful but they do mean that commercially made products can seldom fit this fluctuating mould. They cannot take into account the varying needs of students in different learning environments. The whole idea of visuals is that they should respond to just those environments and the needs assessed on an individual basis, that they should deal with learning problems and learning situations which may be unique to an age group, a subject, a cultural attitude or a teaching form. Here lies the great strength of the teacher-made visual aid. No matter what the artisti skills of the teacher, it is he or she alone who recognizes and understands the variables. Only the teacher can produce visual materials which are that immediate response to the situation, and only those are effective teaching aids.

The teacher, then, should not be daunted by the artistic requirements. Experience teaches a lot of ways to deal with these needs, and furthermore brings more ideas. There is n ed to turn to another person to translate ideas, for this introduces the potential interference of a third party and his/her interpretations. Necessity is the mother of invention, and it is that which makes teacher-made visual aids a continually vital part of the ESL classroom.

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Sample Passage for Listening Comprehension with Visual

I SIMPLE

(a) This woman is tired. She has been shopping most of the day. She is wearing a brown coat and on her head she has an orange hat. She is carrying two bags.

(b) This girl has been at school but now she is going home with her mother. She is wearing blue jeans, a blue hat and a red sweater.

II SLIGHTLY HARDER

(a) Mark Booth's waiting for the bus and he's been waiting quite a while. He's cold so he's put his hands in his pockets to keep them warm. He's wearing dark jeans and a yellow jacket, as well as a blue hat.

(b) Jane Stevens is talking to a friend of hers. She's going home from school. She's got on a blue coat and red boots and she's a blonde.

III CONVERSATION

/A/ Goodness, aren't these buses slow. If it doesn't come soon, I think I'll drop. I'm so tired.

/B/ I thought you looked rather weary. What've you been doing? Shopping?

/A/ Yes, I thought I'd get a few things I needed. But a few things always turns into a lot more. What have you been doing?

/B/ Oh, I had to take my daughter to the dentist so I picked her up from school. When I left the house this morning it was really quite cold so I put on this quilted coat and my fur hat. Now I'm so hot! I'll be glad to get home and shed everything.

/A/ Ah, I'm just looking forward to getting rid of parcels, hat, coat and shoes and putting my feet up.

APPENDIX II

POSSIBLE SCRIPT FOR ORDER! ORDER!

It was spring. The tree was in bud and flowers were beginning to appear. Within a few weeks, the tree was a mass of blossom in pink and red. As the weeks passed, spring faded into summer. The blooms on the tree gave way to leaves. The days grew warmer and the tree provided shade for people walking in the park and for the children who played under it with their toys in the long days.

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CHAPTER V

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/B/ I thought you looked rather weary. What've you been doing? Shopping?

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