

ENGLISH AND POLISH NOMINAL COMPOUNDS:  
A TRANSFORMATIONAL CONTRASTIVE STUDY

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This paper is a part of the author's doctoral dissertation devoted to noun modification in English and Polish. As regards English nominal compounds, and particularly their sub-classification into various groups, Lees' classical work on English nominalizations (1960) has been adopted as the basis of this study, although the author is responsible for the formulization of particular rules generating these compounds. The analysis of Polish compounds and the methods of comparison of these structures in the two languages are the author's own contribution.

A contrastive study based on transformational generative grammar is assumed to compare corresponding strings of morphemes generated by the rules of the base and corresponding transformations in the two languages. That is why some precise definitions of comparative terms are necessary; otherwise we shall understand different things by such commonly used terms as, for instance, "the same" or "similar" transformational rules. For the sake of precision, two essential notions of *equivalence* and *congruence* must be introduced. Equivalence refers to the sameness of meaning holding between two sentences or phrases, each of them being in a different language. We can develop the definitions of equivalence formulated by Catford (1965 : 49) and Krzeszowski (1967 : 33 - 9), which utilize the idea of translation from one language into another, and state that the relation of equivalence holds between a sentence in one language and a sentence in another language if and only if each of them is an optimal translation of the other in a given context. The relation of congruence holding between two sentences, each of them being in a different language, assumes that the sentences are equivalent and that they are structurally similar. For the purpose of comparing Polish and English, the author assumes that this structural similarity exists if the following three conditions are fulfilled: (a) the number of words in one of the sentences is the same as in the other; (b) each of the words in one sentence has the same syntactic function as the equivalent word in the other

sentence; (c) the word order in one sentence is the same as in the other. Next, the notion of congruence is applied to the comparison of corresponding strings in the two languages. Two basic strings, each of them in a different language, are defined as congruent if they lead to mutually congruent kernel sentences. We also need some terms to compare two corresponding T-rules in two different languages. Such rules are considered essentially identical if they operate on two congruent source strings, are of identical nature (e.g. effecting deletion, permutation), and result in mutually congruent structures. All these terms have been rather cursorily defined above, only in such measure as is strictly necessary for the understanding of this paper, and for their more precise elaboration and justification, see the author's study specially devoted to the concepts of equivalence and congruence in transformational contrastive analyses (1968 : 53-62).

The Polish and English rules which follow in this section are only such as are necessary for the reader to follow the analysis presented in this paper.

#### Polish Rules

PPS 1.  $S \rightarrow NP + VP$

PPS 2.  $VP \rightarrow Aux + MV$

PPS 3.  $Aux \rightarrow Person + Tense + Aspect$  (Modal)

PPS 4.  $MV \rightarrow Verb$  (Advbl)

PPS 5.  $Advbl \rightarrow \left\{ \begin{array}{l} A \text{ Place} \\ A \text{ Time} \\ A \text{ Manner} \\ A \text{ Cause} \\ A \text{ Purpose} \\ A \text{ Concomitant} \end{array} \right\}$

PPS 6.  $A \text{ Place} \rightarrow \left\{ \begin{array}{l} \text{Adverb Pl} \\ \text{Prep P} \\ \text{NP Compl} \end{array} \right\}$

PPS 7.  $A \text{ Purpose} \rightarrow \text{Prep P}$

PPS 8.  $Verb \rightarrow \left\{ \begin{array}{l} V_{intr} \text{ (NP Compl)} \\ V_{tr} \text{ affirm (NP Ind Obj) NP Dir Obj Affirm (NP Compl)} \\ V_{tr} \text{ neg (NP Ind Obj) NP Dir Obj Neg (NP Compl)} \\ V_{ind} \text{ obj complex + NP Ind Obj + Obj Compl} \\ V_{ind} \text{ obj + Obj Compl} \end{array} \right\}$

PPS 9.  $Prep P \rightarrow \text{Prep} + \text{Case} + \text{NP}$

(Each preposition is associated in the lexicon with its appropriate case formative, which is then substituted for the symbol *Case* on the right of the rule for Prep P. A later transformational rule transfers this formative to the right of the expanded NP string).

PPS 10.  $Case \rightarrow \left\{ \begin{array}{l} \text{Genit} \\ \text{Dat} \\ \text{Acc} \\ \text{Instr} \\ \text{Loc} \\ \text{Voc} \end{array} \right\}$

PPS 11.  $NP \rightarrow (\text{Det}) (\text{Num}) \text{Nom} (\text{S})$

PPS 12.  $\text{Nom} \rightarrow \text{N} + \text{Gend} + \text{No}$

(In our grammar, Noun base + Gender + Number is equivalent to the morphographic form of the noun in the Nominative case, either singular or plural. All the other case formatives are added on the right of the rewrite string for Nom. The base forms of nouns and their gender markers are taken from the lexicon.)

PPS 13.  $NP \text{ Dir Obj Affirm} \rightarrow (\text{Det}) (\text{Num}) \text{Nom Dir Obj Affirm} (\text{S})$

PPS 14.  $\text{Nom Dir Obj Affirm} \rightarrow \text{N} + \text{Gend} + \text{No} + \text{Acc}$

#### English Rules

EPS 1.  $S \rightarrow \text{Nom} + \text{VP}$

EPS 2.  $VP \rightarrow \text{Aux} + \text{MV}$

EPS 3.  $MV \rightarrow V$  (Adv)

EPS 4.  $Adv \rightarrow \left\{ \begin{array}{l} A \text{ Time} \\ A \text{ Place} \\ A \text{ Manner} \\ A \text{ Purpose} \\ A \text{ Cause} \end{array} \right\}$

EPS 5.  $A \text{ Place} \rightarrow \left\{ \begin{array}{l} \text{Adverb Pl} \\ \text{Prep P} \end{array} \right\}$

EPS 6.  $A \text{ Purpose} \rightarrow \text{Prep P}$

EPS 7.  $V \rightarrow \left\{ \begin{array}{l} V_i \\ V_{tr} + \text{Nom} \\ V_c + \text{Adj} \\ V_{mid} + \text{Nom} \end{array} \right\}$

EPS 8.  $Aux \rightarrow T_n$  (Modal) (Aspect)

EPS 9.  $Prep P \rightarrow \text{Prep} + \text{Nom}$

EPS 10.  $\text{Nom} \rightarrow \text{Det} + \text{N} + \text{No} (\text{S})$

EPS 11.  $\text{No} \rightarrow \left\{ \begin{array}{l} \text{Sg} \\ \text{Pl} \end{array} \right\}$

In his work on English nominalizations, Lees has distinguished a subclass of *nominal compounds* among other complex nominals. The complexes which are members of this subclass are mostly of the structure N + N' and are marked by / + \ stress-superfix, thus being distinct from *nominal phrases*

consisting of adjectival modifier plus nominal head, with the  $\wedge + /$  stress-superfix. (Lees 1960: 120). In Polish there exists a large class of complex nominals consisting of noun as head and post-nominal adjectival modifier, which roughly corresponds syntactically and semantically to the class of English nominal compounds. This class of nominals in Polish has not been traditionally considered a syntactic peculiarity, and has always been treated within the framework of noun modification. (Szober 1966: 312-14). These Polish complex nominals will be considered here as *adjectivo-nominal compounds*, syntactically different from all other instances of phrases consisting of a head noun and its adjectival modifier (base or derived). The question arises as to what criteria have been taken into consideration in recognizing this difference. The most striking of them is word order. We know from the two preceding chapters of this study that adjectival modifiers (of whatever provenience in terms of their derivation) usually take prenominal positions in noun phrases, whereas in adjectivo-nominal compounds they are post-nominally placed. Another criterion is the fact that while most adjectives functioning as modifiers in nominal phrases may be modified by intensifiers or adverbs, none of the adjectives within the compounds can be so modified. Compounds of the form *\*bar bardzo mleczny* (bar mleczny=milk bar, bardzo=very) or *\*obóz całkowicie koncentracyjny* (obóz koncentracyjny=concentration camp, całkowicie=completely) are thus impossible in Polish. This is connected with another fact, namely, that adjectivo-nominal compounds are indivisible units whose components cannot be separated by any intervening elements. Thus while the nominal phrase *ten drewniany, z żelaznymi podporami most* (this wooden bridge with iron props) is grammatical, the complex *\*ten obóz przeznaczony dla ludności cywilnej, koncentracyjny* (przeznaczony dla ludności cywilnej=destined for the civilian population) is unacceptable. Semantically, this integrity of the adjectivo-nominal compound is borne out by the observation that the adjectival modifier in the compound denotes a permanent characteristic pertaining to the very essence of the meaning of its head noun and thus its addition limits the meaning of the noun in a very specific way and makes the whole name a proper subclass of all the "objects" denoted by the noun itself.

As far as their morphemic structure is concerned, adjectival modifiers functioning in these compounds are most often derived adjectives, and, much less often, base adjectives. In the latter case, the placing of the modifier in the post-nominal position results in the whole nominal complex being affected by a syntactic and semantic change, as it has been described above. For example, the Polish nominal phrase *brunatny niedźwiedź* (a brown bear) gives us information concerning the colour of the fur of a particular bear, while the compound *niedźwiedź brunatny* is a scientific term for a whole subclass of these animals sharing some common characteristics. In this study we shall not be

concerned with compounds containing base adjectives, but we shall turn our attention to the other, much more frequent, type consisting of a head noun and an adjective which is most often, if not exclusively, derived from a noun. We shall classify Polish adjectivo-nominal compounds in the same way as Lees classified English nominal compounds in his work mentioned above, namely, according to grammatical relations holding between the elements of the compound in its deep structure. We shall limit our investigation to only the most typical and most productive groups of compounds and transformational rules accounting for their derivation. As English nominal compounds are extensively studied in Lees' work, we shall not duplicate this study here and we shall limit ourselves to giving only a few transformational rules necessary for the sake of comparison between English and Polish. One more remark will close this theoretical introduction, namely, that both English nominal compounds and Polish adjectivo-nominal compounds may be used in any syntactic function open to any other nominal group in these languages.

Now the five most productive transformations generating a large number of Polish adjectivo-nominal compounds will be investigated in detail. The following order will be observed in our analysis: first an appropriate transformational rule will be given together with all necessary explanations, then a list of exemplary adjectivo-nominal compounds will follow, next a corresponding English T-rule will be formulized, to be succeeded by a comparison between the English and Polish compounds from the point of view of their derivation.

PT 1.  $N + \text{Gend}' + \text{No}' + \text{Aux} + V_{\text{tr affirm}} + N' + \text{Gend}'' + \text{No}'' + \text{Acc} \Rightarrow$   
 $N + \text{Gend}' + \text{No}' - N' + \text{Att} + \text{Gend}' + \text{No}'$

e.g., *mechanik reperuje samochody*  $\Rightarrow$  *mechanik samochodowy*  
 (the mechanic repairs cars  $\Rightarrow$  car mechanic)

The above rule in its present formulation is far from being able to generate compounds of a certain type. To make it more workable, a general semantic convention must be laid down. In Group A it is to the effect that the meaning of the sentence derived from the base string from which the transformation starts must be as follows: "some professional person or craftsman or specialist of any kind permanently performs some activity which is his occupational specialization, one of several open to his particular occupation". In Group B the convention says that "some machine or mechanism performs some work for which it has been specially constructed and which sorts it out of the whole class of machines of the same general kind."

Examples of adjectivo-nominal compounds:

## I. SUBJECT - OBJECT

## Group A

mechanik samochodowy (car mechanic)  
 złodziej kieszonkowy (pickpocket)  
 inżynier sanitarny (sanitation engineer)  
 piosenkarz jazzowy (jazz singer)  
 malarz pokojowy (house painter)  
 cieśla okrętowy (ship carpenter)  
 fryzjer damski (hairdresser)  
 fizyk atomowy (nuclear physicist)

## Group B

samolot pasażerski (airliner)  
 pociąg towarowy (freight train)  
 samochód ciężarowy (truck)  
 samochód osobowy (automobile)

The corresponding English transformational rule is:

ET 1. Det+N+No+Aux+V<sub>tr</sub>+Det+N'+No' ⇒  
 Det-N'+Sg-N+No

e.g., the mechanic repairs cars ⇒ the car mechanic

It will be easily observed that the compound resulting from this transformation is just the reverse of the compound derived by the corresponding Polish T-rule in what concerns the order of its elements mirroring the syntactic relations within the base string. As we shall see, it will always be the case with all other English and Polish corresponding compounds described in this chapter. It is explained by the fact that the modifying element in the English compound always takes the prenominal position, in this respect being not different from any other attributive nominal modifier. On the contrary, the modifying element in the Polish compound is always placed in the post-nominal position, since this position is the chief signal of the syntactic peculiarity of the whole complex. Another difference in the operation of the Polish and English rule is that the Polish transformation adds the adjectivalizing morpheme to the appropriate noun in the string making it into a derived adjective, while the English transformation only depluralizes this noun; of course, when it is necessary, and except in the cases when a given noun has no singular number form in its paradigm. Yet, according to Lees' suggestions, we must remember that the fact that a noun which has not been adjectivalized functions as modifier within a complex does not make this complex a nominal compound, as only the proper stress-suffix marks it as such. There are many nominal phrases in English with

nouns functioning as modifiers. Accordingly, Rule ET 1 and all the other English rules generating compounds ought to be expanded by proper stress formatives, but we shall not do it here, as the English transformations are only marginally treated in this paper. Although both the Polish and the English rules are very productive, there is little correspondence between compounds resulting from them, if by corresponding compounds we mean those that are equivalent to each other. The semantic convention of the Polish Group A refers only to a small group of English compounds, such as the following ones: *car mechanic*, *car thief*, *sanitation engineer*, *test pilot*, and some others. Many Polish equivalents of the English compounds resulting from the above transformation are derived by other transformational rules discussed in this paper. Still it is of great significance that the base strings on which the Polish and the English rules operate are congruent with each other, or, in other words, that mutually corresponding Polish and English compounds have identical deep structures.

PT 2. N+Gend+No+Aux+V<sub>tr</sub> afflrm+N'+Gend'+No'+Acc ⇒  
 N'+Gend'+No'-N+Att+Gend'+No'

e.g., para porusza statek ⇒ statek parowy  
 (steam drives a boat ⇒ steamboat)

Here the semantic convention for Group A is that "some power or some source of energy moves (or puts into operation) a machine or a mechanism". For Group B it says that "some group of people runs or controls or governs some sort of social organization".

Examples of adjectivo-nominal compounds obtained through the above transformation:

## II. OBJECT - SUBJECT

## Group A

hamulec powietrzny (air brake)  
 statek parowy (steamboat)  
 walec parowy (steam roller)  
 samolot odrzutowy (jet plane)  
 bomba wodorowa (hydrogen bomb)  
 młyn wodny (water mill)  
 piecyk gazowy (gas stove)  
 piec węglowy (coal stove)  
 łódź żaglowa (sail boat)  
 łódź motorowa (motor boat)  
 pociąg elektryczny (electric train)  
 piła motorowa (electric saw)

## Group B

państwo policyjne (police state)  
 Rzeczpospolita szlachecka (noblemen's state)  
 demokracja ludowa (people's democracy)

The corresponding English transformation can be represented in the following way:

ET 2.  $\text{Det} + \text{N} + \text{No} + \text{Aux} + \text{V}_{tr} + \text{Det} + \text{N}' + \text{No}' \Rightarrow$   
 $\text{Det} - \text{N} + \text{Sg} - \text{N}' + \text{No}'$   
 e.g. the air moves the brake  $\Rightarrow$  the air brake

Again, compounds resulting from the above rule reflect just the reverse order of syntactic relations when compared to compounds obtained through PT 2. Yet there is much more correspondence between the products of these two rules than there was between the Polish and English compounds discussed in the preceding section. Among English compounds here we can also distinguish two groups, A and B, with the same semantic conventions as were stated for the Polish groups. The resulting English nominal compounds are those such as *steamboat*, *air brake*, *hydrogen bomb*, *steam roller*, *police state* etc. The base strings for the PT 2 and those for the ET 2 are, as in the preceding case, congruent with each other.

PT 3.  $\text{N} + \text{Gend}' + \text{No}' + \text{Aux} + \text{V}_{intr} + \text{Prep} + \text{N}' + \text{Gend}'' + \text{No}'' + \text{Case} \Rightarrow$   
 $\text{N} + \text{Gend}' + \text{No}' - \text{N}' + \text{Att} + \text{Gend}' + \text{No}'$   
 e.g. człowiek mieszkał w jaskiniach  $\Rightarrow$  człowiek jaskiniowy  
 (the man lived in caves  $\Rightarrow$  cave man)

The semantic convention characterizing strings which are sources for this transformation may be stated in the following way: "an animate object or a machine works or lives or permanently stays in some special place or environment, and this special environment marks it as different from all other objects of the same class." Examples of adjectivo-nominal compounds resulting from PT 3:

## III. SUBJECT -- PREPOSITIONAL OBJECT

człowiek jaskiniowy (cave man)  
 aktor teatralny (theatre actor)  
 aktor filmowy (film actor)  
 maszynista kolejowy (train driver)  
 dziad kościelny (church beggar)  
 lekarz wojskowy (army doctor)  
 przewodnik tatrzański (Tatra guide)

artysta cyrkowy (circus artist)  
 strażnik więzienny (prison warden)  
 zwierzęta domowe (domestic animals)  
 pies podwórzowy (yard dog)  
 trzoda chlewna (pigs)  
 roślinność wydmowa (dune vegetation)  
 kolej linowa (cable car)  
 tramwaj wodny (regular ferry service)  
 karetka więzienna (Black Maria)  
 artyleria polowa (field artillery)  
 pojazd kosmiczny (space ship)

The corresponding English T-rule is

ET 3.  $\text{Det} + \text{N} + \text{No} + \text{Aux} + \text{V}_{intr} + \text{Prep} + \text{Det} + \text{N}' + \text{No}' \Rightarrow$   
 $\text{Det} - \text{N}' + \text{Sg} - \text{N} + \text{No}$   
 e.g. the man lived in caves  $\Rightarrow$  the cave man

Comparing Rules PT 3 and ET 3 we see again that, although the two base strings are congruent with each other, the elements of the compounds resulting from these rules and reflecting the syntactic relations in their deep structures are ordered reversely. There is little correspondence between products of these two transformations, as many Polish equivalents of the English compounds are derived by other rules described in this study. On the other hand, many English equivalents of the Polish compounds belong to the category of nominal phrases. Among the compounds derived by the English rule we find such as *cave man*, *field mouse*, *field artillery*, *space ship*, etc. As far as the semantic convention is concerned, it is the same as the Polish one for the strings yielding compounds corresponding to their Polish equivalents. It is quite different for other cases which have been included in the same group by Lees. Yet in his classification Lees has assumed that source strings for the derivation of compounds of this form are most often somewhat simplified and not always acceptable copulative sentences. (Lees 1960: 154-60). This is different from our assumption, as only strings underlying fully grammatical and acceptable sentences are considered as sources of the Polish compounds.

PT 4.  $\text{N} + \text{Gend}' + \text{No} + \text{Aux} + \text{V}_{tr \text{ affirm}} + \text{N}' + \text{Gend}' +$   
 $\text{No}' + \text{Acc} + \text{Prep} + \text{N}'' + \text{Gend}'' + \text{No}'' + \text{Case} \Rightarrow$   
 $\text{N}' + \text{Gend}' + \text{No}' - \text{N}'' + \text{Att} + \text{Gend}' + \text{No}'$

e.g. oni organizują konferencję dla prasy  $\Rightarrow$  konferencja prasowa  
 (they organize the conference for the press  $\Rightarrow$  the press conference)

The semantic convention for the base strings for this transformation is much more difficult to define than in the preceding cases. Roughly, it states that

“somebody does or uses or makes something for some specific purpose, or in some specific manner, or in some specific place, and this purpose, manner, or place differentiates this ‘something’ from other objects of the same class.” In the base strings this purpose, manner, place, or even time, is expressed by prepositional phrases functioning as adverbials.

#### IV. OBJECT – PREPOSITIONAL OBJECT

budżet zbrojeniowy (arms budget)  
 wino deserowe (dessert wine)  
 konferencja prasowa (press conference)  
 wino stołowe (table wine)  
 film rozrywkowy (light entertainment film)  
 urlop wypoczynkowy (holiday)  
 umowa handlowa (trade agreement)  
 pieśń miłosna (love song)  
 poczta lotnicza (air mail)  
 rozmowa telefoniczna (telephone conversation)  
 rok kalendarzowy (calendar year)  
 praca domowa (homework)  
 kultura masowa (mass culture)  
 zastrzyk dożylny (intravenous injection)  
 papier toaletowy (toilet paper)  
 sporty zimowe (winter sports)  
 maska pośmiertna (death mask)  
 alkohol drzewny (wood alcohol) →  
 dżem truskawkowy (strawberry jam)  
 sok malinowy (raspberry juice)

The corresponding English transformation can be formulized in the following way:

ET 4. Det+N+No+Aux+V<sub>tr</sub>+Det+N'+No'+Prep+  
 Det+N''+No'' ⇒ Det-N''+Sg-N'+No'

e.g. they organize the conference for the press ⇒ the press conference

There seems to be little correspondence between the English and Polish compounds derived by the two transformations described in this section, if we take into consideration Lees' classification and his lists of English compounds. Yet if we stipulated that, in the same way as in the Polish grammar, all the strings which are sources for this transformation are fully grammatical and most often non-copulative sentences, Lees' classification would be changed in some cases and we would discover very much

correspondence between Polish and English compounds derived by the two above rules. We would also see that the deep structures in the corresponding cases are identical, i.e., that the two base strings in question, one in Polish and one in English, are congruent with each other. In the case of taking this assumption, the semantic convention stated for PT 4 would also hold true for the derivation of most of the English compounds belonging to this group. Among these compounds we would have such examples as *arms budget, dessert wine, press conference, calendar year, love song, air mail, death mask, etc.*

PT 5. N+Gend+No+Aux+V<sub>tr</sub><sub>affirm</sub>+N'+Gend'+  
 No'+Acc+Prep+N''+Gend''+No''+Case ⇒  
 N''+Gend''+No''-N'+Att+Gend''+No''

e.g. oni hodują ryby w stawie ⇒ staw rybny  
 (they keep fish in the pond ⇒ the fish pond)

The semantic convention which selects base strings proper for the above rule is very similar to that suggested for PT 4. It says that “somebody usually does something in some place (or time), and this place (or time) is singled out from other objects of the same kind for the sake of this special ‘something’ which is usually done in it”. In the same way as in the strings which are sources for PT 4, this place (or time) is expressed by a prepositional phrase.

#### V. PREPOSITIONAL OBJECT – OBJECT

staw rybny (fish pond)  
 przekaz pieniężny (money order)  
 wieża kontrolna (control tower)  
 komora gazowa (gas chamber)  
 stopa życiowa (standard of living)  
 wiek emerytalny (retirement age)  
 targ owocowy (fruit market)  
 obóz koncentracyjny (concentration camp)  
 więzienie śledcze (detention centre)  
 bar mleczny (milk bar)  
 sklep mięsny (butcher's shop)  
 szyb naftowy (bore hole)  
 dom towarowy (department store)  
 rurociąg gazowy (gas pipeline)  
 sala gimnastyczna (gymnasium)  
 piec wapienny (lime kiln)

We may consider the following rule as the corresponding English transformation:

ET 5. Det+N+No+Aux+V<sub>tr</sub>+Det+N'+No'+Prep+  
 Det+N'+No' ⇒ Det-N'+Sg-N'+No''

e.g. they sell fruit in the market ⇒ the fruit market

The same remarks which were suggested by our comparison of Rules PT 4 and ET 4 can be repeated in this section. Shortly, if we change Lees' classification of English compounds assuming that only strings underlying non-copulative sentences may be sources for the above transformation, a number of compounds yielded by this transformation and corresponding (i. e., equivalent) to the Polish ones resulting from PT 5 will be increased. A pair of such corresponding compounds will have basic strings underlying them congruent with each other, as in the previous cases. The semantic convention defined for PT 5 is also valid for the base strings on which ET 5 operates. This latter rule will derive compounds such as *fruit market, milk bar, fish pond, money order*, etc.

Among the conclusions which may be drawn from the above analysis of the derivation of some Polish and English compounds, the following two are the most important:

(1) whenever we have a pair of corresponding compounds, one in Polish and the other in English, and the correspondence is established by the fact that they have been derived by corresponding transformations and are equivalent to each other, then the elements of one compound are reversely ordered as the elements of the other compound in respect to the grammatical relations which they reflect, and

(2) whenever we have a pair of corresponding compounds, one in Polish and the other in English, their deep structures are identical, or, in terms of our definition the basic strings from which these compounds have been derived are congruent with each other.

When we compare the types and examples of Polish compounds analysed in this chapter with the English compounds contained in Lees' work, another striking difference between the two languages will become obvious. Namely, we do not see among the Polish compounds cited here any belonging to the type whose one element is derived from a verbal constituent of the base string. In Lees' analysis there are several such types, whose verbal element, in most cases, has been nominalized first and then amalgamated with the other element into one whole. Most often the Polish equivalent of such a compound with a verbal element has the form of a noun with a prepositional phrase (with a verbal noun as the object of the preposition), or of a nominal complex in which the second element is in the Genitive case, as in the following pairs of English compounds and their Polish equivalents:

shaving cream	—	krem do golenia
ironing board	—	deska do prasowania

drinking water	—	woda do picia
sightseeing	—	zwiedzanie miasta
house cleaning	—	sprzątanie domu
birth control	—	kontrola urodzeń

Yet this does not mean that in Polish there are no adjectivo-nominal compounds with the adjectival element derived from a verb. As was mentioned above, our analysis has been limited only to the most productive and most representative types of Polish nominal compounds, and it seems that compounds with a verbal constituent do not belong to such. In these latter cases, the adjectival element usually has the form of a derived adjective or of a present participle, as in the following examples: *wagon sypialny, sala jadalna, miejsca stojące, szkło powiększające, szafa grająca* (sleeping car, dining hall, standing room, magnifying glass, juke box) etc. After these supplementary remarks, we might now consider some difficulties which face us if we want to account fully for the generation of acceptable compounds by the rules formulated above. These difficulties are especially obvious if we assume that a complete set of rules like the above is to specify or predict all and only the correct and acceptable compounds of the language. Let us consider these problems on the grounds of the Polish language, where they are perhaps even more difficult to solve than in English. One such difficulty is presented by the question of how to understand and how to incorporate into our system of rules what we have called the semantic convention, defined differently for each particular rule. Should this convention be atomized into matrices of syntactic features and semantic markers and thus incorporated into a proper rule? It is doubtful whether this can be done in any economical and clear enough way. But even if we manage to do it or if we agree that the convention be given in the form presented in this chapter, we cannot be sure that our rules will yield only acceptable compounds. Another difficulty is the fact that there are nouns from which no adjectives are derived and such nouns can also appear in the source strings for the compounding transformations, in the position reserved for the *N+Att* operation. A natural filter for such cases must be provided by the lexicon, where a given noun must be marked either positively or negatively for attributivization in its matrix of syntactic features. If the noun in question is marked negatively, the source string must be considered unsuitable. But even by adopting this system, we cannot prevent our rules from generating compounds which simply do not exist in Polish. For example, let us consider the string underlying the sentence *wiatr porusza (napędza) młyn* (the wind moves (operates) the mill). This string meets all the conditions for PT 2 to operate on, but the resulting compound *młyn wietrzny* does not exist in Polish (instead, a simple noun *wiatrak* is used for *windmill*).

Analogically, Rule PT 5 operating on the string underlying the sentence

oni sprzedają książki w (tym) sklepie (they sell books in the shop) will derive the non-existing *sklep książkowy*. (In Polish the simple noun *księgarnia* stands for *bookshop*.) It seems impossible to prevent our rules from generating such unacceptable compounds. But perhaps we should not bother about it so much. We might argue that, after all, even the non-existing compounds cited above and others like them are, in a sense, grammatical, since they fit the syntactic patterns of the language and are, for the most part, perfectly understandable for the native speaker. Anyway, these problems with many others belonging to the boundary of syntax and semantics still wait to be convincingly elucidated and solved.

We shall close this paper with one more remark concerning English nominal phrases. As has already been mentioned, some of them are also of the form  $N+N'$  and are very similar in structure to some types of nominal compounds and are marked as different from these latter by the  $^+ /$  stress-superfix. Phrases of this kind most often have as their equivalents the following Polish structures:

a. adjectivo-nominal compounds, e.g.:

return ticket — bilet powrotny  
 string quartet — kwartet smyczkowy  
 mass production — produkcja masowa

b. nominal complexes with the second nominal element in the Genitive case, e.g.:

earth satellite — satelita Ziemi  
 world order — porządek świata  
 matrix algebra — algebra macierzy

c. nominal phrases with a derived adjective functioning as modifier, e.g.:

gold watch — złoty zegarek  
 Iron Curtain — żelazna kurtyna  
 straw hat — słomkowy kapelusz

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