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, Leech’s classical work on English nominalizations (1980) has been adopted as the basis of this study, although the author is responsible for the formulation 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
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→NP+VP
PPS 2. VP→Aux+MV
PPS 3. Aux→Person+Tense+Aspect (Modal)
PPS 4. MV→Verb (Advbl)
   A Place
   A Time
   A Manner
   A Cause
   A Purpose
   A Concomitant
   (Advbl Pl)
PPS 5. Advbl→Prep P (NP Compl)
PPS 6. A Place→Prep P
   Vitr (NP Compl)
   Vitr affim (NP Ind Obj) NP Dir Obj Affirm (NP Compl)
PPS 7. Verb→Vtr neg (NP Ind Obj) NP Dir Obj Neg (NP Compl)
   Vind obj complex+NP Ind Obj+Obj Compl
   Vind obj+Obj Compl
PPS 8. Prep P→Prep+Case+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).

**English Rules**

EPS 1. S→Nom+VP
EPS 2. VP→Aux+MV
EPS 3. MV→V (Adv)
   A Time
   A Place
EPS 4. Adv→A Manner
   A Purpose
   A Cause
EPS 5. A Place→Adverb Pl
   Prep P
EPS 6. A Purpose→Prep P
   Vttr+Nom
   Vc+Adj
   Vmild+Nom
EPS 7. V→Vtr+Nom
EPS 8. Aux→Tn (Modal) (Aspect)
EPS 9. Prep P→Prep+Nom
EPS 10. Nom→Det+N+No (S)
EPS 11. No→Pl

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 ^+1 stress-
suffix (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 1968: 312 - 14). These
Polish complex nominals will be considered here as adjectival-nominal com-
ounds, 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 prove-
nience in terms of their derivation) usually take prenominal positions in noun
phrases, whereas in adjectival-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,
one of the adjectives within the compounds can be so modified. Compounds of
the form *bar bardo mielony (bar mielony=milk bar, bardzo=very) or
*obóz całkowicie koncentracjny (obóz koncentracjny=concentration camp,
calkowicie=exclusively) are thus impossible in Polish. This is connected with
another fact, namely, that adjectival-nominal compounds are indivisible units
whose components cannot be separated by any intervening elements. Thus while
the nominal phrase ten drewniany, a z Kania podporami most (this wooden bridge
with iron props) is grammatical, the complex *ten obóz przeznaczony dla ludności
cywilnej, koncentracjny (przeznaczony dla ludności cywilnej) destined for the
civilian population) is unacceptable. Semantically, this integrity of the ad-
jectival-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 pro-
per 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 exam-
ple, the Polish nominal phrase brązowy niedźwiedź (a brown bear) gives us
information concerning the colour of the fur of a particular bear, while the
compound niedźwiedź brązowy 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 com-
 pound 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 exten-
sively 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 transfor-
mational 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 formalized, to be succeeded by a comparison between the
English and Polish compounds from the point of view of their deriv-

PT 1. N+Gend+No'+Aux+V or affim.+N'+Gend''+No''+Acc=N+N+N''+Att+Gend'+No'

e.g., mechanik naprawia samochody⇒mechanik samochodowy
(the mechanic repairs cars⇒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:
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.

**Ex. 2.**

\[
N + \text{Gend} + N + \text{Aux} + V_u + N' + \text{Gend'} + N'o' + Aoo \Rightarrow N' + \text{Gend'} + N'o' - N + \text{At} + \text{Gend'} + N'o'
\]

\[
\text{e.g., para porusza statek} \Rightarrow \text{statek parowy}
\]

(steam drives a boat \(\Rightarrow\) 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. SUBJECT - OBJECT**

**Group A**

hamulce powietrzne (air brake)
statek parowy (steamboat)
walec parowy (steam roller)
samolot odrzutowy (jet plane)
bomba wodorowa (hydrogen bomb)
młyn wolny (water mill)
piec gazowy (gas stove)
piec węglowy (coal stove)
kładz żaglowa (sail boat)
todzi motorowa (motor boat)
pociąg elektryczny (electric train)
pila motorowa (electric saw)
Group B

państwo policyjne (police state)
rzeczpospolita szlachecka (nobleman's state)
demokracja ludowa (people's democracy)

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

ET 2. Det+N+No+Aux+V_{br}+Det+N'+No'

Det=N+Sg=N'+No'

e.g. the air moves the brake→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. N+Gend'+No'+Aux+V_{br}+Prep+N'+Gend''+No''+Case→N+Gend'+No'+N'+Atd+Gend''+No''

e.g. człowiek mieszkał w jaskiniach→ człowiek jaskiniowy
(the man lived in caves→the 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 kościołny (church beggar)
lekarz wojskowy (army doctor)
przewodnik tatrzański (Tatra guide)

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

artyści cyrkowi (circus artist)
stróż więzienny (prison warden)
zwierzęta domowe (domestic animals)
pies podwórowy (yard dog)
trzoda chłopna (pigs)
roślinność wydmowa (dune vegetation)
kolej linowa (railroad)
tramwaj wodny (regular ferry service)
kareta wiezienna (Black Maria)
artyleria polowa (field artillery)
pojazd kosmiczny (space ship)

The corresponding English T-rule is

ET 3. Det+N+No+Aux+V_{br}+Prep+Det+N'+No'

Det=N+Sg=N'+No'

e.g. the man lived in caves→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 reversed. 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 case 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. N+Gend'+No'+Aux+V_{br}+Prep+N'+Gend''+No''+Case→N'+Gend''+No''+Atd+Gend'+No''

e.g. oni organizują konferencje dla prasy→ konferencja prasowa
(they organize the conference for the press→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
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′_{it}+Aux′+V′_{it}+N′+Gend′+No′+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)
praskaz pieniężny (money order)
wieża kontrolna (control tower)
kamora gazowa (gas chamber)
stopa życia (standard of living)
wick emerytalny (retirement age)
targ owocowy (fruit market)
oboż koncentracyjny (concentration camp)
wieszenie śledzce (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 4.** Det′+N′+No′+Aux′+V_{it}′+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-cooperative sentences, Lees’ classification would be changed in some cases and we would discover very much
ET 5. Det+N+No+Aux+Vₜ+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 proposition), 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

Yet this does not mean that in Polish there are no adjectival-nominal compounds with the adjectival element derived from a verb. As was mentioned above, our analysis has been limited 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 szybki, sala jadalna, miejsca stojacej, etap powitkowskiego, szafa grajaca (sleeping ear, dining hall, standing room, magnifying glass, julo 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 attributivity 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 porusz (napasa) mlyn (the wind moves (operates) the mill). This string meets all the conditions for PT 2 to operate on, but the resulting compound mlyn wiatrny does not exist in Polish (instead, a simple noun wiatrak is used for windmill).

Analogously, Rule PT 5 operating on the string underlying the sentence water drinking...
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 bookstore.) 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. adjective-nominal compounds, e.g.:
   - return ticket — bilek 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

REFERENCES


