

A Polish-English Contrastive Study of the Order of Premodifying Adjectives: A Procedural Model Account

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Abstract

Some restrictions on the order of English premodifying adjectives were already pointed out by Whorf (1956). The first manual corpus studies of the order of premodifying adjectives were carried out by Goyvaerts (1968), Vendler (1968), Quirk and Greenbaum (1973), and Dixon (1982). In all, I have encountered over a hundred of studies concerning the ordering of premodifying adjectives. As a result of such studies, linguists agree that in case of the need to premodify a noun with more than one adjective, each of them representing one of the semantic categories: 1. “opinion”, 2. “size”, 3. “shape”, 4. “age”, 5. “colour”, 6. “origin”, 7. “religion”, 8. “material”, the adjectives must follow the order above mentioned. Interestingly, similar types of restrictions have been reported in numerous unrelated languages such as Hungarian, German, French (where the order of modifying adjectives is a mirror reflection of that in English), Chinese, and many others, which indicates a universal character of the phenomenon. Polish grammar books claim, however, that there are no similar restrictions in Polish.

Below, in section one, I report on a contrastive Polish-English study, which shows that in Polish restrictions on the order of the semantic classes of premodifying adjectives similar to those in English are clearly visible statistically, while in English they are not as strict as it is commonly believed. In a very short section two, I mention some classical explanations of the phenomenon. In section three, I account for the phenomenon studied based on the procedural model of language introduced by Zielinska (2007a, 2007b), an approach, which explains the issue better than the previous research known to me has done.

1. A Polish-English Contrastive Study of the Order of Premodifying Adjectives

The English data presented in this paper have been taken from the BNC via the BYU interface (the interface created by Mark Davies of BYU). The interface allowed me to create lists of English adjectives representing the semantic categories listed in the previous section and next have the computer check for me all instances of two adjectives following each other – the first one from one list and the second one from another list. This was done for all possible list combinations. I also searched the instances of the adjectives from the lists considered being separated with one, two, or three other adjectives, so as not to overlook situations when the adjectives of the categories

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considered are separated by another adjective, which fact does not change the relative order of the categories investigated. So as not to overlook situations in which an additional adjective separates the given two adjectives from the noun they modify, I did not ask the search engine to list only the adjective strings immediately followed by the noun, but checked manually which out of the items found represent strings of adjectives premodifying a noun.

To collect Polish data, I used the IPI Korpus – the corpus of the Polish language collected by the Institute of Computer Science Foundations of the Polish Academy of Science. Since it is not possible to search with lists there, I queried the Polish corpus by asking for strings, e.g. [a given adjective + any adjective+ (+any adjective)² + noun], and [any adjective + the given adjective+ (+any adjective) + noun] etc. in which “the given adjective” was an adjective representing one of the categories investigated. Next, I manually subcategorized the data found according to the semantic category of the second adjective (referred to as “any adjective” in the search request above) into 7 categories³: “opinion,” “size,” “shape,” “age,” “colour,” “origin,” “material.” Finally, I counted the number of occurrences of strings of adjectives premodifying a noun in which the first of the adjectives represents the semantic category “a,” while the second the semantic category “b,” where “a” and “b” stand, in turn, for each of the seven categories just mentioned.

The data collected has been presented in tables 1 to 9. Tables 1 and 5 contain the numbers of noun phrases modified by at least two adjectives of the relevant categories, in English and Polish respectively. In tables 2 and 6, the cell (a, b) contains the percent of occurrences of noun phrases in which an adjective belonging to the semantic category “a” precedes an adjective representing the semantic category “b” in relation to all the occurrences of noun phrases in which a given noun is premodified by adjectives representing the semantic categories “a” and “b” – attested in the same two corpuses – along with the relevant statistical error. Tables 3 and 4 present the English data derived from table 1 while tables 7 and 8 the Polish data derived from table 5 after grouping the categories concerned into the following joined categories: “opinion/size”, “shape/age/colour” and “origin/material”. It turned out that combining categories in such a way shows a stronger preference for maintaining the order between such joined categories than between the categories within those joined categories. Table 9 compares the degree of predominance of the order of the selected categories of adjectives in English in comparison to Polish.

“”“”

BNC/English	opinion	size	shape	age	colour	origin	material
opinion	X	1400	1565	1887	2341	2121	65
Size	43	X	1489	387	3723	1418	295
Shape	54	78	X	84	820	91	96

² I carried out separate queries for one and two and three adjectives separating the adjectives whose order was being studied from the noun they modify.

³ I did not investigate the position of adjectives expressing the category “religion” because of not having found enough data.

Age	23	58	19	X	206	901	59
colour	67	107	136	32	X	287	164 (* ⁴ 1827)
Origin	131	23	6	0	3	X	16 (*627)
material	1	4	4	1	12 (*42)	1 (*52)	X

Table 1: The numbers of adjective pairs premodifying a noun in which the first one represents category “a” (specified in the first column) and the second one category “b” (specified in top row cell) found in the BNC

BNC/English	size	shape	age	colour	origin	material
opinion	97% 0.45%	97% 0.45%	99% 0.23%	97% 0.34%	94% 0.51%	98% 1.8%
Size		95% 0.56%	87% 1.6%	97% 0.33%	98% 0.37%	99% 0.58%
Shape			81% 3.9%	86% 1.2%	94% 2.5%	96% 0.52%
Age				86% 2.3%	100% 0.01	98% 1.9%
colour					99% 0.77%	90% 2.4% (*86)%
Origin						94 % 5.8 % (*92%) 1.1%

Table 2: The English data from table 1. At the position “(a, b)” the first number is the value = (number of pairs in which an adjective of the category “a” precedes an adjective of the category “b” when premodifying the same noun) divided by (the number of pairs in which adjectives of the category a and b premodifying the same noun are placed in any order) expressed as a percentage. The number below is a standard deviation.

BNC/English	opinion/size	shape/age/colour	origin/material
opinion/size		11315	3899
shape/age/colour	387		1331
Origin/material	159	29	

Table 3: The English data from table 1 grouped into joined categories “opinion or size”, “shape or age or colour” and “origin or material”

⁴ *numbers with asterics mark pairs “adjective noun” and “noun adjective” premodifying the head noun, in which material is expressed with a noun.

BNC/English	shape/colour/age	origin/material
opinion/size	97% \pm 0.2%	96% \pm 0.35
shape/colour/age		98% \pm 0.4

Table 4: The percentage data based on table 3. At the position “(a, b)” the first number is the value = (number of pairs in which an adjective of the category “a” precedes an adjective of the category “b” when premodifying the same noun) divided by (the number of pairs in which adjectives of the category a and b premodifying the same noun are placed in any order) expressed in percent. The second number in a given cell number is the respective standard deviation.

IPI/Polish	opinion	size	shape	age	colour	origin	material
opinion	X	89	60	273	104	379	241
Size	10	X	164	65	67	159	271
Shape	2	19	X	10	61	43	264
Age	69	14	6	X	19	213	219
Colour	2	2	19	2	X	75	74
Origin	17	14	6	15	9	X	23
material	4	1	9	15	3	3	X

Table 5: The numbers of adjective pairs premodifying a noun in which the first one represents category “a” (specified in the first column) and the second one category “b” (specified in top row cell) found in the Polish corpus IPI^{COVCOVCOV}

IPI/Polish	size	shape	age	colour	origin	material
opinion	90% 3%	97% 2.2%	81% 2.2%	98% 1.4%	96% 1%	98% 1%
Size		90% 2.1%	92% 3.1%	97% 2.1%	92% 2,1%	99% 0.7%
shape			63% 12.1%	76% 4.8%	88% 4.7%	96% 1.5%
Age				90% 6.6%	93% 1.8%	94% 2.5%
colour					89% 3.5%	89% 3.6%
origin						88% 6.4%

Table 6: The Polish data from table 5. At the position “(a, b)” the first number is the value = (number of pairs in which an adjective of the category “a” precedes an adjective of the category “b” when premodifying the same noun) divided by (the number of pairs in which adjectives of the category a and b premodifying the same noun are placed in any order) expressed as percentage. The number below is the respective standard deviation.

IPI/Polish	opinion/size	shape/colour/age	origin/material
opinion/size		733	473
Shape/colour/age	89		547
Origin/material	4	21	

Table 7: The Polish data from table 5 grouped into joined categories, „opinion or size”, “shape or age or colour”, and „origin or material”

IPI/Polish	shape/age/colour	origin/material
opinion/size	89% +−1.1%	99%+−0.5%
shape/age/colour		96%+−0.9%

Table 8: Percentage data based on table 7. At the position “(a, b)” the first number is the value = (number of pairs in which an adjective of the category “a” precedes an adjective of the category “b” when premodifying the same noun) divided by (the number of pairs in which adjectives of the category a and b premodifying the same noun are placed in any order) expressed in percent. The second number in a given cell number is a standard deviation.

Category name	English	Polish	difference	standard dev.	Conf. level
opinion – size	97	90	7	3.1	0.028
opinion – shape	96.6	96.8	− 0.2	2.3	0.95
opinion – age	99	81	18	5	0.001
opinion – colour	97	98	− 1	1.4	0.48
opinion – origin	94.4	95.7	− 1.3	1.1	0.27
opinion – material	98.5	98.0	0.5	1.75	0.28
size – shape	95	90	5	2.3	0.036
size – age	87	92	− 5	3.7	0.19
size – colour	97.2	97.1	0.1	2.1	0.62
size – origin	98	92	6	2.1	0.036
size – material	99	98	1	1.8	0.62
shape – age	81	63	18	12.7	0.16
shape – colour	86	76	10	4.92	0.045
shape – origin	94	88	6	5.2	0.27
shape – material	96	94	2	4.6	0.69
age colour	86	90	−4	7.2	0.62
age – origin	100	93	7	2.0	0.001
age – material	98	94	4	2.4	0.1
colour – origin	99	89	10	3.46	0.0038
Colour-material	90	89	1	4.3	0.84
Origin-material	94	88	6	8.6	0.5

Table 9: The comparison of the relative prepositioning of adjectives in the pairs of premodifying adjectives named in column one attested in English and Polish

respectively (under the hypothesis of there being a difference between the two distributions) based on the data from tables 1 and 5

From the data collected in tables 1 and 2 – and – 5 and 6, respectively, it is clearly visible that the restrictions on the order of adjectives premodifying a noun, on one hand, are not as strict in English as commonly believed, on the other hand, are clearly observable in Polish. By inspecting tables 3 and 4 as well as 7 and 8 we see that after grouping the semantic categories discussed into joined categories “opinion/size”, “shape/age/colour” and “origin/material” the strength of the preferred ordering increases significantly and the biggest leakage (approx 11% +/- 1.1%) takes place for the Polish category “opinion/size – shape/age/colour”. From the data in table 9, it is apparent that while for some pairs of categories the restrictions discussed are more strictly met in English and Polish, for others the difference is within a statistical error. The reason for the stronger overall restrictions concerning the ordering of premodifying adjectives in English than in Polish may come from the following. In Polish adjectives may both premodify and postmodify nouns and the difference between premodification and postmodification corresponds, in a way, to the descriptive and classificatory usage. Thus, there being another way of expressing classificatory (parametrizing) and descriptive (evaluative) functions of a given adjective, in Polish, there is a lesser need there to consistently distinguish between the two possible functions through the relative ordering of adjectives.

2. Selected Explanations for the Order of Semantic Categories of Premodifying Adjectives

The number of studies focusing on the order of premodifying adjectives is too large to overview them here. So in this section, I shall limit myself to mentioning only a few of them.

The most popular explanation for the order of categories of premodifying adjectives has been put forward by cognitivists. Cognitivists maintain that the order is due to the principle of iconicity, which states that the linguistic form reflects the meaning conveyed with it as far as possible. In the situation discussed, a small spatial distance between a noun and an adjective represents closeness of the relationship between the noun and the feature represented by the relevant adjective (the degree of its inherentness or silence). Yet, these researchers do not provide a way of assessing the relative inherentness of a given feature (why should colour be more inherent than shape?).

Another interesting proposition coming from Champollion (2006) represents an approach claiming communicative benefits from the attested ordering of adjectives. Champollion noticed that the ranks of the highest ranking adjectives in every category considered fall down monotonically from left to right. He suggests that this fact reflects the degree of the communicational usefulness of respective items, which prediction is consistent with the game-theoretic approach. Yet, first, considering only the most frequent item from each category raises some reservations. More importantly, the reason for the high rank of certain adjectives may be caused not by their communicative

usefulness, but simply by their vagueness (and/or polysemy) and thus applicability to a large range of situations.

West (2000), in turn, resorts to the notion of groundedness introduced by Clark (1996) and proposes that the sequencing of adjectives represents an increase in the inductive probability of the elements and therefore groundedness. Consequently, the attested order of premodifying adjectives decreases the effort of comprehending the given noun phrase. West, however, does not offer any empirical tests to corroborate his hypothesis.

3. The procedural Model Account of the Order of premodifying Adjectives

According to the procedural model of language each linguistic fragment generates the field of options of “what could be said next”, each option having its own probability of being realized. The linguistic item used in the given field does not bring in completely independent information, but depends on and interacts with that field. A given linguistic construct may serve, e.g., to point out an option or to assess some of its parameters. Consequently, an adjective used in front of different noun phrases (i.e., in different fields) may have different interpretations. (E.g., see the discussion of the size of “steel bridges” and of “wooden bridges” below.)

Adjectives modifying nouns can “perceive” two kinds of fields generated by these nouns. On one hand, the options generated by the field may constitute subcategories – have a number of specific characteristics (parameters) – e.g. ‘a wooden bridge’ is not only made of wood, but it is also of certain size, shape, and age. The function of a given adjective, e.g. *wooden*, may be then to select such a subcategory of bridges. On the other hand, the options induced by the field can constitute the values of a single parameter, and the function of a given adjective will be to select one of these values. For instance, the item *red* used in the phrase *a red bridge* – i.e., in the field generated by the item *bridge* – selects among possible bridge colours the one which is more red than blue, green, yellow, or white, etc. The adjectives used to select from subcategories will be called parametrizing, and adjectives used to select from the values of a single parameter – evaluating. (More precisely, in the approach professed, we need to talk about parametrizing and evaluative usage of adjectives and we can distinguish between parametrizing and evaluative adjectives only in the sense of their predominant usage.) Some adjectives used parametrizingly can provide more significant restrictions on a bigger number of the parameters defining the given category – thus be more parametrizing – while others, in this sense, be less parametrizing. Relative adjectives, in turn, can be more or less relative, i.e., their value may depend more on what they modify or less (cf. *a big star* vs. *a big virus* and *a red ball* vs. *a red car*).

3.1 The Benefits of Keeping the Attested Order of Premodifying Adjectives

It is postulated that the order of English adjectival categories, looking from left to right, comes from the most highly relative (the ones which need to have their scale clearly established) to the most highly parametrizing ones i.e., providing the scales for the higher number of parameters. In other words, the position of a given category among the semantic categories studied reflects, first of all, the proportion of the two types of usage of its members. The more often the members of a given category are used relatively, the more likely that category is to premodify other categories. The more often the members of a given category are used parametrizingly, the more likely that category is to postmodify other categories. Second, within the relative, or parametrizing categories of adjectives, respectively, the position of a given semantic class depends on the degree of its relativity (parametricity) in comparison to these of the remaining categories considered. This discussion will be continued in section 3.2. In this section I shall present two⁵ benefits from assuming such an order of adjectives in noun phrases.

First, applying relative adjectives after parametrizing ones in a noun phrase increases the precision of the information conveyed with the given noun phrase. Second, using strongly relative adjectives before weakly relative adjectives leads to the narrowing down of the coded value of weakly relative adjectives, without influencing adversely the precision of coding of the remaining adjectives.

The increase in the precision of the information conveyed with a given noun phrase modified by a parametrizing adjective before a relative adjective comes from the fact that if we apply a parametrizing adjective in a given noun phrase first, the relative adjective will select the value on a scale provided by the subset of noun referents defined by the parametrizing adjective and the respective noun. E.g., *duży, stalowy most*, (a big steel=adj bridge) *duży drewniany most* (a big wooden bridge). If we applied the item *big* before the item *wooden*⁶, we would be selecting “big” items from the sizes of all bridges, thus giving a less precise information as to how big a wooden bridge can be.

As to narrowing down the coded value of weakly relative adjectives, let us notice the following. Since according to the procedural model of language, the so called “encoded information” reflects the distribution of the information conveyed with past uses, the value of the lexeme used to operate on the noun in a given noun phrase first selects from the whole category of the referents of the given known thus giving the most representative, typical value of the parameter referred to by the adjective concerned. The adjectives operating second operate on subsets of such categories, which may lead to selecting atypical results for their value and consequently spread the distribution of the values of the past uses of that adjective. To illustrate what has just been said, let us do the following.

Let us consider the selection of birds in an aviary carried out in two different ways. To this end, we will ask two people to select “a bird which is red and which is big” giving them two separate sets of instructions. We shall ask person A to start from

⁵ In Zielinska (2007), I argue also for the effect of decreasing the communicative effort when maintaining the attested predominant order of adjectives, which reasoning resembles a lot West’s (2000) proposition.

⁶ We assume here that the order in which the premodifying adjectives are used is reverse to their distance from the noun.

selecting “red birds” and putting them into a separate cage. Consequently, person A will first consider all the birds in the aviary, (which is inhabited by the whole atlas of birds) and catch “red birds”. These will be {a parrot Arra, a macow, a red parakeet, and a bird of paradise}, which are all very red indeed. The shades of red represented by these birds will be added to person’s A set of uses of the item *red*. Next, we shall instruct person A to select a “big red bird”. Person A will end up with the biggest from the three birds mentioned, i.e., the macaw.

Person B, in turn, will be instructed to look first for big birds. She will catch an ostrich, an emus, a flamingo, and a stork. When person B is next asked to select a “red big bird” (a big bird, which is red), she will end up with a flamingo, which is much bigger, but at the same time considerably less red than the Parrot Arra selected by person A. The value of redness selected by person B, which will be added to person’s B set of uses of the item *red*, is a less prototypical shade of red, decreasing therefore the precision her understanding of the concept of redness in comparison to that held by person A. At the same time, such reversed order of applying adjectives does not help person B to narrow down the coded meaning of the item *big*, which item will function relatively, any way.

3.2 Accounting for the Order of Selected Semantic Categories of Adjectives in Strings of Premodifying Adjectives

As was said in section 3.1, the order of adjectives in strings of premodifying adjectives is from the most relative ones to the most parametrizing ones. The predominantly relative classes of adjectives are: “opinion,” (e.g., *beautiful*) and “size,” (*big*) but also important subsets (usage-wise) of the categories: “shape,” (e.g., *long* as used in *a long face*) “age,” (e.g., *old*) and, “colour” (e.g., *dark*). Thus these will come before the parametrizing classes of adjectives, such as, “origin,” (e.g., *Scottish*) and “material” (e.g., “*wooden*”). It is proposed that, to the first approximation, the ordering within the relative classes of adjectives depends on the degree of the relativity of the respective class while within the parametrizing adjectives the ordering is reverse.

While I do not know how to measure the degree of relativity of a certain semantic class precisely, it is clearly possible to classify each category of evaluating (relative) adjectives into two broad classes of lexemes: into strongly relative and weakly relative ones. So, for instance, the category “colour” can be divided into (*dark, light, pale*, etc.) and (*red, blue, yellow, green*, etc.). Such a division is not ideal, yet, it does reflect the predominant usage of the relevant lexemes and is sufficient to yield interesting results. After such rough subcategorisation, I calculated the percentage of the adjectives used relatively in the classes of adjectives studied. The results are presented below in table 10

	opinion	size	Shape	age	colour
BNC/English	99%	58%	43%	27%	20%
rank	1	2	3	4	5
IPI/Polish	99%	71%	36%	25%	11%
rank	1	2	3	4	5

Table 10: The percentage of the adjectives used relatively in the respective classes of premodifying adjectives enumerated in the top row in English and Polish

The rank of the given category, both in English and Polish, corresponds to the received order of these semantic classes in strings of premodifying adjectives.

Among the parametrizing adjectives, the category of “material” practically always specifies the restrictions on several parameters, (e.g. consider the influence of the adjective *wooden* on the parameters of “a wooden bed”.) Adjectives representing the category “origin”, in turn, though on some occasions also impose limits on several parameters — e.g. “a Scottish dance” — leading to the creation of a subcategory of dances, on many other occasions merely inform of the origin of the noun referent they modify, e.g. *a British brick*. This fact justifies their placement further away from the noun. One could roughly approximate the parametricity value of a given category, e.g., by calculating the percentage of situations in which the adjective modifying a noun affects more than one of its parameters. Such study, however, has not been carried out yet.

The most crucial test corroborating the dependence of the degree of the relativity and parametricity of a given item on its position in a string of premodifying adjectives was carried out in the following way. As already mentioned each of the semantic categories studied can be divided into more and less relative (or parametrising) ones. For instance, the category “age” can be subdivided into the relative subcategory (*old, young, new*, etc.) and non-relative subcategory (*one-year old, a hundred-year old*, etc.). Now, let us assume that category A precedes category B in a string of premodifying adjectives. Next, let’s subdivide each of the two categories into the relative and non-relative subcategories. (I shall refer to them as A.r, A.n-r and B.r, B.n-r, respectively.) If the degree of relativity matters than A.r will precede B.n-r more often than A.r precedes B, and the latter value will be bigger than the percentage of situations in which A precedes B, which in turn is bigger than A.n-r preceding B, etc. The smallest value predicted will be for the pair (A.n-r, B.r). Table 11 illustrates the phenomenon for the split categories “shape” and “colour” based on the BNC. The data collected below corroborates the hypothesis posed.

BNC	Relative colour	Non-relative colour
Relative shape	72 : 46 (67%)	596 : 26 (96%)
Non-relative shape	11 : 17 (39%)	142 : 45 (75%)

Table 11: The first number in the cell (a, b) represents the number of the occurrences of the pairs of premodifying adjectives representing categories a and b in which a precedes b. The second number in the cell (a, b) represents the number of

the occurrences of the pairs of premodifying adjectives representing categories a and b in which b precedes a. The number in parenthesis represents the percentage of the pairs of premodifying adjectives representing categories a and b in which a precedes b in relation to the number of all pairs of premodifying adjectives representing categories a and b, respectively. The data from BNC.

The differences between the respective percentages are significant at least on 0.05 level. For full results see Zielinska (2007b).

The influence of the degree of parametricity on the position of a given item in a string of premodifying adjectives is the opposite. To test this hypothesis, which I did on the Polish data, I selected the subcategory “historical period” from the category “age” reasoning that while such lexemes assessing age as *czteroletni* (four-year-old) assess only the age of the relevant referent, the names of the historical periods *barokowy*, *renesansowy*, etc. (Baroque, Renaissance)⁷ impose constrains also on other characteristics of the items they modify, thus the latter ones are more parametrizing than the former ones. Next, I compared the values of the relative prepositoining of the category (“historical period” – “material”) to the relative prepositioning of the category (“age not expressed as a historical period” – “material”). The results collected in Table 12 corroborated my hypothesis⁸.

Age (not a hist. period) – origin 213	Historical Period – origin 363
Origin – age (not a hist. period) 15	Origin – historical period 78

Table 12: The number of occurrences of noun phrases with two premodifying adjectives representing the semantic categories indicated below in the IPI Corpus

The relative prepositioning of the category “age_non.hist.period – origin” is 93%. The relative prepositioning of the category “Historical period – origin” is 82%. The difference of 11% +_ 2.5% is significant on P=0.005.

3.3 The Order of the Adjectives not differing as to their respective Degrees of Relativity

It is interesting to notice that if we consider only non-relative categories (English non-relative shape; non-relative colour), then the order (“shape; colour”) still predominates, though to a lesser degree (71%+–2% vs. 81%+–1.2% for the overall categories “shape;

⁷ While in English nouns often modify head nouns in noun phrases, their Polish equivalents are adjectives. For instance, while in English we have *a baroque church* (N+N), its Polish equivalent is *barokowy kościół* (A+N)

⁸ For more results, see Zielińska (2007).

colour”). It is possible that some additional parameter influences the relative order of non-relative categories. According to the procedural model of language, presented in Zielinska (2007a and 2007b) when no primary⁹ (functional) parameters differentiate a given set of constructions viable on a given occasion (such as the degree of the relativity and parametricity of adjectives which influences their relative ordering), the likelihood of the choice of the given form (here the order of premodifying adjectives) depends on the degree of the similarity of the given situation to those designated with the given construction in the past relative to the degree of the similarity of that situation to the situations selected with alternative constructions. Since the ordering of adjectives differing in the degree of their respective relativity (or parametricity) depends on these values, there arises the correlation between the given category of adjectives and its position in a string. If two adjectives not differing as to the degree of their respective relativity (or parametricity) belong to the categories with established position among premodifiers, they will be likely to be placed in the same order as these categories due to the semantic similarity of the given item to the respective category. In other words, the ordering of premodifying adjectives induces a secondary parameter – that of a category type (its representation¹⁰) – which next influences the preferred choice for ordering of adjectives in the given pair of premodifiers based on the semantic categories they represent.

3.4 The order of the premodifying Adjectives in Polish: A Report on the Research in Progress

In Polish, adjectives can both pre- and post-modify nouns. As has been already mentioned, postmodification is correlated with a classificatory usage (which corresponds to a high degree of parametricity), while premodification is correlated with a descriptive usage (which concerns the items for which the degree of relativity is relevant.) As expected, the relative prepositioning of a given adjective is correlated with its position in a string of premodifying adjectives. (The results of the relevant pilot study can be found in Zielińska 2007b). However, what is more interesting is the observation that while practically every noun phrase A+N in Polish can be expressed also as N+A, and every noun phrase A₁+A₂+N can practically always be expressed also as N+A₁+A₂ it cannot always be expressed as A₁+N+A₂, even when both N+A₁ and N+A₂ are likely. Apparently, if the difference in the relativity (or, respectively, the parametricity) between the two adjectives considered is too small, they cannot pre- and postposition a noun in the same noun phrase respectively, because the structural contrast involved (strengthened by the position of the adjectives in relation to the head noun) corresponds to a significant difference in these values.

⁹ By a primary parameter I mean a parameter built into the model as an assumption.

¹⁰ Bickard and Campbel (1992) point out that basic encodings cannot be a representation but must be sort of control system and defined in terms of the benefits of the result of the given categorization for the system. This has been further explored in Zielinska (2007a and b), where the author attributes the emergence of basic encodings to repeated correlation between a given form and a set of situations. Here, the benefit of increasing the precision of communication, which leads to ordering of adjectives premodifying nouns induces a new encoding - the semantic parameter of a selected category type.

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