On Isomorphism and Non-Isomorphism in Language

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An Analysis of Selected Classes of Russian, Polish and English Adverbs within the Communicative Grammar Framework

The Patrician nodded.
‘I shall deal with the matter momentarily,’ he said. It was a good word. It always made people hesitate. They were never quite sure whether he meant he'd deal with it now, or just deal with it briefly. And no-one ever dared ask.

Terry Pratchett, Guards! Guards!

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Introduction

The aim of the present study is to examine the notion of isomorphism with special reference to the model of communicative grammar and to illustrate the theoretical insights drawn from the examination with an analysis of selected classes of Russian, Polish and English adverbs.

Chapter I starts with a discussion on isomorphism in mathematics as I later attempt to relate the mathematical notion to its linguistic counterpart. I introduce basic concepts and axioms that need to be satisfied in order for isomorphism to hold between objects of selected categories (sets and groups). I am particularly interested in isomorphism between groups since groups are categories whose objects comprise sets together with operations defined on those sets, which I find useful when analyzing relations that hold in language between the plane of expression and the plane of content. Two substantial sections of the chapter present the views on isomorphism put forward by Kuryłowicz and by representatives of what I call “the iconicity school”. Acknowledging Kuryłowicz is de rigueur as it was he who introduced the term isomorphism into linguistics and advanced a seminal thesis on the concept. An account of iconicity is in order as this semiotic notion is regarded by some iconicists as a hyperonym of isomorphism (isomorphism being specified as diagrammatic iconicity). I then proceed to discuss isomorphism between languages. This issue was extensively investigated by Lyons (especially with regard to family relations and colour terms); the interlingual parallelism was also observed by Carnap, who discusses the question of isomorphism in terms of logical syntax. In the final part of Chapter I Apollonius Dyscolus’s views on grammar are mentioned. This ancient grammarian did not himself use the term isomorphism but his linguistic observations show a close affinity with Kuryłowicz’s understanding of the concept.

Chapter II outlines the model of Awdiejew’s communicative grammar and its approach to isomorphism. Firstly, I present the theoretical foundations of this linguistic model and its affinities with other methodologies which study communicative aspects of language. Next I address the concept of semantic standard, which is a central notion in communicative grammar and present the axioms of communicativism which are the means of systematizing its research tools. Being a relatively new linguistic school, communicativism is not flawless, especially with reference to terminology. As I find the terminological grid of communicativism insufficiently “delicate”, I have decided to make use of some terminological solutions of semantic syntax.

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1 In Polish *gramatyka komunikacyjna*. 
The status of semantic standards is a vigorously debated issue: do they belong to the sphere of semantics, to the sphere of pragmatics, or to both? At this point I confront the views of communicativists and cognitivists on what can or cannot be regarded as semantic with respect to standards and schemas.

After presenting the major methodological issues I attempt to find similarities between a mathematically defined isomorphism and the correspondence between conceptual structures and their linguistic formalizations. I also return to the linguistic definitions of isomorphism discussed in Chapter I and I contrast them with the mathematical definition and with the definition I formulated with reference to communicative grammar.

At this stage I make an important clarification of theoretical nature. One of the principles of communicativism is a holistic approach to term (auto-semantic lexeme) and the predicate-argument structure to which it standardly refers. In contrast to this position I treat lexical entities and propositional structures as belonging to separate planes because there could be no discussion of isomorphism without reference to distinct domains. I therefore attempt to refine the communicative grammar approach to isomorphism by drawing on solutions offered by semantic syntax. Semantic syntax distinguishes between the grammar of concepts and the grammar of forms, the latter being the representation of the former (cf. Szumska 2006: 17). It is a comparison of these planes (domains), formal and conceptual, that can manifest isomorphism or its absence.

The last part of Chapter II is a presentation of non-isomorphic formal configurations, i.e. such combinations of linguistic elements which do not reflect the combinatorial properties of concepts which they formalize. The theoretical considerations in this part of the study are accompanied by an analysis of relevant language data. Here I study selected configurations labelled as non-isomorphic by Awdiejew and Habrajska (2004) with reference to Szumska’s (2006) observations on overcoded and undercoded structuring.

Chapter III is divided in two parts. The first part is a concise survey of definitions and classifications of Russian, Polish and English adverbs that can be found in academic grammars. At the end of the review I point out the basic differences between adverbs in the three languages and also between their descriptions in the manuals. In the second part I analyze selected classes of adverbs. The classes do not coincide with those distinguished in descriptive grammars. The choice of the classes was dictated by the way in which isomorphism or, more frequently, non-isomorphism is realized through adverbs in particular syntactic configurations.

The presentation of configurations in Chapters II and III is partly based on symbolic notation. The notations are not exactly equivalent to those used by logicians or mathematicians since they are concerned with living linguistic
structures, which do not always yield to such formalizations. Moreover, I wanted to avoid the “overlogicization” of natural language as the present study is not meant to implement an axiomatic model to linguistic analysis (cf. Pogonowski 1979: 37–41). In notations I usually avoid the indication of morphological properties of terms (functional morphemes, grammatical cases, etc.) since they are not relevant to this study. An index of abbreviations and symbols, a bibliography, a name index and a subject index constitute the last part of the book.

Mathematical symbols in Section 1.1 are explained immediately in the body of the text. Concepts are written in capital letters while words, i.e. formal exponents of concepts, are written in lower case. Words in suppositio materialis are italicized. Examples and figures are not numbered separately in each chapter but the adverb classes in Chapter III have their own numeration.

This book would not have come into being if not for the encouragement and inspiring criticism of Professor Aleksy Awdiejew. I am most grateful to him for being my guide and mentor and also for giving me “breathing space” to work things out for myself.

I also owe a debt of gratitude to Professor Elżbieta Mańczak-Wohlfeld and Professor Ewa Komorowska for their invaluable critical comments. Whatever shortcomings remain are mine alone.

Finally, I thank my family for their unfailing support.
CHAPTER I

A survey of approaches to isomorphism

1.1. The concept of isomorphism in mathematics

The concept of isomorphism has a long tradition in various branches of science, mainly in logic and mathematics. It is “of fundamental importance in any attempt to set up a concrete model of an abstract system or a mathematical model of a concrete system” (Partee 1978: 11). Naturally, its meaning varies according to the framework in which it is applied. I will briefly describe isomorphism as it is used by contemporary logicians and mathematicians in order to provide some background information, which will cast light on its meaning as a linguistic concept and show that the implementation of isomorphism in linguistics is really related to mathematical tenets though they operate on totally different systems of signs denoting entirely different phenomena.

Among the most common applications of the concept of isomorphism are: isomorphism for sets, for groups and rings, for integral domains, for Boolean algebras, and for FS automata (Partee et al. 1990; Wall 1972). The following brief account of the mathematical notions focuses on relations between sets and groups. In order to lucidly explicate the concept of isomorphism, let us first look at its hyperonym, i.e. the general concept of mapping (map, function, morphism; Partee et al. 1990: 32, 253).

Firstly, a concept of a category (Spanier 1966: 14) which consists of objects, e.g. sets, groups, rings, vector spaces or topological spaces is necessary. Secondly, we need mappings (transformations), i.e. morphisms between the objects.

There are two properties defined for every morphism, the source (the domain) and the target (the codomain). When we analyze categories which consist of objects and morphisms two axioms must be satisfied.

The first axiom is associativity: it must be possible to compose the morphisms and the composition\(^\circ\) is associative\(^5\). Associativity means that whenever the operations are defined and when their domains and codomains coincide properly, there is \(h \circ (g \circ f) = (h \circ g) \circ f\).

\(^2\) Cf. Pogonowski’s (2010, December 3: 3) remarks on isomorphicity of models: “Two models are isomorphic if they are indistinguishable in structure (irrespective of the nature of the elements of their domains).” (translation mine, K. O.). Cf. also Pogonowski (2010, June 10).

\(^3\) Based on Spanier (1966), Partee et al. (1990).

\(^4\) The symbol \(\circ\) stands for composition.

\(^5\) It is the same simple associative law which allows the following regrouping in equations \(a+(b+c)=(a+b)+c\).
The second axiom is identity⁶: for every object \( Y \) there exists a mapping \( i \) called the identity morphism on \( Y \), i.e. \( i \in \text{Morph} (Y, Y) \) and the following two conditions are satisfied. Firstly, \( f \in \text{Morph} (X, Y) \) – [read: \( f \) belongs to the set of morphisms from \( X \) to \( Y \)]; and secondly, \( g \in \text{Morph} (Y, Z) \) – [read: \( g \) belongs to the set of morphisms from \( Y \) to \( Z \)], then \( i \circ f = f \) [read: \( i \) composed with \( f \) equals \( f \)] and \( i \circ g = g \) [read: \( i \) composed with \( g \) equals \( g \)].

Now the central issue: when is a morphism an isomorphism? If \( f \in \text{Morph} (X, Y) \) [read: \( f \) belongs to the set of morphisms from \( X \) in \( Y \)] is an isomorphism if there exists a map \( g \in \text{Morph} (Y, X) \) satisfying the condition of identity: \( i_y = f \circ g \in \text{Morph} (Y, Y) \), \( i_x = g \circ f \in \text{Morph} (X, X) \) are identities on \( Y \) and \( X \), respectively. Then, \( g \) is called the inverse mapping of \( f \), which is denoted \( g = f^{-1} \).

If there exists an isomorphism between two objects \( A \) and \( B \) of the same category, we say that \( A \) and \( B \) are isomorphic and we denote it \( A \cong B \). The relation of being isomorphic is transitive: if \( A \cong B \) and \( B \cong C \) then \( A \cong C \) (because composition of isomorphisms is an isomorphism).

Let the analyzed objects of the category be sets and let the morphisms be mappings between sets. If for each element from \( Y \) there is at most one corresponding (by the given morphism) element from \( X \), then morphism is called injection. If for each element from \( Y \) there is at least one corresponding (by the given morphism) element in \( X \), then morphism is called surjection. If both these properties hold, then the two sets are isomorphic:

\[
\text{injection} + \text{surjection} = \text{bijection} (= \text{isomorphism} \text{ of sets})
\]

Groups are more complex objects than sets. A group encompasses two things – a set plus an operation, e.g. real numbers with addition or positive numbers with multiplication. For this category the following axioms must be satisfied:

Firstly, the operation is associative (within the object). Secondly, there is a neutral element \( e \) such that for every element \( g \) of the group \( G \) there is \( g^* e = e^* g = g \), where \( ^* \) is the operation associated with \( G \), e.g.:

- 0 for real numbers with addition: \( a + e = a \) (\( a + 0 = a \)); \( e = 0 \)
- 1 for positive numbers with multiplication⁷: \( a \cdot e = a \) (\( a \cdot 1 = a \)); \( e = 1 \)

Thirdly, for each element there is an opposite element in the set. If these elements are taken together, we receive a neutral element, e.g.:

- for real numbers with addition: \( a + (-a) = 0 \); \( e = 0 \)
- for positive numbers with multiplication: \( a \cdot 1/a = 0 \); \( e = 1 \)

---

⁶ The symbol \( i \) stand for identity.
⁷ The symbol \( \cdot \) may stand for any operation or for multiplication.
Morphisms between groups are called homomorphisms. Homomorphisms must satisfy the following criteria: mapping and preservation of operations. In the group category a bijection which preserves operation is an isomorphism. Since the axiom of mapping was already mentioned as one to be satisfied by sets, I will focus on the second one. Let us consider homomorphism between the following groups:

\[ f \in \text{Morph} (G, H); G = (G, \cdot); H = (H, +) \ [G – \text{domain}, H – \text{codomain}] \]

If we operate on elements \( g_1 \) and \( g_2 \) within the set \( G \), we receive a new element \( (g_1 \cdot g_2) \) and we can operate on it with the morphism \( f \). The result is the same if we first mapped the elements \( g_1 \) and \( g_2 \) in the set \( H \), receiving elements \( f(g_1) \) and \( f(g_2) \), and then operated on them within the codomain, i.e. if we performed the operation of addition. It can be formulated as follows:

\[ f(g_1 \cdot g_2) = f(g_1) + f(g_2) \]

Regardless of the order of the functions: the mapping and then the operation or the operation and then the mapping, the result is the same. Thus, in order for homomorphism to be isomorphism the inverse axiom must be satisfied, i.e. the mapping must be invertible. Let us look at three objects from the group category which are isomorphic:

**Group 1**

\[ G = \{g_1, g_2\}; G = (G, \cdot); g_1 = \text{it is true}; g_2 = \text{it is not true}, \cdot = \text{that} \]

\[ g_1 \cdot g_1 = g_1 \] [it is true that it is true = it is true]
\[ g_1 \cdot g_2 = g_2 \] [it is true that it is not true = it is not true]
\[ g_2 \cdot g_1 = g_2 \] [it is not true that it is true = it is not true]
\[ g_2 \cdot g_2 = g_1 \] [it is not true that it is not true = it is true]
\[ e = g_1 \]

**Group 2**

\[ \mathbb{Z}_2 = \{0, 1\}; (\mathbb{Z}_2, +) \]
\[ \mathbb{Z}_2 = \text{integer modulo } 2 = \text{the remainder of division of an integer by } 2 \]

\[ 0 + 0 = 0 \] [even number + even number = even number]
\[ 0 + 1 = 1 \] [even number + odd number = odd number]
\[ 1 + 0 = 1 \] [odd number + even number = odd number]
\[ 1 + 1 = 0 \] [odd number + odd number = even number]
\[ e = 0 \]
**Group 3**

\[ C = \{c_1, c_2\}; (C, \circ); c_1 = i \text{ (identity)}, c_2 = 180^\circ \text{ leftward rotation} \]

\[ C \]

\[ \begin{align*}
    c_1 \circ c_1 &= c_1 \\
    c_2 \circ c_1 &= c_2 \\
    c_1 \circ c_2 &= c_2 \\
    c_2 \circ c_2 &= c_1 \\
    c_1 &= e
\end{align*} \]

Fig. 1.

\( C \) is a group consisting of two symmetric maps of the rectangle into itself. By \( \circ \) we denote a composition of maps (cf. Fig 1).

Let us demonstrate that the above three groups are isomorphic. Defining \( f \in \text{Morph} \ (G, \mathbb{Z}_2) \) such that \( f (g1) = 0, f (g2) = 1 \) shows that it is apparently a bijection. Since it preserves the following operations, \( f \) is an isomorphism of groups:

\[ \begin{align*}
    f(g2)+f(g2) &= 1+1 = 0 \quad f(g1)+f(g2) = f(g_2 g_2); \\
    f(g1)+f(g1) &= 0+0 = 0 \quad f(g1)+f(g1) = f(g_1 g_1); \\
    f(g1)+f(g2) &= 0+1 = 1 \quad f(g2)+f(g2) = f(g_1 g_2); \\
    f(g2)+f(g1) &= 1+0 = 1 \quad f(g2)+f(g1) = f(g_2 g_1).
\]
Analogically, it can be proved that the morphism \( h \in \text{Morph} (\mathbb{Z}_2, C) \) that takes \( 0 \) into \( c_1 \) and \( 1 \) into \( c_2 \) is an isomorphism. Subsequently, \( G \cong C \) is received from the transitivity. Therefore, it can be stated that there is an isomorphism between the three groups:

\[
(G, \cdot) \cong (\mathbb{Z}_2, +) \cong (C, \circ)
\]

The relation between the above groups is an excellent example of isomorphism since they represent objects which contain different elements on which different operations are performed but which retain the same structural properties.

This issue is interesting for this study since a similar ideology can be applied to the description of the relation between the Predicate-Argument Structure (PAS) and its realization in the domain of linguistic signs, i.e. the Predicate-Argument Expression (PAE). I will return to this issue in Chapter II after I have reviewed various approaches to isomorphism in linguistics.

1.2. Jerzy Kuryłowicz. Isomorphism introduced into linguistic research

The concept of isomorphism was introduced into linguistics by the distinguished Polish linguist Jerzy Kuryłowicz in 1949. He discusses the notion in the article *La notion de l’isomorphisme*, first published in *Travaux du Cercle Linguistique de Copenhague V*, a volume in honour of Louis Hjelmslev, and reprinted eleven years later in *Esquisses Linguistiques* (1960:16–26). Although Kuryłowicz cannot be pigeonholed into any of the 20th century linguistic schools, as he developed his own approach to the description of language, his appreciation of glossematics is evident in his works, especially in *La notion*..., where isomorphism is discussed with reference to this semiotic school. Its founders and main representatives claimed that the linguistic sign is a function of solidarity between expression and content, and although there is no clear straightforward relation between the two, they are organized in a similar way. Kuryłowicz introduces isomorphism to emphasize this basic assumption of glossematics and in this sense he continues the tradition of the dyadic approach to the linguistic sign (cf. Nöth 1995: 88).

Despite his being in sympathy with glossematics Kuryłowicz deliberately renounces its complex and unintelligible instruction as he believes that the underlying concepts of Hjelmslev’s approach can be explicated and used without its unnecessarily intricate terminological grid.

According to Kuryłowicz, semantic and phonic complexes are not merely linked by a functional relation but also show profound structural parallelisms. He sees this parallelism of form between the phonic and the semantic layers of language as a remarkable isomorphism.
As the main idea of glossematics is to find common features of the two language planes: phonic and semantic, i.e. the plane of expression and the plane of content, Kuryłowicz sets himself the task of drawing a parallel between the structure of a syllable and the structure of a sentence. He also mentions that, in the same way, a syllable can be compared to a word or a phrase; nevertheless he chooses the sentence as he considers it a “rich” linguistic unit, best suited to the explication of the concept.

According to Kuryłowicz it is possible to formulate general rules concerning the phonic and semantic complexes with reference to the order of their constituents. Because a complex can be reduced to a sole constitutive member\(^8\), the place of the accessory\(^9\) units is determined by their relation to the constitutive member. From this perspective it is not always correct, if we consider the personal finite verb to have a constitutive character, to define its place within the sentence as initial, second, or final. Erroneous formulations of the type: \textit{habitual word order} = \textit{subject} + \textit{verb} + \textit{O}\(^d\) + \textit{complement} are, however, frequent and regarded as correct in descriptive grammars. The nature of a sentence requires determining the place of the (group of the) subject by its relation to the predicate and within each of the groups – the place of the determining member by its relation to the determined one. E.g. in Arabic (Kuryłowicz 1960: 17):

\begin{center}
\textit{Katala zaidun ‘asadan kabīran.}
\end{center}

\textit{[‘killed Zaid lion great’]}\(^{10}\)

\begin{center}
\text{V S O}\(^d\)
\end{center}

where \textit{great} is an adjunct of the direct object.

In fact, the correct determination of the order of the words in the above is as follows: the subject group is inserted between the constitutive member and the accessory members of the predicate. In both groups – that of the subject and that of the predicate – the accessory members follow the constitutive members. To strengthen his point, Kuryłowicz provides also a German example: \textit{die Donau mündet ins Schwarze Meer} [the Danube flows into the Black Sea], with a stylistic variant: \textit{ins Schwarze Meer mündet die Donau} [into the Black Sea flows the Danube], which can be explained in terms of the following formula: the group of the subject precedes the predicate; within the latter the accessory members follow the constitutive member (= finite verb). However, there can be a change in the word order between the (group of the) subject and one accessory member of the predicate in the following situation: \textit{ins Schwarze Meer}

\footnote{\(8\) In Kuryłowicz’s description constitutive unit/member is most often a finite verb.}

\footnote{\(9\) = additional, secondary.}

\footnote{\(10\) (Literal) translations from languages other than Russian and Polish are given in brackets [ ]. Glosses are given in single quotation marks ‘ ’.}
mündet in mehreren Armen die Donau, der größte Fluss der ungarsischen Tiefebene [into the Black Sea flows in several branches the Danube, the biggest river of the Hungarian lowland].

In this example, the permutation should be interpreted as placing the phrase ins Schwarze Meer in the initial position, which in turn entails the shift of the position of the subject.

Apart from relative determinations ("déterminations relatives", Kuryłowicz 1960: 17): S in relation to P; O in relation to V, there are also absolute determinations ("déterminations absolues"), i.e. initial position and final position. This occurs, for example, in a situation where a verbal prefix is separated from the finite verb, e.g. anfangen. The structure of the question mündet die Donau ins Schwarze Meer? [Flows the Danube into the Black Sea?] can be approached in two ways: "the finite verb is shifted to the initial position while the word order of the declarative remains intact" or "the subject is interposed between the verb and its object".

Kuryłowicz chooses the first variant because the order of words in the interrogative sentence is founded on that of the corresponding declarative sentence and because each change in the word order should be envisaged first of all as a displacement of the constitutive member, i.e. the displacement of the predicate, especially of the finite verb. He writes:

Thus, the subordinate sentence, introduced by a conjunction: (Ich weiss,) dass die Donau ins Schwarze Meer mündet [(I know) that the Danube into the Black Sea flows], is not structured by means of putting the object between the subject and the verb, but is expressed through the final position of the verb.

Summing up, we can say that the word order of the interrogative and the subordinate sentences in German is determined in relation to that of the declarative sentence, by being only its "version" with the displacement of the verb, while the order of the other elements remains unaltered. But with the word order in the main declarative sentence being unmotivated, it cannot be defined otherwise than by the relative position of the constitutive and the accessory elements.

The correct formula then is not: The verb is placed in the second position, but: the subject goes before the predicate; within the latter the objects follow the verb. A stylistic variant with the permutation of any object with the subject is admissible (Kuryłowicz 1960: 17–18; translation mine, K. O.).

The principle of dichotomy according to which the sentence is built operates in the same way in the phonic domain. In a complex ("développée") syllable, consisting of the initial consonantal group (onset) + the syllabic centre + final group (coda), the vowel (the syllabic centre), nucleus onset constitute a whole in relation to the onset ("en face du groupe initial", Kuryłowicz 1960: 18). This unity results from the fact that certain properties of the syllable, such
as its quantity and intonability, are closely linked with the nucleus and the coda but not with the onset. If we use the following notation: \( iVf \) (\( i \) – initial, \( v \) – vowel, \( f \) – final), we can affirm that the bipartition \( i + (V + f) \) is justified and pertinent. \( V + f \) is the constitutive part of the syllable, containing the constitutive member \( V \) (the centre without which the syllable could not exist), and \( f \) – the accessory member, which is not a necessary component of the syllable. Hence, we can speak of an isomorphism between the syllable \( i + V + f \) and the sentence \( S + V + Os \) (Kuryłowicz 1960: 18, emphasis mine, K. O.). Kuryłowicz illustrates this with the following diagram:

For Kuryłowicz the analysis does not end here and there are further divisions before elementary units such as as phonemes and words are reached. The dichotomy in both cases (syllable and sentence – cf. diagram) brings about the same difficulties. As there are direct objects and “more remote” ones, there are consonantal elements more central and more marginal (peripheral), e.g. in Lithuanian \( verk \) from \( verkti: \) \( ver + k \), only \( er \) may carry intonation. But there is a profound difference between those domains. On the semantic plane internal and external order/orders of the elements can be distinguished. The external word order in the Latin sentence \( hostem occidit gladio \) may vary, nevertheless \( hostem \) is always a O\(^4\), and \( gladio \) an O\(^i\) by virtue of the internal order of the elements. There is nothing like that on the phonic plane, at least no such phenomenon has ever appeared in phonetics (facultative metatheses with a stylistic function are impossible \( verk: *vkre \)). On this plane it is always the contiguous elements which create relative “syntactic” wholes.

It does not follow, however, that these dichotomic divisions can be made mechanically. On the contrary, they need to be justified functionally, which is sometimes as difficult as justifying the following bipartition: Он прыгнул на
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стол – в комнате vs. *Он прыгнул в комнате – на стол. Similarly, the analysis of initial consonant groups in Greek seems to indicate that sk-, st-, sp-constitute relative wholes (Kuryłowicz 1960: 19).

According to Kuryłowicz, the most important common feature for both language planes is double founding: the general founds the specific and vice versa.\textsuperscript{11} This is a concept which was found to be particularly relevant to morphological analysis (the relation between the derivational base and the derivative, cf. Ivić 1975: 197) but also in syntax (showing the parallelism between different levels of grammar).\textsuperscript{12}

In the semantic domain, derivatives are founded on base forms, i.e. simple words found simple derivatives, word groups found compounds. Derivatives: hort-ul-us and lup-ul-us are distinguished from the bases – formally by means of a suffix and semantically by diminution. The corresponding phenomenon in the phonetic domain is e.g. the correlation \( p:b, t:d \) in Polish and Russian. The phonetic difference between the two members of a pair is accompanied by the functional difference defined by the respective scope of use. As derivatives are motivated by derivational bases, so the marked phonemes are based on the respective archiphonemes.

But Kuryłowicz (1960: 19) mentions yet another kind of founding. There are complexes that represent a less developed form, reduced in comparison to other structures of the same class, e.g. Latin pluit [it rains, it is raining]. While pluit is undoubtedly a sentence both functionally and formally, it cannot be divided into subject and predicate. It owes its sententiality to the fact that it is functionally equivalent to full sentences such as \textit{La terre tourne autour du soleil}. [\textit{The earth revolves around the Sun}]. Pluit does not have a syntactic opposition between S and P, such as exists in full sentences which serve as the base for sentences reduced to the sole constitutive element (the verb). Kuryłowicz (1960: 19–20) calls this the principle of maximal distinction, according to which non-differentiated forms are treated as a simplification of isofunctional differentiated forms. It is, as a matter of fact, the same principle, which makes us analyze a pair such as \( t:d \) in terms of an opposition and not syncretism or co- incidence, e.g. at the end of the word, except that here we deal with purely formal founding, and not formal-functional, as in the previous example. Both full sentences and reduced ones are sentences, i.e. isofunctional complexes belonging to the same class of structures.

Likewise, nominal roots are based on nouns with suffixes and simple verbs are founded (motivated) by verbs with prefixes. This type of founding is also encountered in the forms belonging to the same paradigm. Kuryłowicz

\textsuperscript{11} « le double fondement du spécial sur le général et vice versa », Kuryłowicz 1960: 19.
\textsuperscript{12} Kuryłowicz’s isomorphism was also applied as a benchmark for working out the principles of language typology (cf. Bednarczuk 1992).
(1960: 20) illustrates it with the following Greek example: the relation of derivation between *leipo* and *apoleipo*, which is of formal and semantic kind, must be rigorously distinguished from the purely formal relation which presents *leipo* as a form founded on *apoleipo*, i.e. verbal prefix + *leipo*:

\[
\begin{align*}
\text{apoleipo} & \rightarrow \text{leipo} & \text{purely formal derivation} \\
\text{(founding)} & \rightarrow \text{(founded)} & \\
\text{leipo} & \rightarrow \text{apoleipo} & \text{formal/semantic derivation} \\
\text{(founding)} & \rightarrow \text{(founded)} & 
\end{align*}
\]

Kuryłowicz treats the base and the derivative as marked and unmarked, respectively, which is how he treats phonological features; the direction of founding – a developed complex: reduced complex (reduced to its constitutive member) – exists also in the phonological domain\(^{13}\).

Kuryłowicz states that in both phonological and semantic domains the value of a class\(^{14}\) results from its primary “syntactic” function. He uses the term “syntactic” in a general, etymological sense: the syntax of the Greek grammarians included the phonological structure (of the syllable, of the word) as well as the sentence structure. The intrinsic connection existing between the general sense (= value of class) of autonomous words and their primary syntactic function is paralleled in phonology, as it is reasonable to say that certain properties of phonemes result from the function which they fulfil within the syllable (e.g. the constitutive role of the vowel is reflected in its openness).

Let us now focus on Kuryłowicz’s (1960: 24) considerations concerning the importance of defining the mutual relations of elements within a complex. In the sentence *Un soldat blessé d’un coup de baïonnette* [A soldier wounded by a thrust of a bayonet], the constitutive member *soldat* is determined by a group

\(^{13}\)E.g. “in languages with vocalic quantity (length), e.g. in Greek, Latin, Sanskrit, Persian and classic Arabic, syllables ending with -ek, -es, -er, -en (Vk) serve as a foundation (“fondement”) for syllables with ē (v#), because in all those languages ek and ē are isofunctional lengthwise – the syllable is always long, and, additionally, in case of -ek, -es, -er, -en the syllable is differentiated, the quantitative layer (stratum) being represented by the constitutive member, i.e. the vocalic centre + accessory member (consonant), whilst ē is only a reduced form and the vocalic centre functions on its own as a long segment”. (Kuryłowicz 1960: 20; translation mine, K. O.).

\(^{14}\)“Classes of elements manifest aspects which are varied and complicated. Parts of speech (in the narrow sense): verb, noun, adjective, adverb are classes of words. On the other hand, conjunctions and prepositions, which are only synsemantic morphemes, do not belong to this classification of autonomous words. Synsemantic elements, generally, have their equivalents in prosodemes: length, stress, intonation, i.e. qualities imposed on the ready-made phonological complexes, whereas phonemes constitute classes (vowels, consonants with their subdivisions) just like autonomous words” (Kuryłowicz 1960: 21; translation mine, K. O.).
which itself consists of a constitutive member *blessé* and an accessory group. The latter is decomposed, in turn, into *d’un coup* [by a thrust] – a constitutive member and *de baïonnette* [of a bayonet] – an accessory member. Thus we get ‘*Un soldat + [blessé (d’un coup de baïonnette)]*, where the constitutive member is determined by a bipartite group. In another complex *Les vieux remparts de la ville* [the old ramparts of the town] the structure is different: ‘*les (vieux + remparts) + de la ville*’. Here the constitutive member is determined by a closer ("plus proche") accessory member *vieux*, whilst a more distant member *de la ville* serves to determine the whole group.

Similar relations – according to the principle of isomorphism – are expected to hold between elements of phonic complexes. In Kuryłowicz’s view they hold between elements of a consonant cluster. In Greek the initial complexes *στρ-, στλ-, σκλ-, σκν-* may be reduced to *τρ-, τλ-, κλ-, κν-* etc. but never to *σρ, *σλ, *σν. Thus in *στ-, σκ- it is the obstruents which function as constitutive members, σ being accessory. In any case, *στ-, σκ- form relative units within the *στρ-, στλ-, σκλ-, σκν-*. It seems to Kuryłowicz that this conclusion is confirmed by the relation *σκ-, σχ → ζ; σπ-, σφ-, σβ- → ψ* where ζ and ψ are a sort of "compounds" ("complexes", "composites") built on syntactic groups *σκ-, σπ- respectively. Analogical reasoning is valid for tripartite initial groups in Hindi\(^{15}\).

The above examples lead Kuryłowicz to argue that, when describing phonological structures, one can, without the danger of ambiguity, make use of syntactic terms and even morphological ones by putting them in inverted commas. With reference to Greek or Old French one can for example talk about “parataxis” and “hypotaxis” in phonology by opposing Greek *οϊ* (two syllables) and *οι* (one syllable) or by opposing Old French *suer* ["suer", to sweat] and *suer* ["soeur", sister]. In the syllable *οι* the autonomous *ι* has become a non-autonomous determiner of *ο*, etc. This may be compared to *il lit, il mange > il lit en mangeant or il mange en lisant* [he reads, he eats > he reads while eating or he eats while reading].

Kuryłowicz states that such structural analogies were what glossematics would establish with the help of its new terminology. He goes on to say that parallelisms exist not only between the syllable and the sentence but also between the syllable and the word (qua semantic structure). The semanteme or the root of the word represents it constitutive part, the accessory elements are the different synsemantic morphemes or the affixes (suffixes, infixes, prefixes). Here again the problems that arise concern first and foremost the question of what constitutes a relevant dichotomy. It was difficult to make a correct description of the morphology of the Slavic verb as long as erroneous analysis of their verba composita prevailed. A form like *prinositi* is not *pri + nositi*. It is

\(^{15}\) Other examples in Kuryłowicz (1960: 24–25).
On Isomorphism and Non-Isomorphism in Language

based on *prinesti* and thus on *prinos + iti*. The complex *pre + nos + i* is decomposed into *(pre + nos) + i*, with the verbal prefix *pre-* being a closer morpheme (or more central) than the suffix *i*. This is why iteratives (or indeterminates) with a verbal prefix are not perfectives: they are not composites but derivatives based on composites. An important feature likening the word to the sentence and distinguishing it from the syllable is the internal order of its morphological elements, which does not always coincide with the external order. Thus the morphological exponent of Indo-European middle voice appears in general at the end of the verbal form (*ābhart-a, ēfērēt-o, fert-ur*), although, from the functional point of view, the change of voice which modifies the lexical meaning of the verb (*tuer : mourir [kill : die], perdre : périr [lose : be lost/ perish]*) is more central than for example the modification of aspect or tense.

On the other hand, Kuryłowicz notes that on the whole the word shares with the syllable another structural property: the rigidity of the external order of its elements (morphemes).

Concluding his disquisition Kuryłowicz observed that glossematics was at the time “very young”, and a theory justifies its existence first of all by the methods which permit the researcher to solve the existing problems and to pose and solve new ones. The method of analysis favoured by glossematists is that of *internal comparison* between the two planes of language (“la langue”).

In his other article on isomorphism (1965) Kuryłowicz again discusses the relation between phonemes and morphemes. This text is crucial as he actually explains why his ideas are sometimes misunderstood. In the concluding remarks he writes:

The ideas expounded in this communication will perhaps meet with the objection that the alleged parallelism between the planes of expression and of content has not been worked out in the proper way. We have compared phonemes and morphemes (i.e. semantemes expressed by phonemic structures) and not phonemes and *semantemes*. It is our firm conviction that we cannot speak of an isomorphism between phonemic and semantic elements and structures just as we cannot speak of an isomorphism between a tool and the object to which it is applied. Genuine isomorphism can be established only between the plane of expression and the morphological (not abstractly semantic) plane of content [emphasis mine – K.O.]. The relations between structure and function occurring in these planes may be profitably compared and paralleled with each other (Kuryłowicz 1965: 47).

This explanation, which shows that Kuryłowicz regarded it as impossible to establish isomorphism between phonemic and abstractly semantic structures, reveals how close Kuryłowicz was to glossematists. As we know, Hjelmslev made a further division of the plane of expression and the plane of content and believed that linguistic research should focus on the relation be-
tween expression-form and content-form (cf. Hjelmslev 1963: 58 ff; Ivič 1975: 191); thus, content, in his terms, must assume some form in order to yield to linguistic analysis. To use a metaphor, content must be “tamed”, “dressed in a garment” before we are actually capable of seeing its connection with expression. For Kuryłowicz such a garment is morphological substance, for Hjelmslev it is mental representation of the substance of expression.

Although my approach to isomorphism is slightly different, I also assume that meaning must somehow be tamed in order to be confronted with expression. The way I tame concepts is by arranging them in predicate-argument structures (which I discuss in detail in Chapter II).

1.3. Semiotics. Iconicity

1.3.1. Arbitrariness vs. motivation

The question of arbitrariness and motivation of linguistic signs has occupied philosophers and linguists throughout the ages (Ungerer and Schmid 1996: 250). I need to consider these concepts, however briefly, for they are directly related to the concept of iconicity; iconicity in turn is a notion which cannot be omitted in the discussion of isomorphism. I will present various types of iconicity in order to provide a context for isomorphism, but I will principally focus on isomorphic relations themselves.

Already in Plato we find a distinction between items for which the relationship between form and content is determined by nature, i.e. onomatopes, and items where the relationship between form and content is based on agreement within a speech community. The view that most linguistic signs are linked to what they signify by convention (i.e. are arbitrary), was adopted by de Saussure and the structuralists who developed his ideas. As a result the linguistic sign was far from being seen as motivated, i.e. iconic throughout most of the 20th century. This attitude was present not only in the European structural schools but also in the USA, where the structuralists and generativists saw the arbitrariness of the linguistic sign as a hallmark of human language, contrasting it with animal communication, which they regarded as more iconic in nature (Ungerer and Schmid 1996: 250, Givón 1990: 967).

Thus arbitrariness (signs have no motivation in extralinguistic reality) along with conventionality (signs are related to objects they signify by agreement within a speech community) entered most of the 20th century introductions to linguistics as two of the several distinctive features of natural language by which it is distinguished from other systems of communication (cf. Hockett 1979: 215, 219–220; Strang 1968: 13–14; Łuczyński, Maćkiewicz 2002: 12).
Skepticism about iconicity in human language was expressed, for instance, by Lyons (1984: 102–105) who claimed that motivation\(^{16}\) of the linguistic sign, apart from onomatopoeic units, is vague and relative. According to Lyons iconicity is an unspecified non-arbitrary relation between form and meaning – if there is some kind of resemblance between form and meaning then the relationship can be called iconic, and in this sense it is motivated/non-arbitrary.

He distinguishes between primary and secondary iconicity. Primary iconicity involves the notion of a straightforward resemblance or relatedness between meaning and form. Secondary iconicity is based on a more complex relation between expression and content – it “may be described as an extension of meaning from a basic to a transferred, metaphorical sense” (Lyons 1984: 103). He writes the following:

Suppose, for example, that there were an onomatopoeic word in English which, as pronounced, resembled the cry of an owl (in the way that the pronunciation of the citation form of ‘cuckoo’ resembles the cry of the cuckoo). If the word meant “owl”, this would be a case of iconicity. (True, like ‘cuckoo’, the word would refer to the source of the sound, rather than to the sound itself; but the characteristic sounds made by birds and animals are as distinctive a part of them as their shape. It is their characteristic sounds that will be iconically represented in the phonic medium, but their characteristic shapes in a graphic medium as, for example, in Egyptian hieroglyphs.) Let us suppose, however, that the word no longer meant “owl” (though it may have done so originally), but “wise” or “wisdom”. This would be an instance of what may be called secondary iconicity, based, as far as the forms of the word are concerned, on the primary iconic association with the characteristic sound of the bird and, as far as the meaning of the word is concerned, on a generally accepted association of owls with wisdom. Both of these associations have usually been regarded, in the past, as natural rather than conventional, and their traditional figures of speech (metaphor, metonymy, synecdoche, etc.) were employed by the Stoics and their successors, to account for allegedly natural extension of meaning from an original or basic to a secondary related sense. More recently they have been used to codify historically documented changes of meaning (...). Secondary iconicity has often been invoked, though not in these terms, as one of the factors operative in the origin and evolution of language.

For Lyons the hypothetical phenomenon described above demonstrates that extralinguistic experience of humankind and the evolution of meaning are intertwined; it is, however, hard to establish a definite borderline between what is naturally and what is culturally determined.

Following Ullmann (1962: 84) Lyons distinguishes a special kind of secondary iconicity – a secondary onomatopoeia where certain combinations of

\(^{16}\) For Lyons the term *iconicity* has a similar extension to Saussure’s term *motivation*. 
sounds are associated with aspects of meaning, e.g. *bash, mash, smash, crash, dash, lash, hash, rash, clash, trash, plash, splash, flash*, which all carry the generalized meaning of a ‘violent striking action’ (cf. Jakobson 1971: 345). This phenomenon, also called *phonaesthesia* or *sound-symbolism* is, according to Lyons (1984: 104), restricted to a relatively small part of languages’ lexicons.

However, during the past three decades this approach to the relation between the linguistic sign and its reference and meaning has been criticized by the founders and followers of what may be called the “iconicity school”. Since isomorphism is regarded by them as a subtype of another notion – iconicity, the latter needs to be discussed extensively.

**1.3.2. The iconicity school and its predecessors**

**1.3.2.1. Peirce and Jakobson**

The iconicity school is a semiotic school which has produced extensive and significant interdisciplinary research on the notion, notably via the Iconicity Research Project, whose “offspring” is the *Iconicity in Language and Literature* series\(^{17}\). Unsurprisingly, researchers who study iconicity as a linguistic phenomenon are mainly of cognitivist persuasion: in the cognitive framework\(^{18}\) it is regarded as one of the fundamental principles governing language and thus as one of the central categories of language description\(^{19}\). Cognitive linguists most often refer to the definitions of iconicity formulated by Haiman and Givón, which I discuss at length in 1.3.2.2 an 1.3.2.4. However, let me first give a brief account of the conceptions of the iconic sign advanced by Peirce and Jakobson, since they appear to constitute a point of departure for iconicity research.

The Peircean theory of the sign constitutes a starting point for research into iconicity and it seems that it was Jakobson who instigated cognitivists’ interest in Peirce. Jakobson opposed the Saussurian verificationist paradigm and demonstrated that the claim concerning the arbitrariness of linguistic signs, propagated throughout the 20\(^{th}\) century and treated in a dogmatic way by structuralists, was unsubstantiated and that it is Peircean semiotics that ought to be applied in linguistic research into the relation between the sign and its meaning.

\(^{17}\) See Bibliography.

\(^{18}\) In the following discussion *cognitive* and *cognitivism* is understood as referring to cognitive linguistics.

\(^{19}\) Cf. Tabakowska (2003: 361): “[Iconicity] is a universal feature of human communication. Defined as a particular repertoire of values stable and universal across languages, iconicity is clearly functional in nature. As a ‘measure of functionality’ it belongs among factors that enhance communication via language.”
Jakobson criticizes Saussure for oversimplifying the relation between *signans* and *signatum* (*signifiant* and *signifié*)\(^2\), which the latter regarded as arbitrary. Jakobson provides evidence against it – he claims that the relation is motivated. He considers Peirce a far more accomplished semioticist than Saussure and endorses Peirce’s cardinal types of the sign – icons, indices, and symbols (Jakobson 1971b: 345–347). He gives two examples of the correlation between signans and signatum, which were later described as iconic/ isomorphic by Givón. The chain of verbs *veni–vidi–vici* reflects the order of Caesar’s deeds – the sequence of reported events. Having the same grammatical form (praeteritum) they must be arranged according to the narrated events in order to inform us about their time and rank (t-1, t-0, t+1 – how to show the hierarchy). The second example, *The President and the secretary of state attended the meeting*, seems far more natural than the reverse (*The secretary of state and the President attended the meeting*) as the order of the constituents within the subject mirrors the socio-political hierarchy of their referents (Jakobson 1971b: 350).

These linguistic facts, studied later under the headings of diagrammatic iconicity (Haiman 1980, 1983, 1999) and iconicity principles (Givón 1990: 968–973), led Jakobson to a further discussion of Peirce’s significant contribution to semiotics, i.e. his subdivision of icons into images and diagrams.

In images the signans represents “the simple qualities” of the signatum, whereas for diagrams the likeness between the signans and signatum exists “only in respect to the relations of their parts”. Thus, the difference between those types of sign resides in their complexity – an icon is a simple sign while a diagram involves some pattern, some schema (Jakobson 1971b: 350).

Jakobson points out that for Peirce a diagram is a representamen which is an icon of relation. Peirce claimed that “every algebraic equation is an icon insofar as it exhibits by means of the algebraic signs (which are not themselves icons) the relation of the quantities concerned [and] any algebraic formula appears to be an icon rendered such by the rules of commutation, association and distribution of the symbols” (Jakobson 1971b: 350). Thus, “algebra is but a sort of diagram” and “language is but a kind of algebra”. Peirce maintained that e.g. the arrangements of words in sentences must serve as icons in order that the sentences may be understood (Jakobson 1971b: 350).

Jakobson is struck by conspicuous analogies between graphs and grammatical patterns. He observes analogies in isomorphic composition of the signans and signatum in both semiotic fields (algebra and language) as they contain a very similar device which facilitates an exact transposition of grammatical, particularly syntactic, structures into graphs (Jakobson 1971b: 351). He

\(^2\) Jakobson uses the Latinized (by St. Augustine) versions of the original Greek terms instead of Saussure’s French adaptations.
writes: “Such linguistic properties as the connectedness of linguistic entities with each other and with the initial and final limit of the sequence, the immediate neighbourhood and distance, the centrality and peripherality, the symmetrical relations, and the elliptical removal of single components find their close equivalence in the constitution of graphs. The literal translation of an entire syntactic system into a set of graphs permits us to detach the diagrammatic, iconic forms of relations from the strictly conventional symbolic features of that system” (Jakobson 1971b: 351).

Jakobson maintains that it is not only the combination of words into syntactic structures but also the combination of morphemes into words that exhibits diagrammatic character. He provides numerous examples from various languages (Jakobson 1971b: 352–357). Let me illustrate his mode of thinking with three selected instances:

(1) In various European languages the category of degree in adjectives reveals a gradual increase in the number of phonemes, e.g. high–higher–highest, altus–altior–altissimus, silny–silniejszy–najsilniejszy. In this way the signatia reflect the gradation range of the signata (Jakobson 1971b: 352).

(2) Jakobson (1971: 352) cites Greenberg’s data, according to which there are languages where the plural forms are distinguished from the singular by an additional morpheme, whereas there is no language in which the relation would be reverse and in contradiction to the singular forms the plural ones would be totally devoid of such an extra morpheme (Greenberg 1966: 94–95).

(3) If we take such units as the French ami et ennemi we can easily observe the affinity of the words in the rhythmical pattern. However opaque a connection between eleven and twelve, it resides not only in their adjacency in the mathematical sequence, but also in their phonetic shape.

The third example shows that Jakobson does not confine his analysis to the synchronic aspect. While claiming that distinctly diagrammatic constituents in the system of verbal symbols are universally superimposed upon the vocabulary, i.e. that syntax is definitely iconic, he proceeds to challenge Saussure’s idea of the arbitrariness of lexical signs. For Jakobson even one-morpheme words display some motivation which, from the synchronic point of view, is not always easy to discern by language users. He wants to “play the game till

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21 It is worth noting that Jakobson did not interpret the concept of diagram in a vague, nebulous way but he saw it as a yardstick for the discovery of similarities between linguistic and mathematical research. My approach to isomorphism is governed by similar considerations as I want to discover the connection between the mathematical and linguistic definition of the notion.
the end and investigate the question vigorously” (1971: 354) and therefore takes diachrony and etymology into account.

1.3.2.2. John Haiman

Jakobson’s considerations concerning the Peircean theory of icons and the proportion of the arbitrary to the motivated in natural language inspired John Haiman to pursue the subject of iconicity. Haiman is a scholar whose research into the notion is most frequently quoted by “linguists-iconicists”. His work must be included in the present survey since he introduces isomorphism into the study of iconicity. He makes a reference to types of iconicity introduced by Peirce, which he himself calls imagic and diagrammatic: “An iconic image is a single sign which resembles its referent with respect to some (not necessarily visual) characteristics – photographs, statues, program music, onomatopoeic words. An iconic diagram is a systematic arrangement of signs, none of which necessarily resembles its referent, but whose relationship to each other mirrors the relationship of the referents” (Haiman 1980: 515). His interest is focused on diagrammatic iconicity (iconicity based on diagram), of which he distinguishes two kinds.

The first kind is universal and it is that of a one-to-one correspondence between the signans and the signatum, whether this be single word or a grammatical construction. He refers to this relationship as the **iconicity of isomorphism**. Haiman does not claim to be the first to use the term **isomorphism** in linguistics. He states that in the use of the term he follows three scholars – Hjelmslev, Kuryłowicz and Martinet (in this order!), which calls for a critical comment. It was Kuryłowicz and not Hjelmslev who introduced isomorphism into linguistics (cf. Section 1.2), whilst Martinet merely refers to

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22 What is also very interesting is Jakobson’s idea of the role of metaphor and metonymy in the relation between *signatia* and *signata*. His envisages the relation as the hierarchy of the two meanings of lexical items – one is primary, central, proper, context-free, the other is secondary, marginal, figurative, transferred, contextual. Thus we could call him a prophet who foresaw the fundamental principles of cognitive linguistics (the more conscientious among them refer to Jakobson in their studies). According to this approach, words whose meaning’s origin seems opaque can be seen as motivated by means of metaphorical or metonymical extensions, through diachronic, pragmatic, contextual analysis (Jakobson 1971: 355).

23 Cf. the definition of isomorphism from *The Concise Oxford Dictionary of Linguistics* (Matthews 1997: 188): "Isomorphism – strictly, a term in mathematics for an exact correspondence between both the elements of two sets and the relations defined by operations on these elements. Used in linguistics from the late 1940s, for a general principle by which the structuring of one level parallels or is made to parallel that of another. E.g. the relation of morpheme to allomorph was modeled on that of phoneme to allophone; a binary division of the syllable, into onset and rhyme, parallels that of the sentence into subject and predicate; semantic features, e.g. in componential analysis, parallel distinctive features in phonology. The term was introduced in this sense by J. Kuryłowicz, commenting on the work of Hjelmslev.”
the notion when discussing the glossematic approach to grammar. Haiman does not list Kuryłowicz’s article in his bibliography, so it is not certain that he had first-hand knowledge of its content; indeed his understanding of isomorphism bears little resemblance to Kuryłowicz’s.

The second type of iconicity is one in which a grammatical structure, like an onomatopoeic word, reflects its meaning directly. The clearest example of such iconicity is that of sequence. Other things being equal, the order of statements in a narrative description corresponds to the order of the events they describe. The idea is an expansion of Jakobson’s *veni–vidi–vici* relation. This type of iconicity is referred to by Haiman as **iconicity of motivation**.

He starts one of his articles with the following: “Although linguistic signs in isolation are symbolic, the system or grammar which relates them may be diagrammatically iconic in two ways: a) by isomorphism, a bi-unique correspondence tends to be established between signans and signatum; b) by motivation, the structure of language directly reflects some aspect of the structure of reality. Isomorphism is so nearly universal that deviations from it require explanation. Motivation, although widespread, establishes a typology of languages, as indicated in Saussure’s *Cours [de linguistique générale]*” (Haiman 1980: 515). For Haiman isomorphism is a universal phenomenon whose universality is conspicuous in dictionaries and grammars which often include under a single heading various meanings of a single form and he treats both homonymy and synonymy as representing exceptions to isomorphism. By this he also continues the work of Jakobson, who advanced the theoretical and methodological claim that, in general, singleness of form is associated with

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24 In his “quest for functional syntax” Martinet (1962: 39; 1970: 245) points out that the structural approach to syntax was often based on accomplishments in the field of phonology. Hence, the tendency to apply such terminological pairs as: phoneme-morpheme, phonemorph, allophone-allomorph and at the higher level of abstraction “isomorphic views” of glossematicists with their narrow/rigorous parallelism between the plane of expression and the plane of content. Here he makes reference to Kuryłowicz’s article *La notion de l’isomorphisme* (1949). Later these parallelisms were even regarded in terms of three-component relations. Cf. Lachur (2004: 140–141), who discusses isomorphism with respect to modern theories of the sentence. According to him, the continuum of the Saussurian triad: *langue, langage* and *parole* can be compared to the three syntactic units: *sentence, utterance and phrase*. A sentence constitutes an abstract syntactic model; an utterance is the same model, but filled in with concrete words. Thus, a given sentence can be realized as various utterances with specific morphological and lexical differences and the set of all such utterances makes up a paradigm of the sentence. A phrase is an utterance dressed in/supplemented by paralinguistic features/traitsof, such as intonation, logical accent, tempo and tone of speech, mutual dependence/interdependence of sounds in the linear sequence of a/the discourse. Due to the opposition of the three elements: sentence – utterance – phrase, syntax is seen as an isomorphic level of language system, placed at the top of the hierarchy of basic language units: phoneme – allophone – sound, morpheme – allomorph – morph, lexeme – allolex – lex.

singleness of meaning, except in certain, well-defined, cases of homonymy. Haiman’s principle of isomorphism has been variously labelled in general linguistic research: the one form – one meaning hypothesis (in relation to Jacobson’s work), one-to-one symbolisation (Chafe 1970: 57), formal determinism (Sangster 1984, Sangster 1991: 140) or experimental motivation (Radden and Panther 2004: 27).

Haiman (1983: 782) actually denies the existence of perfect synonymy, in which he follows Bolinger’s (1977: 9) attitude to the relation between form and meaning. Bolinger (1977: x) claimed that it is a natural condition of language to preserve one form for one meaning and one meaning for one form. And although it remains – as Harm (2003: 226) observes – an ideal that is never reached in linguistic reality, language users mechanically try to reach it. Following Raimo Anttila, Bolinger calls the one form – one meaning principle the “seeing” half of linguistic change. “The blind half, including manifestations of phonetic adaptation and inertia, may continuously cause us to stumble into allowing two meanings for a single form or two forms for a single meaning, but we do not live happily with either accident and only tolerate the one while moving immediately to repair the other (Bolinger 1977: 19–20).”

Paradoxically, Haiman, while regarding isomorphism as a diagram, reduces its existence primarily to words. Several years after his first publications on isomorphism and motivation he wrote: “Here I want to introduce the notion of a difference between two kinds of iconicity, which I have elsewhere called motivation and isomorphism. Motivation is the kind of iconicity which most of us are familiar with: the sound is like the sense (onomatopoeia, the iconicity of image), the map is like the territory (the iconicity of diagram). Isomorphism

27 Cf. Fischer (1999: 346), who also notes that the distinction between imagic and diagrammatic iconicity lies in the complexity of correlation. In imagic iconicity there is a straight iconic link between the linguistic sign and the image while in diagrammatic iconicity the relation between concepts in the extralinguistic reality and linguistic signs resembles that of a territory and its topographic map – we can see the relation between concepts when we look at the linguistic map. Cf. Korzybski’s (1958: 58) famous statement: “A map is not the territory it represents, but, if correct, it has a similar structure to the territory, which accounts for its usefulness”.

The territory-and-map relation was also exploited by Ajdukiewicz (1974: 276) in his considerations of pragmatic logic where he used it for exemplification of isomorphism of ordering relations: “When drawing a map of a territory we establish a one-to-one correspondence between the points on the map and the points of that territory so that whenever a point A of that territory lies to the east of a point B, then the point A’, which corresponds to the point A on the map, lies to the right of the point B’, which corresponds to the point B on the map, and conversely. Thus, when drawing a map we map isomorphically the relation of ‘lying to the east of’ in the territory onto the relation ‘lying to the right of’ on the map. In cartography we, of course, do not confine ourselves to isomorphically mapping on the map that relation between points of the territory only, but we also map isomorphically many
is a sharply impoverished form of iconicity: it exists whenever there is at least some kind of one-to-one relationship between a sign and its meaning. It exists in the case of words. It tends to blur in the case of morphemes, whose *Gesamtbedeutung* is harder and harder to pin down" (Haiman 1999: 53). The paradox, in my opinion, lies in the fact that the one-to-one correspondence contradicts Peirce's idea of diagrammatic iconicity – a complex relation, observed principally in syntactic structures and not in words. Harm (2003:225) aptly observes that "the essence of a diagram is that the relationship between the parts of a complex sign resembles the relationship between the parts of the concept which it represents" (Harm 2003: 225). Like Haiman, he limits formal determinism to the sphere of lexis and the phenomenon of polysemy; however, he attempts to reinterpret the isomorphic principle on the basis of prototype theory and family resemblance, from which point of view polysemy is not regarded as a violation of the isomorphic principle within the prototypically organized category (Harm 2003: 226).

Even if we treat isomorphism as an impoverished form of iconicity and reduce it to words or morphemes, we still encounter certain obstacles in the one-to-one symbolisation. Ungerer (1999: 308–309) observes that the isomorphic correlation between form and content is not so straightforward when we take into account stability and discreteness of form and meaning. Forms of words in any language tend to vary both from the diachronic and synchronic perspective (development of forms in time and dependence on the speaker's idiosyncratic, social and dialectal characteristics of speech), but the extent to which they change is low, whereas concepts, which reveal a prototype structure, often possess fuzzy boundaries, and therefore are more elusive and the extent to which they may change their meaning is higher. However, any serious alteration of a word form, at least from the synchronic perspective, is perceived as a violation of the isomorphic correlation with its form while conceptual derivations are more readily accepted (Ungerer 1999: 308).

I would suggest that we should look to pragmatics for help in establishing a clearer relation between form and content, i.e. take into consideration a speaker's knowledge, intention, background, the situation in which communication take place, etc. It is not incompatible with Haiman's understating of isomorphism but rather broadens the scope of the notion.

other relations holding between points in the territory onto the corresponding relations holding between points on the map. For instance, the relation of 'lying to the north of' in the territory is mapped onto the relation of 'lying higher' on the map. And the relation of having a greater altitude above the sea level, which holds between points in the territory, is sometimes mapped isomorphically onto the relation of having a deeper brownish colour on the map". Ajdukiewicz's words prove that the territory-and-map metaphor in Haiman's methodology is an underused tool of description.
1.3.2.3. Olga Fischer

Fischer (1999: 367–368) uses the term isomorphism in the same sense as Haiman (1980, 1983, 1999), i.e. as a mapping which satisfies the property of being one-to-one. Still, she points out that isomorphism may be looked at from a broader perspective and then it carries another property, the property of being structurally consistent. This quality puts her approach closer to diagrammaticality than Haiman’s as it involves more complex – structural – relations and thus makes it more similar to the methodology I apply in the analysis.

Fischer (1999: 315) concisely revises Haiman’s (1980: 516ff) discussion of synonymy and homonymy/polysemy in terms of isomorphism. A one-to-one correspondence between form and meaning is a preferable situation in language; synonymy and polysemy (homonymy) occurs when the principle is violated:

<table>
<thead>
<tr>
<th>ISOMORPHISM</th>
<th>SYNONYMY</th>
<th>POLYSEMY/HOMONYMY</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORM</td>
<td>α</td>
<td>αα</td>
</tr>
<tr>
<td>MEANING</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Table 1.

Fischer (1999: 350–351) does not merely revise Haiman’s ideas but also develops them. She believes that isomorphism, apart from being more general and universal than other types of diagrammatic iconicity, is also more basic as it underlies Haiman’s other types of motivation: they are all founded on analogy (and thus isomorphism is also the basis for metaphor since metaphor, according to Fischer, arises through analogy of meaning). Isomorphism involves analogy, for instance in a situation when some meaning becomes related to another meaning so that they share or become one and as a result a single sign is enough to express the signans – signatum relationship:

$$\frac{\alpha}{x \leftrightarrow y} \quad \frac{\alpha}{x \approx y} \quad \frac{\alpha}{x}$$

As for iconicity of motivation: if we look at a sequence or repetition they manifest a similar analogy, again making use of co-occurrence and succession:

<table>
<thead>
<tr>
<th></th>
<th>SEQUENCE</th>
<th>REPETITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORM</td>
<td>α → β → γ</td>
<td>αα</td>
</tr>
<tr>
<td>MEANING</td>
<td>x → y → z</td>
<td>xx</td>
</tr>
</tbody>
</table>

Table 2.

---

28 This approach to isomorphism was applied in the theory of thought and analogical reasoning by Holyoak and Thagard (1995).
Fischer (1999: 351–352) sees isomorphism, i.e. this special type of analogy, as a means of grammaticalization\(^{29}\). The following grammaticalization processes can be influenced by isomorphism: (1) metaphorical shift, (2) ‘renewal’ and ‘layering’, (3) erosion or phonetic reduction, (4) ‘persistence’, i.e. the preservation of original meaning.

I shall not discuss all of the above but comment briefly on one process – renewal\(^{30}\).

What grammaticalization does is obscure the isomorphic or transparent relation between signs and concepts. Such obscured relation may become transparent again by the process of renewal. The process may be cyclical when the new form again becomes grammaticalized. Grammaticalization may even be accelerated when there is a period of competition between the old and the new form. For instance, the emergence of new weak tenses in English repairs the opacity of strong past tense forms – the pastness is isomorphically related to a separate sign (the morpheme -ed; Fischer 1999: 352):

\[
\frac{\alpha}{x + y} + \frac{\alpha + \beta}{x + y}
\]

What had been fused by grammaticalization splits up and reveals isomorphism between the lexical and grammatical meaning and their exponents via another cycle of grammaticalization.

1.3.2.4. Talmy Givón

Givón is another central figure that influenced the iconicity school and cognitive linguistics. He discusses isomorphism in terms of iconicity and markedness (Givón 1990: 945–986). He understands markedness not only in terms of formal complexity: the juxtaposition of the marked (complex) element and the unmarked (simple) one, or in terms of frequency of distribution of the marked (figure) vs. unmarked (ground) population, but also takes into account some substantive grounds which help to distinguish between the marked and the unmarked element. Those substantive grounds are communicative, sociocultural, cognitive or neurobiological. Iconicity, in turn, is recognized by Givón as either some naturalness conditions on syntactic structure, or as consistent isomorphism obtaining between the syntactic code and its semantic or pragmatic designatum (Givón 1990: 945).

\(^{29}\) Grammaticalization is usually understood as a process whereby a once free morpheme becomes an affix (De Caluwe, Dirven, Verspoor 1998: 62, 74). It can also be seen as more general process in which something that was not coded in a language is gradually encoded into the language, e.g. conversational implicatures (Spooren 1998: 206, 213).

\(^{30}\) For the presentation of the other processes see Fischer (1999: 354ff).
Following Peirce, Givón (1990: 966–967) sets isomorphism in opposition to arbitrariness. He observes that while the idea that language mirrors thought goes back to Aristotle, we do not know if Aristotle regarded semantic relations between words and concepts or between concepts and objects as iconic. According to Givón, the iconicity of syntax is not absolute but rather tempered by conventional rules: there is an interaction between the more iconic and the more symbolic (more arbitrary) principles of syntactic coding. He defines isomorphism as the most obvious non-arbitrary structure-function relation, where major nodes and their relations in the coded function are reflected – more or less one-to-one – in the corresponding nodes and relations of the coding structure. Such isomorphism coding has for a long time been known in biological sciences (Givón 1990: 968).

Givón (1990: 968–973) observes similar isomorphic correlations in syntax and he puts forward three iconic coding principles governing this level of language:

1. **The quantity principle:**
   - (a) A larger chunk of information will be given a larger chunk of code.
   - (b) Less predictable information will be given more coding material.
   - (c) More important information will be given more coding material.

2. **The proximity principle:**
   - (a) Entities that are closer together functionally, conceptually, or cognitively will be placed closer together at the code level, i.e. temporally or spatially.
   - (b) Functional operators will be placed closest, temporally or spatially at the code level, to the conceptual unit to which they are most relevant.

3. **Sequential order principles:** It has at least two separate sub-principles; the first is the linear order principle and the other is sequential order and topicality.

---

31 "... In the syntax of every language there are logical icons of the kind that are aided by conventional rules..." (Peirce 1940: 106, quoted after Givón 1990: 967). Peirce evidently anticipated the current approaches to iconicity in grammar.

32 DNA and RNA are one of the oldest examples of biological coding. There is a isomorphic match between the sequence of nucleotide triplets in the acids and the sequence of amino acids in protein. Messenger RNA, an isomorphic nuclear polymer, transmits the DNA code out of the nucleus and then the triplet sequence of the polymer is isomorphically translated into the amino acid sequence in protein. Of course, the process is very complex and not all the DNA genetic code is directly translated into the linear structure of RNA or protein (some global meta-functions, like instruction, blocking, deletion, splicing, recombining, etc. are involved), but at least at the bottom of the ladder contiguous subsequences of linear code are governed by controlling loci (Givón 1990: 979).

33 The idea of symbolic organization based on proximity goes back to Behaghel (1932), who formulated a rule referred to later as “Behaghel's First Law”, according to which “what belongs together mentally will also be place together syntactically” (Slobin 1985: 228; “Das oberste Gesetz ist daß das geistig eng Zusammengehörige auch eng zusammengestellt wird” Behaghel 1932: 4).
(3.1) The linear order principle:
The order of clauses in coherent discourse will tend to correspond to the
temporal order of the occurrence of the depicted events.

(3.2) Sequential order and topicality:
(a) More important or urgent information tends to be placed first in the
string
(b) Less accessible information tends to be placed first in the string

Givón’s principles might be said to be “old hat” in linguistics. There is vo-
luminous research into thematic-rhematic structure of sentences, word order,
etc. but those studies lack the perspective of iconicity, which throws new light
on the relation between the structure of concepts and the structure of language
units. I find Givón’s understanding of isomorphism both more appealing and
more convincing than Haiman’s because Givón seems to treat the concept in a
truly diagrammatic way as he discusses it with respect to syntax and not to
lexis, and thus, in my opinion, is closer to both Peirce and Jakobson in his ap-
proach to signs.

1.3.2.5. Iconicity. A classification

I have presented the core tendencies in the study of iconicity\textsuperscript{34}. Let us now
have a look at how Fischer and Nänny (1999: xxii) classify the varieties of the
concept, paying special attention to the place that isomorphism occupies
within this simple diagram:

\begin{figure}
\centering
\includegraphics[width=\textwidth]{iconicity_diagram}
\caption{Fig. 3.}
\end{figure}

\textsuperscript{34} A concise presentation of iconicity – its history, the state of the art and research perspec-
tives can be found in Tabakowska (2001c: 17).
Fisher and Nänny (1999: xxii) illustrate imagic iconicity, structural diagrammatic and semantic diagrammatic iconicity with the following examples:

(1) Imagic iconicity

\[
\begin{align*}
\text{signifier:} & \quad \text{miaow} \\
\text{signified:} & \quad \text{‘sound made by cat’}
\end{align*}
\]

(2) Structural diagrammatic iconicity (where isomorphism belongs)

\[
\begin{align*}
\text{signifier:} & \quad \text{veni} \quad \text{vici} \\
\text{signified:} & \quad \text{‘event’} \quad \text{‘event’} \quad \text{‘event’}
\end{align*}
\]

(3) Semantic diagrammatic iconicity

\[
\begin{align*}
\text{signifier:} & \quad \text{foot} \\
\text{signified:} & \quad \text{‘body part’} \quad \text{‘lowest part of mountain’}
\end{align*}
\]

Let us focus on the differences between the above notions and their role in elucidating the concept of isomorphism\(^{35}\).

In imagic iconicity there is a direct one-to-one relation between the sign or signifier (usually morphologically unstructured one) and the signified. Imagic iconicity seems the simplest, but it is not entirely straightforward, since words which seem simple in one language are formalizations of concepts whose formal exponents in other languages are complex, e.g. constituting phrases or even larger units, to which issue I will return in Chapter II.

In diagrammatic iconicity a direct (vertical) relation between the signifier and the signified is missing, but there exists an iconic link between the horizontal relation on the level of the signifier and the corresponding horizontal relation on the level of the signified.

The basic difference between structural and semantic iconicity lies in the strictly semiotic nature of the former – the diagram connects the linguistic with the non-linguistic (Fisher and Nänny 1999: xxv): the observed order of the signs mirrors the order of the events, while the latter is more intralinguistic as there is no mirroring of any conceptual or physical structure from the

\(^{35}\) in the sense in which it is used by the “iconicity school"
outside world – there the relation is that of similarity between linguistic signs resulting from the similarity of concepts whose formalizations they constitute. Johansen (1996: 46ff.) refers to the above phenomena as the first-degree iconicity and the second degree of iconicity respectively, while Lyons and Tabakowska regard imagic iconicity as primary and diagrammatic iconicity as secondary (Tabakowska 1999; Lyons 1984: 102–105). For Tabakowska (2003: 361–363) the first type of iconicity comprises onomatopoeia and sound symbolism, where the sign represents the object by imagic similarity (cf. Section 1.3.1), while in the second type she fuses diagrammatic and metaphorical iconicity as it is difficult to establish a clear-cut line to differentiate between diagrams and metaphors. It is only diagrammatic (or metaphorical) iconicity that she divides into first-degree and second-degree iconicity. First-degree iconicity is characteristic of e.g. “proto-grammars” (pidgin communication), i.e. grammatical systems whose rules are transparent and non-arbitrary. In such systems the following relations are observed:

(1) At the level of intonation there is a direct correspondence between melody and pragmatic relevance of information, between stress and semantic predictability, between pauses and rhythm of utterance and individual information chunks.

(2) At utterance level spacing reflects semantic segmentation (proximity vs. relevance, proximity vs. scope), and sequencing reveals ordering of information according to the scale of relative importance.

(3) The quantity of linguistic material reflects the pragmatic value of information (e.g. zero expression vs. predictability and relevance; after Givón 1995: 406–407). (Quantitative iconicity refers to the general principle – “more form more meaning”).

Second degree diagrammatic iconicity is regarded by Tabakowska as non-universal, language-specific, as it reflects relations within a particular grammatical system. As the classic example of this kind of iconicity she considers Jakobson’s veni–vidi–vici; however, for her a significant feature of these verbs is not only the fact that the order of the events is reflected in the order of the words, but also the verbs’ initial sound, which happens to be the same in all of them.

---

36 after Fischer and Nanny (1999: xxxiii).
37 Tabakowska (2001a) applied the notion of diagrammatic iconicity in the analysis of word order within referential argument expressions where she showed how relevant the notion is to the discussion of the position of words in phrases.
Tabakowska reminds us that the notion of iconicity is ultimately based on the notion of similarity. And she, as most cognitivists, sees similarity from the point of view of family resemblance, the theory of prototype, pragmatic relevance, subjectivity, conceptualization, i.e. all vital concepts associated with the cognitive approach to categorization, which is culturally and pragmatically determined.

Let us return to Fischer and Nanny’s classification. There, isomorphism is understood as diagrammatic-structural iconicity which connects the linguistic with the extra-linguistic, following such principles as centrality vs. peripheral-ity, distance/proximity, sequential ordering, markedness, repetition. Let us note that some of these principles are listed by Tabakowska as properties of proto-grammars. Thus it is not unreasonable to assume that in more developed grammatical systems, iconic isomorphism is less discernible and thus takes more effort to unravel.

1.3.2.6. Supplementary remarks

To round off the discussion of iconicity I would like to mention two issues that I consider important and which are – albeit indirectly – connected with the notion of isomorphism.

Firstly, Glynn (2007: 269–288) – with good reason – applies the term isomorphic to the two types of scanning introduced by cognitivists, i.e. sequential and summary scanning. They reflect nominal representations and verbal structures in language respectively, thus being isomorphic through their role in the identification of perceptual field and similar/dissimilar items. This phenomenon may be referred to as iconicity of parts of speech. Verbs and nouns may refer to the same relation but they provide a different image of conceptual content. Verbs present the meaning as a process while the image drawn by nouns is more abstract, atemporal, holistic. Therefore, from the cognitive grammar perspective verbs and nouns derived from them by means of transpositional derivation cannot be regarded as semantically equivalent (Waszakowa 1996: 116–117), which means that there is a certain correspondence between parts of speech and the perceptual field of the concepts they denote. This idea is actually connected with the concept of isomorphism as understood in communicative grammar (Ozga 2002: 114–116) and so I shall return to the issue in Chapter II.

Thirdly, Jakobson’s contribution to the contemporary study of iconicity tends to obscure the fact that he actually used the term isomorphism outside his discussion of iconicity (which seems to escape the attention of those scholars who discuss isomorphism with reference to iconicity). Jakobson (1971a:

158ff) applies the term isomorphism in his study of the Russian case system, which, in his view, exhibits a couple of isomorphic relations, e.g. instrumental: nominative = dative; accusative = locative; genitive. In these relations a marked case is juxtaposed with an unmarked one. Having analysed Russian case forms Jakobson observes that their meaning can be split into smaller distinctive invariants – semantic marks of case:

The six primary cases of the Russian declension are grouped into classes each of which is characterized by the presence vs. absence of a particular semantic mark: 1) quantifiers (Genitive, Locative), focusing upon the extent to which the entity takes part in the message, vs. nonquantifiers; 2) directional cases (Accusative, Dative), signalizing the goal of an event, vs. non-directional; 3) marginal cases (Instrumental, Dative, Locative), assigning to the entity an accessory place in the message vs. non-marginal. Nominative is opposed to all other cases as markless vs. marked. Quantifiers and marginal cases may be termed oblique vs. direct cases (N, A). We label the quantifiers together with the directional cases as definite vs. indefinite cases (N, I). (Jakobson 1971a: 179).

Thus Jakobson sees isomorphism as a parallelism within a paradigm of one grammatical category in terms of +/- features, i.e. the presence vs. absence of a given semantic property. He further goes on to describe the oppositions with reference to the phonological shape of the grammatical categories. In this sense Jakobson’s approach to isomorphism is close to Kuryłowicz’s.

1.4. John Lyons. Isomorphism between languages

Lyons used the term isomorphism in a yet different sense, i.e. from the perspective of comparative linguistics. Lyons defines isomorphism (1968: 55) as similarities between two languages in their phonological, grammatical or semantic structure, paying special attention to the last-mentioned level of language. He describes two languages as semantically isomorphic, i.e. having the same semantic structure, when the meanings of one language can be brought into one-to-one correspondence with the meanings of the other. This condition is observed when we compare the English lexeme son with the Russian сын, or the German Fluß with the Czech řeka (the meanings denoted by the lexemes in the pairs can be identically marked). One of his classic instances of isomorphism is the comparison of English and three hypothetical languages A, B, and C with reference to colour terms (the letters stand for colour terms in the hypothetical languages while the numbers below the table signify objects, each of which reflects light at a different wavelength):

39 The idea of the one-to-one correspondence brings Lyons’s isomorphism close to Haiman’s understanding of the term; still, Lyons does not relate isomorphism to iconicity and, as has already been said, he discusses isomorphism with respect to similarities between different languages.
On Isomorphism and Non-Isomorphism in Language

The diagram shows that language A is semantically isomorphic with English (with respect to this semantic field): the number of the colour terms is the same for both of them and the boundaries between the spectrum covered by a given term in A coincide with particular English words. On the other hand, neither language B nor C is isomorphic with English – B has the same number of terms as English but the confines of their spectrum differ whereas C has a different number of terms with boundaries at different places. Lyons continues his speculation and proposes to group objects labelled with numbers according to their colour. He comments on the results of this in the following way:

In English, object 1 would be described as ‘red’ and object 2 as ‘orange’; in language A they would also differ in colour, being described as $a$ and $b$ respectively. But in B and C they would be described by the same colour term, $f$ or $p$. On the other hand, objects 2 and 3 would be distinguished by B (as $f$ and $g$), but brought together by English and by A and C (as ‘orange’, $b$ and $p$). From the diagram it is clear that there are many cases of non-equivalence of this kind. It is not being maintained, of course, that the speakers of B cannot see any difference in the colour of objects 1 and 2. They will presumably be able to distinguish them in much the same way as the speakers of English can distinguish objects 2 and 3, by referring to them as reddish-orange and yellow-orange. The point is that the primary classification is different; and the secondary classification rests upon and presupposes the primary (in terms of the semantic structure of English, for instance, crimson and scarlet denote different ‘shades’ of the same colour red, whereas the Russian words goluboj [голубой] and sinij [синий]) as we saw above, refer to what are different colours under the primary classification). The substance of the vocabulary of colour may therefore be thought of as a physical continuum within which languages may draw either the same or a different number of boundaries and within which they may draw the boundaries at the same or different places. It would be unreasonable to maintain that there are no perceptually discrete objects and features of the world external to language and (independent of it;

---

40 The lack of isomorphism between colour terms (e.g. niebieski and синий, błękitny and голубой) corresponds with the problem of establishing prototypes for them within the cognitive linguistics framework (cf. Komorowska 2010: 159–161).
that everything is amorphous until it is given form by language. At the same time it is clear that the manner in which objects, flora and fauna, etc., are grouped together under particular words may vary from language to language. (1968:57–58)

The above remarks reveal one of the two features of Lyons’s approach that are relevant for this study. Lyons (1968: 429) actually uses the term non-isomorphic with reference to the situation where there are semantic distinctions made in one language which are not made in another and where a particular semantic field may be categorized in an entirely different way by different languages.

The other feature of Lyons’s approach which I consider important is his treatment of isomorphism as a gradable (scalar) phenomenon, whose degree is determined by the amount of overlap there is in the cultures of the societies which use the languages that are being compared (Lyons 1968: 55). There is a higher degree of isomorphism between languages whose societies and cultures are similar. Thus, Russian and Polish as languages that are culturally, genetically and territorially close to each other ought to manifest a higher degree of isomorphism than, for instance, Russian and English. Lyons (1968: 55) illustrates a low degree of isomorphism between English and Russian within the semantic field of family by showing the extension of the English word brother-in-law and its “equivalents” in Russian. Brother-in-law can be translated into Russian in four ways, as зять, шурин, свояк, деверь. Each of the Russian lexemes carries a different meaning. The first one refers to both sister’s husband and daughter’s husband (and therefore in certain contexts it can be translated into English as son-in-law), the second one refers to wife’s brother, the third one – to wife’s sister’s husband and the last one – to husband’s brother.

Lyons’s study of the gradability of isomorphism has some affinity with studies in the area of ethnolinguistics. Lyons (1968: 429) himself refers to such scholars as Humboldt or Sapir, who observed strong influence of culture upon language. Although cultural linguistics does not refer to the concept of isomorphism and uses a completely different terminological grid, it reveals similar tendencies in language description.

To sum up, although Lyons’s approach to isomorphism shows a comparative bias, it is valuable for the methodology of this study in so far as it helps to perceive the relations between form and content not only in terms of isomorphism but also in terms of its absence. Furthermore, it describes isomorphism as a complex phenomenon, in which language units can be seen not only as

black or white (isomorphic or non-isomorphic) but also as grey, i.e. manifesting a certain degree of isomorphism.

1.5. Rudolph Carnap\textsuperscript{44}. Isomorphism in the logical syntax of language

Although it is Kuryłowicz to whom the introduction of the concept of isomorphism into linguistics is attributed, it was as early as 1933 that Carnap discussed languages with respect to the phenomenon (Carnap 1964 [1934]). He discussed isomorphism only with regard to syntax since he maintained that syntax is concerned solely with the formal properties of expressions. Moreover, he restricted the scope to logical syntax which, according to him, treats language as calculus. He viewed isomorphism in terms of a relation between two (or more) languages on the one hand and in terms of a relation between two (or more) n-termed predicates\textsuperscript{45} on the other. Carnap’s ideas reveal some affinities with Kuryłowicz’s approach to isomorphism since they both focus on structural properties of language. However, Kuryłowicz discussed the notion in terms of different levels of language while Carnap focused on entities from the same structural plane. The treatment of isomorphism as a relation between languages overlaps with that of Lyons’s, but, as I remarked above, Carnap saw it only in relation to syntactic structures. Additionally, within those structures he saw the correlation of elements in terms of one-to-one correspondence, which principle is also applied by the iconicity school. The following passage illustrates Carnap’s (1964: 5–6) idea of interlingual isomorphism:

Assume that two languages (Sprachen), $S_1$ and $S_2$, use different symbols, but in such a way that one-to-one correspondence may be established between the symbols of $S_1$ and those of $S_2$ so that any syntactical rule about $S_2$ if, instead of relating it to the symbols of $S_1$, we relate it to the correlative symbols of $S_2$; and conversely. Then, although the two languages are not alike, they have the same formal structure (we call them isomorphic languages (emphasis mine, K.O.), and syntax is concerned solely with the structure of languages in this sense. From the syntactical point of view it is irrelevant whether one of two symbolical languages makes use, let us say, of the sign ‘&’, where the other uses ‘•’ (in word-languages: whether the one uses ‘and’ and the other ‘und’) so long as the rules of formation and transformation are analogous. For instance, it depends entirely on the formal structure of the language and of the sentences involved, whether a certain sentence is analytic or not; or whether one sentence is deducible from another or not. In such cases

\textsuperscript{44} In the presentation of Carnap’s view on isomorphism I deliberately avoid his complex network of symbols in order to make it more lucid (apart from Roman symbols Carnap uses the Gothic alphabet for representing the phenomena he describes, which makes his disquisition even more arcane). I label his notions with more comprehensible signs.

\textsuperscript{45} = many-termed predicates. The word predicate is used here as belonging to the domain of symbols.
the *design* (visual form, *Gestalt*) of the individual symbols is a matter of indifference. In an exact syntactical definition, no allusion will be made to this design. Further, it is equally unimportant from the syntactical point of view, that, for instance, the symbol ‘and’ should be specifically a thing consisting of printers’ ink. If we agreed always to place a match upon the paper instead of that particular symbol, the formal structure of the language would remain unchanged.

Subsequently, Carnap (1964: 222–224) discusses isomorphism between languages in terms of translation from one language into another. He discusses the notion by narrowing down the range of superordinate relations (each of them being in a relation of inclusion to the subsequent one):

![Diagram](image)

Fig. 5.

According to Carnap (1964: 222–224), syntactical correlation between the syntactical objects of one kind and those of another is a many-one relation by means of which exactly one object of the second kind is correlated to every object of the first, and every object of the second kind to at least one of the first. In turn, transformation of one language into another is a syntactical correlation between all sentential classes or all sentences or the expressions of an expres-sional class or all symbols of one language and those of another with regard to classes or sentences or expressions or symbols respectively, on condition that by means of the syntactical correlation, the consequence relation in the first language is transformed into the consequence relation in the other one. A transformation of *language 1* into *language 2* is reversible when its converse is a transformation from *language 2* to *language 1*. If there exists a transfor-

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46 Understood here as translation of formal structures.
47 I preserve the translator’s (Smeaton’s) term *syntactical* instead of the more common *syntactic*. 
mance (with respect to classes or sentences or expressions or symbols) from language 1 into language 2, then language 1 is called transformable (with respect to classes or sentences or expressions or symbols) in language 2. And finally, if language 1 is reversibly transformable in language 2 with respect to symbols, then the two languages are called isomorphic.

In the introduction to his treatise Carnap (1964: 5) declares that he is going to use the term symbol in the same sense as character\(^{48}\) and that it will not be assumed that a symbol possesses any meaning or that it designates anything. Thus, isomorphism in this approach belongs strictly to the sphere of signs.

The *modus operandi* of isomorphism between predicates is closely linked to isomorphism between languages since Carnap (1964: 260–267) sees it in terms of relational theory. The theory investigates first and foremost structural properties of relations, i.e. properties which are retained in isomorphic transformation. Carnap actually regards the theory of relations as the syntax of many-termed predicates. With respect to predicates he clearly distinguishes between S-isomorphism and syntactical isomorphism, which is a consequence of another, more general distinction he makes, i.e. differentiation between object-language and syntax-language (Carnap 1964: 4). Object languages are certain symbolic languages he chooses to describe while syntax-language is a language in which he speaks about syntactical forms of the object language (thus being a kind of metalanguage). S-isomorphism belongs to the domain of object-language while syntactical isomorphism to the domain of syntax-language. Carnap (1964: 265–266) defines two homogeneous n-predicates as S-isomorphic if there is an S-correlator of the predicates while he considers two homogeneous n-termed predicates as syntactically isomorphic when “there is a syntactical correlation for them (that is to say, when such a correlation can be defined in the syntax-language, assuming it to be sufficiently rich)”.

We cannot comprehend this statement without elucidating certain concepts and their function in the description of the isomorphisms, i.e. S-correlation, S-converseness, S-one-many, S-one-one, homogeneity of predicates, syntactical correlation.

In brief, with regard to S-isomorphism **S-correlator** \(S_{\text{corr}}\) is a predicate of the object-language which must meet four conditions. Firstly: it must be S-one-one\(^{49}\); secondly: if \(x\) is a suitable argument for predicate \(P_1\) then it is also a suitable argument for \(S_{\text{corr}}\) and thirdly: conversely; if \(x\) is a suitable argument for \(P_2\) then it is also a suitable argument of the second place for \(S_{\text{corr}}\) and fourthly: conversely; \(P_1(x_1, y_1, \ldots n_1)\) and \(P_2(x_2y_2, \ldots n_2)\) are always equipollent\(^{50}\) in relation to \([S_{\text{corr}}(x_1, x_2), S_{\text{corr}}(y_1, y_2), \ldots S_{\text{corr}}(n_1, n_2)]\). Predicate \(P_1\) is

\(^{48}\) In the Polish translation the word character is rendered as znak \(\approx\) sign (Carnap 1995: 18).

\(^{49}\) i. e. one-one in object-language (one-one being a relation).

\(^{50}\) i. e. are deducible from.
S-converse of $P_2$ if always $P_2 (x, y)$ is equipollent to $P_1 (y, x)$. Predicate $P_1$ is called S-one-many if arguments $x$ and $y$ are always synonymous in relation to $[P_1 (x, z), P_2 (y, z)]$. Predicate $P_1$ is called S-one-one if $P_1$ and the S-converse of $P_1$ are S-one-many\textsuperscript{51} (Carnap 1964: 265-266). And finally, a predicate is homogeneous when a sentence constructed from this predicate and $n$ arguments remains a sentence after any permutation of the arguments is performed (Carnap 1964: 260).

With regard to syntactical isomorphism syntactical correlation $\text{Syn}_{\text{corr}}$ of two homogeneous n-termed predicates $P_1$ and $P_2$ is a one-one correlation belonging with the domain of syntax-language which satisfies the following three conditions. Firstly: if $x$ is a suitable argument for $P_1$, then $\text{Syn}_{\text{corr}} (x)$ is a suitable argument for $P_2$; secondly: if $y$ is a suitable argument for $P_2$, then there is a suitable argument $x$ for $P_1$ such that $\text{Syn}_{\text{corr}} (x)$ is $y$; and thirdly: $P_1 (x, y)$ is always equipollent to $P_2 [\text{Syn}_{\text{corr}} (x), \text{Syn}_{\text{corr}} (y)]$.

Let me stress again that for Carnap the difference between S-isomorphism and syntactical isomorphism is significant. It resides in the fact that “in S-isomorphism the one-one correlation is brought about by means of a predicate of the object language, and in syntactical isomorphism, on the other hand, by any syntactical terms” (Carnap 1964: 267). From my point of view, the distinction is futile since Carnap does not test his ideas on any examples from a natural language\textsuperscript{52}; still, in general his account of isomorphism is noteworthy, since he follows closely the mathematical understanding of the concept.

In a later book, first published in 1947, Carnap (1967: 56–59) introduces another type of isomorphism – intensional isomorphism – which in a sense encompasses both previous understandings of the term, i.e. isomorphism between languages and isomorphism between predicates. He states: “If two sentences are built in the same way out of designators (or designator matrices) such that any two corresponding designators are L-equivalent, then we say that the two sentences are intensionally isomorphic or that they have the same intensional structure. The concept of L-equivalence can also be used in a wider

\textsuperscript{51} The relations of one-one and one-many can be explained in simple terms with reference to a general category of set. In a one-one relation between the elements of a set A and the elements of a set B each element of A is related to exactly one element of B, and each element of B is related to exactly one element of A. In a one-many relation between the elements of a set A and the elements of a set B each element of A may be related to more than one element of B, but each element of B is related to only one element of A (cf. Partee et al. 1990: 32). E.g. if there is a set of fathers who have one child each and there is a set of their children, then there is a one-to-one relation (correspondence) between the sets; if there is a set of fathers, each of whom has more then one child and there is a set of their children, the relation between the set is that of one-many since we assign each child to a given father while we assign each father to more than one child from the other set.

\textsuperscript{52} Carnap has been criticised for empirical vacuity for instance by W. V. Quine (cf. Katz 1972: 306).
sense for designators in different language systems; and the concept of intensional isomorphism can then be similarly extended” (Carnap 1967: 56).

This time he places isomorphism in *semantical* systems; however the units he considers intentionally isomorphic again belong to the sphere of expressions. Let us have a closer look at the whole definition of intensional isomorphism which he provides (Carnap 1967: 59):

a. Let two designator matrices be given, either in the same or in two different semantical systems, such that neither of them contains another designator matrix as proper part. They are intensionally isomorphic = \( \text{def} \) they are L-equivalent.

b. Let two compound designator matrices be given, each of them consisting of one main submatrix (of the type of a predicator, functor, or connective) and \( n \) argument expressions (and possibly auxiliary signs like parentheses, commas, etc.). The two matrices are intensionally isomorphic = \( \text{def} \) (1) the two main submatrices are intensionally isomorphic, and (2) for any \( m \) from \( I \) to \( n \), the \( m \)th argument expression within the first matrix is intensionally isomorphic to the \( m \)th in the second matrix ('the \( m \)th' refers to the order in which the argument expressions occur in the matrix).

c. Let two compound designator matrices be given, each of them consisting of an operator (universal or existential quantifier, abstraction operator, or description operator) and its scope, which is a designator matrix. The two matrices are intensionally isomorphic = \( \text{def} \) (1) the two scopes are intensionally isomorphic with respect to a certain correlation of the variables occurring in them, (2) the two operators are L-equivalent and contain correlated variables.

The definition will turn out to be clearer once we have explained some terms (cf. Carnap (1967: 1–5). And so, designators are various expressions of semantical systems including sentences, individual expressions, predicators while matrices are expressions which are either sentences or formed from sentences by replacing individual constants with variables. Intension is contrasted by Carnap with extension; the latter refers to the property of designa-

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53 I preserve the translator's (Smeaton's) term (cf. footnote 47).

54 Carnap’s approach to semantics bears little resemblance to the understanding of the term in modern linguistics. In one of his works [Carnap 1961 (1942): 11–12] he divides it into descriptive semantics and pure semantics, the former being the description and analysis of a particular historically given language, e.g. English (special descriptive semantics), or all historically given languages (general descriptive semantics), the latter being the construction and analysis of semantical systems (pure semantics). The subject of his further analysis is pure semantics which is entirely analytic and without factual content (cf. Stalmaszczyk 2008: 11). Thus, even if he takes semantics into account, it has nothing to do with a particular language or languages.

55 = definition.
tors of being equivalent and the former to the property of designators of being logically equivalent\footnote{Referring to \textit{logical truth} of sentences.}

Again, as in his previous deliberations Carnap sees isomorphism in terms of the category of set. Matrices are sets which must satisfy certain conditions in order to be isomorphic, e.g. the property of not including another matrix as part, intensional isomorphism of submatrices in compound matrices, the order of argument expressions in matrices, the scope and logical equivalence of operators within compound matrices.

Summing up, Carnap’s descriptions are mostly academic. He does not actually illustrate his ideas with “living” language material, hence his analysis is reduced mainly to the sphere of logic. Apart from overtheorization, another shortcoming of his approach (from my point of view) is his disregard for the semantic aspect of language, which he analyzes exclusively in its structural garment; nonetheless he cannot be criticized for those constraints in general as he himself established such an analytical procedure. No matter how abstract his research was, I still consider his input into the discussion of isomorphism vital since he treated the phenomenon similarly to mathematicians, i.e. as a parallelism between operations on relations.

\subsection*{1.6. Isomorphism in Ancient Grammar}

At this stage, the reader may feel confused about the arrangement of the chapter: why is ancient grammar mentioned at the end of the presentation of isomorphism if chronologically it would seem natural to put it at the beginning? The reason for this is the fact that isomorphism as a term did not exist in ancient grammar; however some scholars, e.g. Heinz (1978), Sluiter (1990) and Wolanin (1999) have observed a certain approach to language description from the period of classical antiquity (especially in the works of Apollonius Dyscolus\footnote{An Alexandrian grammarian from the 2\textsuperscript{nd} century AD.}) which resembles the use of isomorphism as a tool of analysis in modern linguistics.

All three authors in their discussion of isomorphism appear to follow Kuryłowicz’s view of the concept. However, only Heinz (1978: 310, 377) makes explicit reference to Kuryłowicz. Wolanin (1999: 295) points out that discovering isomorphism is one of the basic procedures of structural linguistics\footnote{Wolanin (1999: 295) defines isomorphism as structural similarities characteristic of elements and structures functioning on different levels of language organization. He emphasizes that a search for such similarities is one of the major tasks of structural linguistics.} and he echoes Heinz’s considerations, from which we can infer that his approach is basically “kuryłowiczesque”. On the other hand, Sluiter takes the meaning of
the term for granted – she, in fact, does not refer to any source when defining the term.

Heinz (1978: 59) observes that Apollonius as well as other ancient grammarians realized that there exists some parallelism between different levels of language. He makes only general remarks on the subject while Wolanin (296–307) expands the discussion while focusing on Apollonius’s instruction. Sluiter concentrates on similar issues but I will refer to Wolanin, as his observations are the most comprehensive.

Apollonius sees language as a hierarchically organized system. He distinguishes the following linguistic units: 1. letters (conceptually and terminologically identical with sounds), 2. syllables, 3. words, 4. sentences. These elements, to use modern terms, are characterized by specific combinatorial and distributional properties. Apollonius enumerates 7 features, 7 rules, which apply to elements from different levels of language organization. Such operations point to an isomorphism – parallelism between the structures organizing the elements. These are: reduplication, pleonasm (redundancy), ellipsis, restriction of linear distribution, variant quantitative-componential structure, metathesis, and diversified levels of realizational autonomy (articulatorily autonomous vs. non-autonomous sounds, autosemantic vs. synsemantic words). Wolanin (1999: 300) points to certain weaknesses of Dyscolus’s teaching. He observes that not all of these operations may constitute parameters of combinatorial and distributional capabilities of units on all levels. It is only the obligatory pre- and postposition, acceptable reduplication and metathesis that can be regarded as the properties of linear distribution. Zero-representation, pleonasm and variant quantitative-componential structure are properties of paradigmatic relations between elements. Realizational autonomy has little in common with distributional properties, it is concerned rather with the general, “ontological” status of linguistic units.

"It would be nonsensical to make an extreme claim and maintain that in fact all that exists today in linguistics was in one way or another familiar to Greek Grammarians” (Heinz 1978: 59–60; translation mine, K.O.), still one cannot but agree with Wolanin (1999) that the Alexandrians (especially Apollonius Dyscolus) were the first to attempt to list the universal features of language units at all levels of its organization and were probably the first to put forward – without using the term – the concept of isomorphism in language; thus their work is worth mentioning in the discussion of the notion.

59 Moreover, Apollonius did not recognize the morphological level in the modern sense of the word (Heinz 1978: 58; Wolanin 1999: 296–297).
Methodological considerations: isomorphism and non-isomorphism in communicative grammar

Before I present the methodological foundations of communicativism let me first clarify three things. Firstly, not all proposals of communicative grammar will turn up in the analytical part of the study; however, I am going to outline them so that the reader is provided with a comprehensive picture of the communicative approach and terminology. Secondly, like any model communicativism is not flawless, therefore in the course of the following presentation I will occasionally point out those aspects of the approach that I consider imprecise or not properly worked out. On the other hand, I will defend the communicative grammar stance on semantics and pragmatics against criticism directed at it by cognitivists. And thirdly, I generally agree with the approach to language proposed by communicativists; nevertheless, I consider certain terminological proposals of the theory vague and in the following discussion selected terms introduced by communicativists are replaced by the clear-cut nomenclature of semantic syntax (Topolińska 1984).

2.1. Who “invented” communicative grammar?

In this chapter I am going to present basic methodological principles of communicative grammar (communicativism; in Polish gramatyka komunikacyjna, komunikatywizm). Communicativism is understood here in a narrow sense, i.e. as a framework introduced by Aleksy Awdiejew and developed in three linguistic centres in Poland – in Kraków (under the supervision of Awdiejew), in Łódź (under the supervision of Grażyna Habrajska) and in Bydgoszcz (under the supervision of Elżbieta Laskowska)60. The model should not be confused with that of Zolotova’s approach (Zolotova et al. 1998), anthropological linguistics, glottodidactic descriptions of language or Leech and Svartvik’s (2005) communicative grammar. In this study the term communicative refers strictly to Awdziejw’s theory of language. The followers of the approach are called communicativists or the communicative grammar school61.

60 Cf. latest monographs/works written in the centres, whose authors apply the methodology in the linguistic analysis of particular phenomena: a grammar of verbal interaction (Awdiejew 2004), communicative analysis and interpretation of text (Habrajska 2004), parliamentary discourse (Laskowska 2004), negation at the ideational level (Rodak 2007), derivational paraphrasing (Obrębska 2010), composing sense in the process of message interpretation (Awdiejew and Habrajska 2010).

61 Communicativists themselves refer to their framework as grammar; therefore, communicative grammar must not be understood in the traditional way as some system of rules governing language (cf. Saussure 2002), but as a linguistic theory.
2.2. Roots and friends of the theory

Naturally, there are many linguistic theories which can be compared to the communicative approach. It is impossible to discuss them all in detail within the confines of this book. Let me, however, make a brief comment on some linguistic ideas that influenced communicativists.

According to Awdiejew and Habrajska (2004: 10) the first attempt at establishing the communicative value of language was Bühler’s theory, which introduced three language functions – informative, expressive and vocative\(^\text{62}\) – with regard to three fundamental components of communication: reality, speaker, and receiver respectively. The theory was later developed by Roman Jakobson (1960: 350–377), who gave the three functions new labels: referential, emotive and conative, and introduced another three: phatic (which serves to establish, prolong or discontinue communication), metalingual (focused on the code itself) and poetic (used to express aesthetic values of messages).

Despite Bühler’s and Jakobson’s insightful contributions, mainstream linguistic methodologies of the 20\(^\text{th}\) century were far from focusing on the communicative value of language units. They dealt mainly with systemic relationships between linguistic entities and it was only in the 1970s (and in the 1980s in Russia) that the functionalist approach to language gained ground. Admoni, a Russian functionalist, wrote: “The essence of the communicative purpose of language makes us accept the assumption that the emergence of a complex system of linguistic forms cannot be accidental but must accomplish a specific communicative task, i.e. it must convey a specific piece of information (Admoni 1988: 29; translation mine, K. O.).” Functional linguistics views natural language as a means of storing, conveying, and receiving knowledge necessary for human activity. Its pragmatic, persuasive function is no less important as it stresses another property of language, i.e. the property of influencing people’s behaviour, and shaping their social attitudes. Finally, according to functional linguistics, language has aesthetic properties.

This approach to the description of language requires a revision of the role of grammar, which is seen not only as a system of rules for combining units of language but also as the way of identifying the functions of these units and the rules that need to be observed in the process of communication.

Another functional theory that is significant for the development of communicativism is Malinowski’s anthropological functionalism, according to which language is perceived as a mode of activity, as a dynamic behaviour rather than a countersign of thought (Malinowski 1923: 296). Malinowski regarded the use of language in face-to-face interaction as primary in contrast to

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\(^{62}\) The original German terms are: Darstellung (informative function), Ausdruck (expressive function) and Appel (vocative function); (Lyons 1984: 52).
the secondary use of language, which takes place when we call up things already experienced. For him a word is a stimulus which informs human behaviour and whose meaning can be understood only in the pragmatic context in which they are uttered (Malinowski 1987: 109–110). Thus, a description of pragmatic context should be an integral part of a comprehensive description of a language system.

Bühler, Jakobson and Malinowski were precursors of modern pragmatics, and Awdiejejew and Habrajska’s theory is grounded in pragmatics as well. However, it goes further, trying to combine semantics, pragmatics and stylistics.

There are, obviously, other linguistic proposals that communicativists consider important for the functional study of language. Among them is Wittgenstein’s idea of linguistic activity, which is regarded by him as everyday practice; language by its very essence does not merely reflect everyday practice but constitutes it (cf. e.g. Wittgenstein 1958: 11, 41, 43, 117–120). For communicativists this practice appears to be a crucial factor in their pursuit of motivation of linguistic behaviour:

“Life forms,” in which the linguistic activity of communicating agents is deeply rooted, function as a kind of paradigm that determines which people’s actions are significant or meaningful and which are not. There are ultimately no other conditions by which means we could question or approve them. Thus, language and its grammar, as seen from this perspective, do not constitute norms of signficancy but rather substantiate standards and rules that organize the linguistic practice of a particular community into coherent meaningful behavior (Awdiejejew and Korżyk 2000: 16–17).

Tenets of cognitive linguistics display close affinity with communicativism. Givón’s re-interpretation of grammar as mental processing instructions manifests the communicative-like goal of linguistics as it shows that “grammar manipulates (or is deployed by) the mind that in turn interprets (or produces) the text” (Givón 1990: 893). Also ICMs (Idealized Cognitive Models, Lakoff 1987: 68, 289) bear resemblance to Awdiejejw’s structure of the intention block, whose first stage is the production of a mental image in the mind of the speaker (cf. preverbal scheme; Rodak 2007: 63). When the mental image is subsequently verbalized, Awdiejejew suggests that it should be analyzed as realization of Halliday’s (1970: 143) functions of language (Awdiejejew and Habrajska 2004: 28–29).

Following Halliday, communicativists see verbal contact as involving three functions: ideational (experimental), interpersonal (called by Awdiejejew interactional), and textual, which deal with three aspects of communication – the message, the exchange and the representation respectively (Halliday 1985: 32–37). To put it simply, the analysis of linguistic activity is employed at three levels – semantic, pragmatic and stylistic – which cannot be separated in the
process of communication but can be seen as tools of research into interpretation – the ultimate objective of the presented approach.

Communicativists put an exceptionally strong emphasis on the interactional character of linguistic phenomena. In this their approach to language shows close affinity with Sperber and Wilson’s (1986) theory of relevance (cf. Korżyk 1999: 18–20). Sperber and Wilson postulate that two models of communication should be brought together – the code model and the ostensive-inferential model. According to the code model, which has been applied in most theories of language from Aristotle to modern semiotics, communication is achieved by encoding and decoding messages; the essence of the ostensive-inferential model is concerned with producing and interpreting evidence, i.e. with taking into account assumptions that an individual is capable of constructing and accepting as true or probably true, that is assumptions that are manifest to him (Sperber and Wilson 1986: 2, 39). The notion of manifestness is crucial for applying the principle of relevance, since the speaker through ostensive behaviour manifests his/her communicative intention and by doing so he/she triggers the process of inference in the interlocutor’s mind (Rodak 2007: 53). Manifestness is closely linked to the concept of cognitive environment:

To be manifest (...) is to be perceptible or inferable. An individual’s total cognitive environment is the set of all the facts that he can perceive or infer: all the facts that are manifest to him. An individual’s total cognitive environment is a function of his physical environment and his cognitive abilities. It consists of not only all the facts that he is aware of, but also all the facts that he is capable of becoming aware of, in his physical environment. The individual’s awareness of facts, i.e. the knowledge he has acquired, of course contributes to his ability to become aware of further facts. Memorized information is a component of cognitive abilities (Sperber and Wilson 1986: 39).

This approach to communication and comprehension has quite considerably influenced the communicative grammar school. Communicativists believe that in order to interpret a text we have to assume that it is informationally incomplete; therefore, what is given explicit in any message requires informational complementation. Following Sperber and Wilson, they seek such complementation in world knowledge (here understood as a set of systemic informational connotations), discursive knowledge (information available in other parts of the text) and indexical knowledge (the knowledge of cognitive environment), (Awdiejew 2001: 26–27, Ozga 2001: 49–51).
2.3. The “forging” of the concept of semantic standard

Semantic standard is a key concept in communicative grammar. The term itself was coined by Awdiejew; however, it has predecessors in the history of the humanities. Let us briefly revise the major linguistic, psychological and anthropological theories that influenced the shaping of the concept of semantic standard. One of the aims of these disciplines is the description of “units of world knowledge” which are stored in the deep memory of the brain in the form of generalized configurations of reality and which can be isolated empirically as discrete entities. These units arrange our conceptualization of the world, they are a point of reference for cognitive processes and they enable us to organize and convey information. They cannot be directly observed and their identification used to pose about serious methodological obstacles (Awdiejew 1999a: 33–34).

The first scholars to recognize such entities were Sapir (1970 [1921]) and his pupil and collaborator Whorf (1966). Aware of the difference between the continuity of experience and divisibility of language, Worf postulated the existence of cryptotypes – covert categories which “organize” our Weltanschauung. Whorf (1966: 252) observed that “every language is a vast pattern-system, different from others, in which are culturally ordained the forms and categories by which the personality not only communicates, but also analyses nature, notices or neglects types of relationship and phenomena, channels his reasoning (emphasis mine, K.O.), and builds the house of his consciousness.”

The Sapir-Worf hypothesis posited the existence of some standard reference and standardization of the world by members of a given cultural community, a thesis important for the communicative grammarians by its anticipation of semantic standards (Awdiejew 1999a: 34,43).

Research on knowledge representation, one of the central issues in artificial intelligence (Winston 1984: 251), also influenced the coinage of the notion

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63 “A covert linguistic class may not deal with any grand dichotomy of objects, it may have a very subtle meaning, and it may have no overt mark other than certain distinctive "reactances" with certain overtly marked forms. It is then what I call a CRYPTOTYPE. It is a submerged, subtle and elusive meaning, corresponding to no actual word, yet shown by linguistic analysis to be functionally important in the grammar. For example, the English particle UP meaning ‘completely, to a finish,’ as in ‘break it up, cover it up, eat it up, twist it up, open it up’ can be applied to any verb of one or two syllables initially accented, EXCEPTING verbs belonging to four special cryptotypes. One is the cryptotype of dispersion without boundary; hence one does not say ‘spread it up, waste it up, send it up, scatter it up, drain it up, or filter it up.’ Another is the cryptotype of oscillation without agitation of parts; we don’t say ‘rock up a cradle, wave up a flag, wiggle up a finger, nod up one’s head,’ etc. The third is the cryptotype of nondurative impact which also includes psychological reaction: kill, fight, etc., hence we don’t say ‘whack it up, tap it up, stab it up, slam it up, wrestle him up, hate him up’” (Whorf 1966: 70). Whorf’s idea of cryptotypes resembles the cognitivists’ notion of a schema.
semantic standards. In this framework the units of knowledge are frames and scripts. The notion of frame was introduced by Minsky (1985) to indicate a data-structure for representing a stereotyped situation. The concept of script we owe to Schank and Abelson (1977), who used it with reference to a stereotypical sequence of events (e.g the restaurant script). A frame is a more complex entity than a script. It constitutes a network of nodes and relations at various levels of abstraction. The highest levels are fixed and they represent what is always true about a situation. The lower levels have numerous slots which have to be filled in with specific examples or data (in the form of subframes)\(^{64}\). Thus, the network makes up a hierarchically arranged global system of frames which, according to Minsky (1985: 246), represents a system of world knowledge stored in the human brain (cf. Awdiejew 1999a: 34). Winston (1984: 251) observed that a frame is a basic tool of knowledge representation which involves a notion of *standard stereotypes*. Although Winston is not precise about the notion, his phrasing is noteworthy from the communicative perspective as it conjoins stereotype, i.e. a cultural concept, with a concept of standardization. He enumerates an array of frame-oriented representation languages that have been designed and implemented (Winston 1984: 288) and states that representation seems to be a key to creating a computer intelligence. These considerations are crucial for communicativists as they lead to the assumption that world knowledge exists in a structuralized form in the dispositional memory of human beings (Awdiejew 1999a: 35); however, the way by which such structuralization is detected with the aid of semantic standards is different from the means of representing data in computer science and also from the methods of description based on frame analysis in other linguistic works, e.g. in the LPW\(^{65}\) methodology.

A significant role in the formation of the concept of semantic standard was played by Putnam’s (1975: 250) approach to stereotypes. He defines *stereotype*\(^{66}\) as a socially determined set of typical features which is associated by

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\(^{64}\) Cf. Taylor’s (1995: 87–88) presentation of the concepts: “Frames and scripts are constructs which were originally developed by researches in the field of artificial intelligence. The constructs made it possible to represent in computer memory those aspects of world knowledge which appeared to be involved in the natural processing of texts. The constructs have also proved invaluable in studies of natural comprehension. According to de Beaugrande and Dressler (1981: 90), frames constitute ‘global patterns’ of ‘common sense knowledge about some central concepts’, such that the lexical item denoting the concept typically evokes the whole frame. In essence, frames are static configurations of knowledge. Scripts, on the other hand, are more dynamic in nature. Typically, scripts are associated with (...) basic level events such as ‘do the washing up’ and ‘visit the doctor’, which are structured according to the accepted sequencing of subordinate events (cf. Rosch 1978).”


\(^{66}\) Stereotype has lately become one of the more significant issues in linguistic research (cf. e.g. Anusiewicz and Bartmiński 1998).
speakers with a specific object in reality. It is created on the basis of social knowledge and experience accepted by a community and thus it is a conventional idea (Putnam 1975: 249; Muszyński 1991: 39). For Putnam (1975: 248–249) a set of stereotypes constitutes minimal semantic competence of an average member of a speech community that is necessary for mastering the lexicon and communicating with other members of the community (Muszyński 1991: 40). Putnam (1975: 227) introduces the idea of division of linguistic labour, according to which there are meanings that can be described as stereotypical, i.e. used in “everyday language”, and as special, i.e. used as terminology by specialists in a given area. Muszyński (1996: 39) comments on Putnam’s division in the following way:

A thorough knowledge of a term implies the knowledge of the deep structure (in fact, concerned with the extension of the name only). Such knowledge is possessed only by experts and thus, according to Putnam, the division of linguistic labour is necessary. Laymen most often possess a stereotype, which is associated with a name (stereotypical description of a paradigmatic specimen of a given kind), and the knowledge of which is sufficient to use the word adroitly. The difference between scientific and everyday language terms arises precisely from the semantic competence necessary for mastering them and from the role stereotypes play in the identification of their extension (translation mine, K. O.).

Putnam lays emphasis on the fact that the meaning of a word cannot be identified with reference but ought to be based on the selection of standard elements of the description of the meaning of which stereotype is a salient component (Muszyński 1991: 38). “This allows the theory to develop in the direction in which the meaning of a word is in fact a set of standard propositions about a concept that speakers who do not possess special scientific competence can formulate” (Awdiejew 1999a: 35; translation mine, K. O.).

Finally, ICMs are very important for understanding of the notion of semantic standards. These world knowledge units, postulated by cognitive linguists (Lakoff 1987: 68) do not have a direct communicative value but constitute a base for the identification of the meaning of individual lexemes. They are particularly valuable for the development of the theory of semantic standards as they define the meaning of a word not as an individual reference but as a phenomenon grounded in a network of mutually related elements constituting an ICM and functioning in relation to the whole system (Awdiejew 1999a: 37)67.

67 However, in cognitive grammar an ICM is realized in language in the form of a radial category (Tabakowska 1995:47, Lakoff and Johnson 1980) or a more complex network model (cf. Tabakowska 1995: 46-55; Langacker 1998: 31–33, 1995: 16), while in communicative grammar a basic unit of configuration is a predicate-argument structure.
The above-mentioned mental representations, cognitive models, stereotypes do not yield to direct observation; thus, their analysis within the confines of linguistic methodologies is possible only in an indirect way. What communicative grammar proposes with respect to this is identifying world knowledge units by means of semantic standards. Semantic standards are configurations of content stored in the deep memory of the mind as templates or patterns that are necessary to capture phenomena of the surrounding reality and to segment the interpreted informational sequences which occur in discourses (Awdiejew 1998: 53). Communicativists notate these standard configurations of content as predicate-argument structures, which facilitates the description of world knowledge units by narrowing the interpretation of symbolic forms to an analysis of propositional structures (Awdiejew 1999a: 43–44). Predicate-argument structures which constitute a means of access to the configurations of world knowledge are the basic macrounits of communicative grammar; they are central to the analysis of adverbial structures in this study and will therefore be extensively discussed in the sections to follow.

2.4. Communicative grammar: principles and aims

Having presented the notion of semantic standard, the central unit of world knowledge in communicative grammar, I will now review other major ideas and objectives of the approach. The primary goal of communicative grammar is a description of both organization and creation of messages and of the process of their interpretation (Awdiejew and Habrajska 2004: 14). Such an approach to grammar requires a unified treatment of grammatical correctness and acceptability of the communicative value of messages. At the current stage of development communicativism is focused on the grammar of reception (interpretation) since it is easier to reconstruct a tergo the creative decisions that the speaker makes when producing a message than to predict them a fronte. Only a solid grammar of reception may make it possible to create the grammar of production68. In order to build up a consistent theory of interpretation, communicativists introduce the following axioms (Awdiejew and Habrajska 2004: 15):

(1) The organization of language is only partly systemic.

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68 The idea of the grammar of production coincides with the ultimate goal of artificial intelligence in the sense that such a grammar could be applied in the construction of a machine which could produce non-trivial, creative, unpredictable, intelligent messages. The research into artificial intelligence has not been successful with respect to this matter so far, which breeds scepticism (undisturbing from the anthropocentric point of view). However, there have been attempts to implement communicative grammar in computational language analysis, e.g. Habrajska 2004: 7, Obrębska 2005: 75–84, Obrębska 2010).
Methodological considerations: isomorphism and non-isomorphism...

(2) The initial block in communicative grammar is a block of intention and it is here that text generation begins.

(3) Grammar can be analysed at three basic levels: ideational, interactional and textual.

(4) Lexicon is an integral part of communicative grammar.

(5) Predicate-argument structure is a basic unit of communication at the level of content.

(6) The first stage of interpretation in communicative grammar is the analysis of the sequence of forms which leads to the discovery of the propositional structure.

(7) The second stage of interpretation in communicative grammar is the comparison of standard comprehension with contextual comprehension.

The first axiom of communicative grammar states that language organization is only partly systemic. What, then, is language and what is systemic in it? Language in communicative grammar is defined as the process of verbalization of either the ideational communicative intention (for the description of reality) or pragmatic communicative intention (for informing the receiver’s beliefs, attitudes or behaviour), which is realized in the form of various text genres. It is a covert process for the most part and its result, the text, is a creative product of the preceding combinatory operations in the speaker’s mind. In turn, language system is understood as a configuration of common (trivial, non-communicative, widely-known) associations of form and content which constitute the language repertoire, i.e. a set of linguistic means plus the rules of their communicative use, from which speakers choose elements that they find necessary in the process of text generation (Awdiejew, Habrajska 2004: 19-20).

The second assumption of communicative grammar, the initiality of the intention block is a consequence of the fact that grammar (or language) as such does not have any motivation to produce texts; it is an inventory of means possessed/shared by speakers, which serve them to carry out their communicative intentions. The block of intention includes a preverbal scheme – a kind of mental plan of how to accomplish the communicative intention, which is then

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70 I also refer to the axioms as principles or maxims by analogy to Grice’s (1975) cooperative principle and conversational maxims.
articulated with the help of formal systemic means and non-systemic creative operations.

The preverbal scheme includes three types of the planned information which, according to Awdiejew (2001: 26), can be represented by three simple questions: what is spoken? Why is it spoken? and finally How is it spoken? These questions are connected with the third maxim, that is with the idea of three levels of analysis: ideational, interactional, and textual (also referred to as the level of discourse organization).

The first question refers to an individualized ideational image, i.e. a cognitive schema of the state of affairs and its actualization in time and space which is verbalized by the speaker through a combination of terms71. If the image is untypical, the combination is more complex and unusual but most often structured in such a way that the recipient is able to decode it in order to receive an image similar to that of the speaker by the process of inference72.

The second question refers to the interactional function, which turns utterances into speech acts73. This function holds an interpersonal component which conveys the speaker’s attitude to the world, especially towards other participants of communicative activity (Awdiejew and Habrajska 2004: 37). This concerns first and foremost face to face communication, however, in a graphic/recorded text it is realized by means of special operators which express the author’s pragmatic intention received by a potential reader/recipient (Awdiejew 2001: 26).

The third question is concerned with register and style, i.e. with the choice of formal stylistic devices74 (Awdiejew and Habrajska 2004: 40).

The separation of the ideational and the interactional facilitates the delimitation of the analysis of the former by eliminating those linguistic phenomena which do not carry a direct reference to the representation of the world. In discussions on communicative grammar (cf. e.g. “Dyskusja ...” 2006: 97–98) this delimitation is often criticized as being an attempt at drawing a borderline between semantics and pragmatics. In my opinion the criticism is unjustified since communicativists do not separate semantics and pragmatics in their

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71 For explanation of terms and operators see below.
72 Inference can generally be defined as a complex process whose aim is the interpretation of a message (cf. Awdiejew and Habrajska 2004: 32; Awdiejew 2004: 15). The process is lucidly explicated by Sperber and Wilson (1986: 12–13): “An inferential process starts from a set of premises and results in a set of conclusions which follow logically from, or are at least warranted by, the premises.”
73 Cf. Austin’s division of sentences into declaratives which contain a proposition about the world and are testable with reference to truth and falsity, and speech acts, i.e. “words that do things” (Mey 1994: 110, cf. Austin 1968). Austin’s declaratives were later labelled assertives by Searle (1999: 233–234), for whom they also constitute a kind of speech acts.
74 Cf. an analysis of the choice of register and interactional operators within the framework of communicative grammar in biology textbooks (Ozga and Ozga 2000: 157–166).
Methodological considerations: isomorphism and non-isomorphism

A broad-spectrum description of texts. By distinguishing the levels of analysis they want to look into linguistic entities and structures from various angles; thus, their application of the ideational, the interactional and the textual is simply a means of facilitating research into language.

Communicative grammar has come up with an innovative proposal to simultaneously analyze formal and communicative (semantic and functional) components. Thus, a major goal of such analysis is the description of the relation between the configuration of forms and the configuration of concepts, which brings communicativism close to the theory of semantic syntax (Topolińska 1984); however, the latter approach treats conceptual structure as superior to formal structure (Karolak 2002: 6), while Awdiejew and Habrajska (2004: 21) consider both components as equal in value. The idea of intertwinement of the conceptual and the formal led to the formulation of the fourth principle, the unity of grammar and lexicon, and is a consequence of the selection of units of analysis.

In communicative grammar lexicon consists of terms (in Polish termy) and operators. Terms can be defined as communicative units of language typically comprising traditionally defined autosemantic parts of speech, which at the ideational linguistic level systemically point to typical fragments of reality. This does not mean that they possess autonomous meaning; they are components of larger configurations, i.e., predicate-argument structures in which reside concepts that they denote (cf. Awdiejew 2008). These configurations are formalized at the linguistic level as structures built of several terms, and in this sense the meaning of one term can only be defined in a systemic context provided by other terms which denote concepts from the same predicate-argument structure.

With the terminology of semantic syntax, which I find useful, the above may be reformulated in the following way: terms are formal exponents of predicates (predicate expressions) or arguments (argument expressions), i.e. they are formal exponents of concepts that are relational in nature. Thus, the meaning of terms can only be defined with reference to concepts that they denote within the relation to other concepts which enter the same predicate-argument structure. For this reason predicate-argument structure is perceived

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75 A similar approach to the analysis of the formal and the conceptual can be found in cognitive grammar (cf. Taylor 2002: 228).
76 Communicativists sometimes use a shortcut in their description and they say that lexemes convey more extensive information than is indicated by their formal boundaries. The phrase “formal boundaries of a lexeme” may be misunderstood as it is imprecise: it could be taken to mean a specific graphic or phonic representation of a lexeme. However, what the authors of the communicative model want to indicate is that the extension of a concept which is formalized at the linguistic level as a particular lexeme is expanded by other concepts implicated by this particular concept.
as a basic communicative macro-unit at the level of content in communicative grammar (principle 5).

Because combinations of concepts realized through combinations of their exponents in natural language theoretically have no restrictions due to speaker creativity, the meaning of terms (formalizations of concepts) could never be defined without the notion of semantic standard. Semantic standards enable us to select configurations which are trivial and shared by the majority of speakers. The localization of a term in such configurations provides a full systemic image of the meaning denoted by the term.

Let us consider three predicate-argument structures:

\[
egin{align*}
P (x) & \rightarrow C (a) \rightarrow \text{BE STUPID (POTATO)} \\
P (x, y) & \rightarrow C (a, b) \rightarrow \text{CARE ABOUT (~ HUMAN-BEING, POTATO)} \\
P (x, y) & \rightarrow C (x_{\text{ind}}, b) \rightarrow \text{BELIEVE IN (she, POTATO)}
\end{align*}
\]

which can be formalized as the following clauses:

(1) Potatoes are stupid.
(2) Nobody cared about the potato.
(3) She believes in potatoes.

The three clauses are creative predications about potatoes. In order to understand those predications we need the standard meaning of the concept plus all discursive and indexical knowledge. It would hardly be possible to interpret their meaning without some point of reference. Such a yardstick is provided by semantic standards entered by the concept POTATO. Here is a handful of such shared configurations of world knowledge recorded as predicate-argument structures and their realizations in the form of generic sentences and noun phrases:

78 In the notation of the predicate-argument structures and their formalizations I do not include the intermediate stage of description, i.e. the stage of combining the lexemes in their base forms, with the separate indication of the grammatical forms they assume in the subsequently formulated phrases. For instance, the intermediate stage of notation of \( P (x, y) \rightarrow C (a) \rightarrow \text{EAT (HUMAN-BEING, POTATO)} \), formalized as the generic phrase People eat potatoes can be recorded as follows: \( P_e (x_e, y_e) \rightarrow C_e (a_e, b_e) \rightarrow \text{eat [people, potato (pl)]} \). Another formalization of the same PAS (this time including specification through temporal actualization, agent determination (grammatical determination + gender indication): The man is eating potatoes could be notated as: \( P_e (x_e, y_e) \rightarrow C_e (a_e, b_e) \rightarrow \text{eat (PCont) [man (DEFart), potato (pl)]} \); \( e \) in the subscript being the symbol for expression (e.g. \( P_e = \text{predicate expression} \)).
79 Note that the lexeme potato in the last two phrases functions as a modifier (it would be translated into Polish as the adjective ziemniaczany). In these noun phrases potato is a non-isomorphic unit since it does not ascribe an attribute to the concepts denoted by the heads. It points to a PAS which can be isomorphically formalized at the linguistic level as the sentence People make pancakes/starch from potatoes. Potato pancakes and potato starch are non-isomorphic formalizations of the PAS as they are elliptic; they lack an exponent of the constitutive member of the proposition.
Methodological considerations: isomorphism and non-isomorphism...

P (x, y) → C (a, b) → EAT (PEOPLE, POTATO)
P (x, y) → C (a, b) → PLANT (PEOPLE, POTATO)
P (x, y) → C (a, b) → PEEL (PEOPLE, POTATO)
P (x, y) → C (a, b) → COOK (PEOPLE, POTATO)
P (x, y) → C (a, b) → GRATE (PEOPLE, POTATO)
P (x, y, z) → C (a, b, c) → MAKE FROM (PEOPLE, PANCAKES, POTATOES)
P (x, y, z) → C (a, b, c) → MAKE FROM (PEOPLE, STARCH, POTATOES)
P (x, y) → C (a, b) → MASH (PEOPLE, POTATOES)

(4) People eat potatoes.
(5) People plant potatoes.
(6) People peel potatoes.
(7) People cook potatoes.
(8) People grate potatoes.
(9) potato pancakes
(10) potato starch
(11) mashed potatoes

The above phrases and clauses are verbalizations of various semantic standards which are implicated by the concept POTATO. It is through a set of such standards that the basic meaning of the concept can be fully represented.

The other class of linguistic units are operators. They are entirely dependent on terms with which they coexist; their function is to connect or modify terms and also to organize information in communication. Structurally, they assume various forms: morphemes, synsemantic lexemes, analytical constructions (Awdiejew and Habrajska 2004: 73–74). They perform various functions at the three linguistic levels.

At the ideational level they introduce predication (e.g. the verb be as a copula), intensification, quantification; they also arrange the structure of utterances (inflectional endings)\(^8\). Besides, there are special ideational operators, called actualizers, which specify time, place, duration and repetition (repetitiveness) of the state of affairs described by the proposition (Awdiejew and Habrajska 2004: 74).

At the interactional level operators convert utterances into various speech acts, e.g. modal, emotive, persuasive (Awdiejew and Habrajska 2004: 77, 103; Awdiejew 2004a: 93–161).

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\(^8\) The model of communicative grammar is meant to be universal for the description of all languages; however, only Slavic languages (Polish and Russian) have served as exemplification so far. English has fewer grammatical endings than the two Slavic languages. Thus, we can guess that their function as operators is taken over by position or sentence context in English (cf. English as an isolating positional language, Polish and Russian as inflectional language; Lachur 2004: 148–152).
Operators of discourse organization enhance communication via arrangement, segmentation, isolation of the information the speaker finds most important, manipulation of the recipient’s attention. They also serve as markers of selected pieces of text so as to facilitate its composition (e.g. reference, emphasis, summarization, condensation, deliberation; Awdiejew and Habrajska 2004: 77, 103–104).

The last two maxims in communicative grammar are directly connected with text interpretation. Communicativists propose a scheme of verbal interaction that traces the path of discovering the speaker’s cognitive representation, which can, actually, be identified with the process of interpretation (Fig. 6.)\(^{81}\).

\(^{81}\) Awdiejew and Habrajska’s scheme follows Sperber and Wilson’s (1986: 5) model of verbal communication but is slightly modified and elaborated.
Fig. 6. Scheme of Verbal Interaction (Awdiejew and Habrajska 2004: 31)
In order to decode the speaker’s initial cognitive representation Awdiejew and Habrajska (2004: 293–296) introduce two basic stages of interpretation. The first stage is the analysis of the sequence of forms, which leads to the discovery of the propositional structure while in the second contextual meaning is compared to standard meaning.

The first stage of interpretation is further divided into two substages. In the first substage we look for all predications denoted by the constituents of the utterance. In the second substage we situate the isolated predicate-argument structures in a spatiotemporal scenario. Let us illustrate the two-phased analysis with the description of the following Polish sentence:

(12) I dziewczyna, cała zapłakana, idzie do sklepu po czarną sukienkę.

[‘And girl, all cry-past participle, goes to shop for black dress’]

**Phase 1**

\[ P (x, \text{loc}) \rightarrow C (a, \text{loc}_{\text{temp}}) \rightarrow \text{GO (GIRL, SHOP)} \]
\[ P (x, y) \rightarrow C (a, b) \rightarrow \text{BUY (GIRL, DRESS)} \]
\[ P (x) \rightarrow C_{\text{intens}} (a) \rightarrow \text{CRY}_{\text{intens}} (\text{GIRL}) \]
\[ P (x) \rightarrow C (a) \rightarrow \text{BLACK (DRESS)} \]
\[ \text{Corr}^{\text{COH}} : i [\text{resultative}] \]

**Phase 2**

\[ t_{-1} : C_{\text{intens}} (a) \rightarrow \text{CRY}_{\text{intens}} (\text{GIRL}) \]
\[ t_0 : C (a, \text{loc}_{\text{temp}}) \rightarrow \text{GO (GIRL, SHOP)} \]
\[ t_{+1} : C (a) \rightarrow \text{BUY (GIRL, DRESS)} ; > C (b) \rightarrow \text{BLACK (DRESS)} \]

In the first substage I singled out four different predications from the sentence. The main verb is the exponent of the predicate GO, the other two formalizations are exponents of two non-sentence-building predications CRY in the form of a participle and BLACK in the form of an adjective. There is however one more predicate hidden in the sentence. It is covert, hidden within the structure iść do sklepu po coś (‘go to shop for sth’) and can be detected by means of a semantic standard which tells us that typically people go to a shop in order to buy something. The detection is uncomplicated since the exponent of the argument (DRESS) implicated by the covert predicate is present in the sentence. Szumska (2001: 42, 2006: 146–147) calls this type of surface reduction compression, where formal exponents are removed from the sentence but the concepts can be easily and unambiguously retrieved in accordance with the principle of compensation; the compensation factor being the shared, common
knowledge about the world, the communicative situation, the cultural norms of behaviour and values of a given speech community\textsuperscript{82}.

In the second stage the isolated predications were put into a scenario. The first predication labelled $t_1$ is a first phase in the script and refers to the state which began before the moment of speaking. The phase marked $t_0$ constitutes the main predication in the sentence and concurs with the moment of speaking. The last predication ($t_{+1}$) in the sequence expresses the expected state of affairs, whose prediction is facilitated by the semantic standard. The non-sentence-building predication, which ascribes the attribute of being black to the dress, does not yield to analysis in terms of chronology in the scenario and thus is introduced into the notation as a secondary predication\textsuperscript{83} with the function of specification.

The second stage of interpretation is carried out via a reconstruction of standard connotations brought about by the sentence and their juxtaposition with non-standard information present in the discourse (discursive knowledge) or in the immediate environment (indexical knowledge)\textsuperscript{84}.

The girl’s crying together with the connotations evoked by the black colour in Western culture prompts the interpretation towards a response to the death of someone dear to the girl. She could be buying the dress as a sign of mourning, possibly to wear it at the funeral. However, the discursive knowledge or indexical knowledge can redirect the interpretation\textsuperscript{85} even to an

\textsuperscript{82} However, the lack of the formalization in this sentence is controversial as the quality of the exponent can be attributed to the grammatical structure \textit{iść dokądś po coś}, where the structure imposes the reconstruction of the predicate. Let me at this point make a more general remark concerning the methodology of communicativism. There has been a heated debate between communicativists and some Polish cognitivists concerning the status of semantic standards. Communicativists postulate keeping them within semantics while cognitivists maintain that they are rather pragmatic in nature as they are culturally and contextually conditioned (for further discussion of the controversy see Section 2.5.2).

\textsuperscript{83} Secondary predication is also labelled \textit{synthetic predication} (with an adjectival exponent, synonymous with attribution, i.e. predicking about a selected object) as opposed to \textit{analytical predication} (with a verbal exponent, synonymous with its hyperonym – predication; it occurs when the statement is affirmed or denied, and so refers to a modal predicate). The terms have been proposed by Szumska (1999: 99–102). \textit{Secondary predication} or \textit{non-sentence-building predication} are much better terms for the denotation of the phenomenon since, unlike the term \textit{attribution}, they do not interfere with the division into the semantic level and the level of its formal realization (cf. Szumska 2006: 77–78).

\textsuperscript{84} Intratextual elements of meaning, necessary for interpretation of a message, are often called endophoric while extratextual (situational) are called exophoric (cf. Halliday and Hassan 1976: 18, 31–33; Karolak 2002: 59). Endophoric expressions are further divided into anaphoric – an expression used phorically carries the same reference as the preceding expression in the sentence/text, and cataphoric – an expression used phorically carries the same reference as the following expression in the sentence/text (cf. Halliday and Hassan 1976: 33; de Beaugrande and Dressler 1981: 60–61).

85 Cf. Czechowski’s (2004, 2008) research into interferences in communication within the communicative grammar framework, where he discusses various reasons for message misinterpretation (i.a. differences in the interlocutors’ discursive knowledge and in their perception of the elements of con-situation).
extraordinary one, for instance: The girl\(^{86}\) has been invited to a black and white party, in which a young man she has a crush on will be present. She does not think white and black look becoming on her so she dislikes both but she dislikes the latter less than the former. She does not own a dress of either colour and that is why she is buying a black one and has been crying because she thinks the man will find her dowdy.

There are of course endless possibilities of interpretation due to speaker/writer creativity; still, the interpretation is possible only with reference to semantic standards. In the hypothetical situation that I have just described, the following standards are fused\(^{87}\):

\[
\begin{align*}
C(a) & \rightarrow \sim \text{BE HAPPY (GIRL)} \Rightarrow P(x) \text{ CRY (GIRL)} \\
C(a, b) & \rightarrow \text{WEAR (GIRL, DRESS)} \\
C(a, b) & \rightarrow \text{CARE ABOUT (GIRL, COTHS)} \\
C(a, b) & \rightarrow \text{HAVE A CRUSH (GIRL, BOY)} \\
C(a, b) & \rightarrow \text{LIKE (PEOPLE, COLOUR) > SELECT (PEOPLE, COLOURS)} \\
C(a, b) & \rightarrow \sim \text{LIKE (PEOPLE, COLOUR) > SELECT (PEOPLE, COLOURS)} \\
C(a, b, loc) & \rightarrow \text{BUY (PEOPLE, COTHS, SHOP)} \\
C(a, b) & \rightarrow \text{LIKE (PEOPLE, PARTY) \left[\text{PARTY} \in \text{ENTERTAINMENT}\right]} \\
C(a, b, loc) & \rightarrow \text{DRESS (PEOPLE, COTHS, PARTY)}; \\
< C(a) & \rightarrow \text{BLACK (COTHS)} \land C(a) \rightarrow \text{WHITE (COTHS)}; \\
\Rightarrow \sim C(a, b, loc) & \in V.
\end{align*}
\]

(13) girls cry when they are unhappy  
(14) girls wear dresses  
(15) girls care about their clothes\(^{88}\)  
(16) girls have crushes on boys  
(17) people favour selected colours while they dislike others  
(18) people buy clothes in shops  
(19) people like parties (entertainment)  
(20) black and white parties are parties where people dress only in black and/or white clothes  
(21) adherence to the dress code is obligatory

---

\(^{86}\) Although there is no definite article in Polish, *dziewczyna* is an anaphoric unit – the common noun denotes the same person that must have been indicated by a proper name in the preceding section of the text.

\(^{87}\) The notation may seem too detailed and stating the obvious; nevertheless, it is provided since semantic standards are configurations of world knowledge which do state the obvious (trivial); it is their merging and blending that results in creative, unanticipated messages.

\(^{88}\) The hyponymy/hyperonymy relations (e.g. dresses are clothes, girls are people, party is entertainment) are presented as the relation of belonging \(\in\). They are generally self-evident, hence frequently omitted in the notations.
The fusion of semantic standards which occurs at the ideational level often influences the interpretation at the level of interaction where the utterance functions as a speech act. Let us illustrate it with an example where two standards are blended in the scenario:

(22) Mr. Smith plays computer games at work.

\[
\begin{align*}
\text{SC} \; [P(x)] & \rightarrow \text{SC} \; [C(x)] \rightarrow \text{SC} \; [\text{AT WORK}] \; \text{WORK} (x) \\
P (x, y) & \rightarrow [C (x, b)] \rightarrow \text{WORK} (x, \text{COMPUTER}) \\
P (x, y, z) & \rightarrow [C (x, b, c)] \rightarrow \text{PLAY} (x, \text{GAME}, \text{COMPUTER})^89
\end{align*}
\]

Here WORK, the primary predication in the scenario, is substituted by PLAY with the specification COMPUTER GAMES. The substitution results in the contamination of the semantic standards evoked by the predications. By reference to common world knowledge we can infer that Mr. Smith is a white-collar worker and that he uses a computer at work. By being implicated by the predications the concept COMPUTER constitutes the tangent point of the standards – people use it either to work or to play. The first activity is expected to be performed at the work place, hence the substitution of the predications causes incongruence which is meaningful at the interactional level and which can be interpreted as the speaker’s reproach towards Mr. Smith.

A specific kind of fusion of semantic standards occurs in metaphorical or metonymic expressions. The most extensive account of metaphor and metonymy is provided by cognitive grammar, where metaphor is generally explained by identifying the source domain and comparing it with the target domain while metonymy is defined in terms of a relation of contiguity (cf. Ungerer and Schmid 1997: 116–128, Świątek 1998: 25). Although the communicative school does not reject the way cognitivists describe the notions, they apply their own manner of explicating metaphor and metonymy. For communicativists they are kinds of communicative modes (Awdiejew 1999b: 240–247) which are defined by Awdiejew as ways of representing information where two or more ideational representations refer to the same fragment of reality. Metaphor and metonymy are ubiquitous in language and since they are fusions of different cognitive representations, they are often non-isomorphic combinations of content; therefore, they are discussed in further subsections of this chapter, devoted to isomorphism as seen from the communicative grammar perspective.

^89 The expression computer game is a compressed structure where the covert concept PLAY implicates three arguments: agent, game (patient), and computer (instrument). It is covert if we take into account the NP on its own. However, in the analysed sentence it is formalized as a major predicate.
To sum up, semantic standards constitute a base for both text production and text interpretation. While creating a message the speaker performs an operation of detrivialization (Awdiejew and Habrajska 2004: 27), which is defined in communicative grammar as the fundamental process occurring at the level of language, whose purpose is to transform systemic configurations (semantic standards) into non-systemic configurations. The result of this process is a unique (non-trivial) message which can be understood by the recipient only through a reconstruction of the non-systemic amalgamation so as to arrive at the initial stage of systemic configurations. In communicative grammar the latter process is called decomposition\(^\text{90}\) (Habrajska 2004b: 9). The description of detrivialization is a description of text production, while the description of decomposition is a description of text interpretation. In this study I focus on decomposition, as I endeavour to reconstruct messages containing adverbs into basic predicate-argument structures in order to arrive at the initial communicative intention, referring to ostensive-inferential factors where necessary.

### 2.5. Supplementary methodological and terminological remarks

#### 2.5.1. Semantic syntax

Despite the fact that the analysis of adverbs in Chapter III is conducted within the framework of communicative grammar, I have decided to refer to selected aspects of the theory of semantic syntax (predicate-argument syntax), especially with regard to terminology. There are certain terms used in communicative grammar which I substitute with those offered by semantic syntax. There are also terms which are not used in communicative grammar at all and which I consider essential for the description of the relation between the formal and the conceptual structure. The decision to reconcile the two theories results from the application of the basic communicative grammar unit, i.e. predicate-argument structure. This notion has been widely used in semantic syntax, and all other notions that are linked with it are easier to employ with the use of the terminological grid of semantic syntax. Besides, semantic syntax, a theory with long tradition, has a consistent notation, borrowed from logic, which will facilitate my description of adverbs. The following semantic syntax terms are applied (they are juxtaposed with communicative grammar terms and explained)\(^\text{91}\):

\(^{90}\) *Decomposition* may be called *de-detrivialization* as its goal is to return to the initial trivial configuration of meaning.

\(^{91}\) Semantic syntax terms and explanations are based on Karolak (2002).
<table>
<thead>
<tr>
<th>SEMANTIC SYNTAX TERM</th>
<th>COMMUNICATIVE GRAMMAR TERM</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>predicate-argument structure</td>
<td>predicate-argument</td>
<td>a categorematic (semantically complete) conceptual unit built of a predicate and argument(s) implicated by the predicate</td>
</tr>
<tr>
<td>proposition</td>
<td>arrangement/system</td>
<td></td>
</tr>
<tr>
<td>propositional structure</td>
<td>proposition</td>
<td></td>
</tr>
<tr>
<td>predicate</td>
<td>predicate</td>
<td>the constitutive/constituting member of the proposition which does not belong to the domain of signs and which implicates arguments, a syn-</td>
</tr>
<tr>
<td>argument</td>
<td>argument</td>
<td>a relational semantic unit whose function in the configuration is to fulfil the implicational requirements of predicates, a syn-</td>
</tr>
<tr>
<td>referential argument</td>
<td>∅</td>
<td>an argument used with the intention of referential identification of the object it denotes</td>
</tr>
<tr>
<td>propositional argument</td>
<td>∅</td>
<td>an argument denoting a whole proposition which is implicated by a constitutive member of another proposition</td>
</tr>
<tr>
<td>basic</td>
<td>∅</td>
<td>a proposition with no adjuncts</td>
</tr>
<tr>
<td>predicate-argument</td>
<td></td>
<td></td>
</tr>
<tr>
<td>structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nuclear proposition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>derived</td>
<td>∅</td>
<td>a proposition with adjuncts (i.e. with other propositions added to the nuclear proposition but not by implication)</td>
</tr>
<tr>
<td>predicate-argument structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>derived proposition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>higher order predicate</td>
<td>metapredicate⁹²</td>
<td>a predicate which implicates another predicate</td>
</tr>
<tr>
<td>predicate of the higher order</td>
<td></td>
<td></td>
</tr>
<tr>
<td>first order predicate</td>
<td>primary predicate</td>
<td>a predicate which does not implicate another predicate</td>
</tr>
<tr>
<td>predicate of the first order</td>
<td>main predicate</td>
<td></td>
</tr>
<tr>
<td>primary predicate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>predicate expression</td>
<td>predicate</td>
<td>a formal exponent/correlate of a predicate belonging to the domain of sign representation which connotes argument expression(s)</td>
</tr>
<tr>
<td>predicative expression</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

⁹² There are two classes of metapredicates in communicative grammar: primary metapredicates (verbs) and secondary metapredicates (adverbs).
<table>
<thead>
<tr>
<th>SEMANTIC SYNTAX TERM</th>
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<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>argument expression complement complement expression</td>
<td>argument</td>
<td>a formal exponent/correlate of an argument belonging to the domain of sign representation which is connotated by predicate expression</td>
</tr>
<tr>
<td>predicate expression</td>
<td>predicate-argument structure predicate-argument expression</td>
<td>a formal exponent/correlate of primary predicate-argument structure</td>
</tr>
<tr>
<td>nominal phrase propositional argument expression</td>
<td>argument</td>
<td>a formal exponent of secondary predicate-argument structure, i.e. expression of predicate-argument structure founded on a noun in its primary function of complementation</td>
</tr>
<tr>
<td>noun with absorption(^{94}) absorptive noun</td>
<td>(\emptyset)</td>
<td>a noun equal in semantic value to a relative clause (most concrete nouns)</td>
</tr>
<tr>
<td>noun without absorption non-absorptive noun</td>
<td>(\emptyset)</td>
<td>a noun which allows to reveal all arguments implicated by concepts which it represents (most abstract nouns)</td>
</tr>
<tr>
<td>adjunctive proposition adjunct(^{95})</td>
<td>secondary predication</td>
<td>a proposition adjoined to the basic proposition</td>
</tr>
<tr>
<td>polypropositional structure</td>
<td>polypredicative structure</td>
<td>a set of related propositions</td>
</tr>
<tr>
<td>polypropoductive expression</td>
<td>polypredicative structure</td>
<td>a formal exponent/correlate of a set of related propositions, (a linear sequence of exponents of related propositions)</td>
</tr>
<tr>
<td>non-sentence-building predication(^{96}) secondary predication</td>
<td>secondary predication</td>
<td>predication formalized as an adjunct(^{97})</td>
</tr>
</tbody>
</table>

\(^{93}\) Unlike traditional grammars, which define complement as object, semantic syntax views complement as any argument implicated by the predicate.

\(^{94}\) Nouns with absorption are discussed in detail in further sections of this chapter.

\(^{95}\) ≠ adjunct in traditional grammar.

\(^{96}\) *Sentence-building predicate* is a terminological shortcut as predicate by definition belongs to the conceptual level and cannot be discussed in terms of sentence structure. In this study this term is used to mark predicates whose exponents are finite verbs in the analyzed examples, see footnote 83.

\(^{97}\) here understood traditionally (cf. Polish *przydawka*)
Methodological considerations: isomorphism and non-isomorphism

<table>
<thead>
<tr>
<th>SEMANTIC SYNTAX TERM</th>
<th>COMMUNICATIVE GRAMMAR TERM</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-predicate predication expression</td>
<td>$\emptyset$</td>
<td>a predicate expression serving as an argument expression; it cannot function as a predicator in a sentence.</td>
</tr>
<tr>
<td>predicate variable</td>
<td>$\emptyset$</td>
<td>a logical symbol for predicate position</td>
</tr>
<tr>
<td>individual variable</td>
<td>$\emptyset$</td>
<td>a logical symbol for (referential) argument position</td>
</tr>
<tr>
<td>sentence variable</td>
<td>$\emptyset$</td>
<td>a logical symbol for propositional argument position</td>
</tr>
<tr>
<td>predicate constant</td>
<td>$\emptyset$</td>
<td>a logical symbol for a specific concept in predicate position</td>
</tr>
<tr>
<td>individual/argument constant</td>
<td>$\emptyset$</td>
<td>a logical symbol for a specific concept in argument position</td>
</tr>
</tbody>
</table>

Table 3.

Semantic syntax and communicative grammar are not in conflict with regard to the description of language as an ontological entity; however, communicative grammar *ex definitione* offers a broader spectrum of means for the description of communication, the ultimate goal of language. The advantage of communicative grammar over semantic syntax resides in its efficient management of a message which combines the ostensive-inferential and the coded approach to communication (Sperber and Wilson 1986). However, semantic syntax “outperforms” communicative grammar with its accurate and functional terminology. Thus, I apply the terminology from the table to enhance and refine the communicative model.

2.5.2. Methodological doubts and reservations: The status of semantic standards vs. grammatical semantics

There are certain controversies concerning the status of semantic standards. They came up during a series of seminars “Discussions on communication” organized in Kraków by Awdiejew and Habrajska in cooperation with Tabakowska. During the discussions Tabakowska, a cognitive linguist, often questions the “semanticness/semanticality” of semantic standards. She regards them as pragmatic units due to the fact that they are often culturally conditioned.

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98 Tabakowska presented her ideas on grammatical semantics during the 65th meeting of the Polish Linguistic Association (PTJ) on 21st September 2007; they were later discussed during the seminar “Discussions on communication”. Her paper was made available by courtesy of the author.

99 Some ideas concerning the status of semantic standards are presented in Ozga (2004).
I cannot fully subscribe to this view, because in spite of their being grounded in common-sense (or encyclopaedic) knowledge, semantic standards assume – in consequence of verbalization – the form of generic sentences (trivial configurations of content, definitional in character), unconditioned by ostensive-referential or cultural factors.

For instance, the sentence *Fish live in water* is a formalization of a standard PAS and its triviality (standard meaning) is interpretable outside use (outside the context of speech events) and outside culture. However, another standard indicated by the lexeme *fish* can be found in the sentence *Catholics eat fish on Fridays* which, undeniably, is culturally conditioned while still being a verbalization of a semantic standard. Thus, a distinction between certain kinds of standards seems mandatory. Communicativists actually made a distinction of that sort by dividing standards into types and stereotypes (Awdiejew 1999a: 47–54, Ozga 2001: 46–47). The former can be verified by the quantifier *everyone knows that* (p)\textsuperscript{100} while the latter are tested by a modified version of the quantifier replacing the formula of general knowledge with the formula of consensual truth: *everyone is convinced/everyone believes that* (p)\textsuperscript{101} for evaluative stereotypes and deontic formula *everyone should know that* (p) for prescriptive (normative) stereotypes. The status of the unit *everyone* is contentious in the case of stereotypes since they are by definition entities with a linguo-cultural function (Bartmiński 1998: 65). The formula might be corrected by narrowing the intension: *every member of a given cultural community*.

Regardless of the impreciseness of the above formulae it cannot go unnoticed that the character of standards is non-homogeneous. It cannot be definitely decided that they belong exclusively to semantics or that they belong exclusively to pragmatics; let us note that such a distinction again brings to the fore the controversial issue of the demarcation line between semantics and pragmatics whose setting I would gladly avoid. Moreover, according to communicative grammar the meaning of a lexeme can be defined only with reference to a whole constellation of standards which it denotes, thus the lexeme *fish* needs not only the above two standards to be described but a lot more (some of which are closer to the sphere of semantics, while others are closer to the sphere of pragmatics). Thus, it would perhaps be more appropriate to characterize standards as *semantico-pragmatic*. Nevertheless, I decided to adhere to Awdiejew’s term, all the while bearing in mind the complex character of the phenomenon.

What is, then, Tabakowska’s alternative? She believes that words are not “containers for meaning”; the meaning of a word is constructed *online* during speech events depending on the context in which it is used (which thesis

\textsuperscript{100} Based on designation (Łuczyński and Maćkiewicz 2002: 34–35).
\textsuperscript{101} Based on connotation (Łuczyński and Maćkiewicz 2002: 34–35).
actually coincides with communicative grammar’s treatment of lexical meaning). Apart from lexical meaning, there is the meaning of grammatical structures in language, which is independent of lexical elements that can be inserted in them. Such grammatical meaning is a meaning at the level of schemata; consequently, like lexical units, grammar structures are symbolic and together the two constitute a continuum. For Tabakowska, the differentiation of lexical and grammatical meaning is methodologically groundless since both these types of meaning are mutually dependent and together create conceptualization, e.g. the following three Polish sentences share the grammatical meaning (the meaning of the schema\textsuperscript{102}) of the dative case, for which Tabakowska uses the label the sphere of influence\textsuperscript{103}:

(23) posprzątać mamie (mieszkanie)  ['tidy mum-DAT (flat-ACC)']
(24) nawymyślać córce ['shout insults daughter-DAT']
(25) zrobić sobie herbaty ['make REFL-DAT tea-GEN']
(26) posiedzieć sobie w parku ['sit-DETVE\textsuperscript{104} REFL-DAT in park-LOC']
(27) rzucić piłkę Jasiowi ['throw ball-ACC John- DAT']
(28) *rzucić piłkę koszowi ['throw ball-ACC basket- DAT']

We cannot substitute the words in the dative with non-personal nouns since only humans (and some other animates) can claim the sphere of influence, e.g. *Rzucić piłkę koszowi. Tabakowska also compares the dative phrases with genitival ones:

\textit{rzucić piłkę Jasiowi} \hspace{1cm} *\textit{rzucić piłkę koszowi.} \hspace{1cm} [‘throw ball-ACC John- DAT’] \hspace{1cm} [‘throw ball-ACC basket- DAT’]

\textit{rzucić piłkę do Jasia} \hspace{1cm} \textit{rzucić piłkę do kosza.} \hspace{1cm} [‘throw ball-ACC to John-GEN’] \hspace{1cm} [‘throw ball-ACC to basket- GEN’]

With Jaś (John) both the dative and the genitive structures are possible, while the noun kosz allows only the genitive structure. This results from the meaning of the genitive case at the level of schema, which can be described as the point of reference. Both the basket (kosz) and Jaś can function as points of reference while only Jaś (a human being) can claim the sphere of influence.

What Tabakowska suggests is the substitution of the concept of semantic standard with the concept of schema, which belongs to the sphere of semantics. The insertion of particular lexical units into a schema is a shift within the schema.

\textsuperscript{102} Cf. Taylor’s (2002: 228–233) analysis of structures like \textit{the book on the table}.


\textsuperscript{104} = determinative (cf. Aktionsart in Stawnicka 2002: 28).
area of specificity. I generally agree with Tabakowska on the existence of the grammatical meaning at the level of schema. However, I cannot agree with the idea of abandoning semantic standards in favour of grammatical schemas, since the latter do not usually represent categoremes, i.e. they cannot be compared to predicate-argument structures. Certainly, there are grammatical structures which isomorphically reflect conceptual categorematic structures, e.g. a verb connoting a noun is an exponent of the predicate which implicates an argument formalized as this noun. In such verbo-nominal combinations grammatical cases (in inflectional languages) or positions of nouns (in isolating languages) certainly reflect their semantic roles (cf. Fillmore 1968). Nonetheless, frequently, the meaning of a grammatical schema is not concerned with the whole proposition. Let us consider sentence (12) from the previous section:

*I dziewczyna, cała zapłakana, idzie do sklepu po czarną sukienkę.*

This sentence contains a grammatical structure which consists of the preposition *po* and the accusative case. Its meaning in terms of a schema is labelled by Przybylska (2002: 488) as a conventional metaphor achieving a purpose is arriving at a destination (the end of the path), e.g. *po sukienkę, po ciastko, po dziecko, po bilety, po książkę*. According to Tabakowska the meaning of the schema is independent of the lexical elements which are inserted into it and the only change which occurs belongs to the sphere of instantiation (elaboration, specificity). I cannot fail to notice the existence of this abstracted/generalized meaning at the level of the schema, but I am far from agreeing to an interpretation outside the propositions, as all of the above expressions with *po* contain hidden predicates. Their retrieval is possible via the analysis proposed by Awdiejew, i.e. by means of semantic standards plus scenarios. In addition, the interpretation based on semantic standards gives two possibilities: reaching the destination or (probably more often) bringing the object back to the place where you were before you had started the journey. The hidden predication can be retrieved only if two factors are taken into account: the scenario and the knowledge of the object we want to obtain, e.g.

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105 This type of structure is labelled prepositional phrase in English (which seems quite reasonable if we take into account the "caseless" character of the English language. In Polish it is called wyrażenie przyimkowe, which seems insufficient as it disregards the presence of the case ending; the Russian term specifies the role of the case – предложно-падежная конструкция.

106 Przybylska refers here to Grady’s (1997: 286) list of conventional metaphors.

107 There is obviously another semantic schematization of the construction *po + accusative*, e.g. the border: *po kolana, po dziurki w nosie*, with its metaphorical extensions (Przybylska 2002: 483–487).
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It is not sufficient to analyze the prepositional structures in isolation to define precisely the predications that are hidden in them. And it is not through pragmatic context that the predicates are retrieved. Thus, whatever the nature of semantic standards, they certainly constitute some benchmark for interpretation which is situated between Tabakowska’s schema and context. Both cognitive grammar and communicative grammar are contextually and culturally oriented linguistic models and in my opinion the units they introduce are not in conflict as they belong to different levels of analysis – a semantic standard being a verbalization of a trivial proposition and a grammatical schema being a general unit of meaning related to a proposition in various ways (e.g. a constituent of an exponent of the predicate, as in the examples above, or part of an isomorphic exponent of the schema of a proposition as in the semantic roles of cases) and facilitating the interpretation of the propositional meaning.

I would risk a hypothesis that in the above examples the grammatical structure together with the exponent of the argument implicated by the predicate and with the scenario constitute a complex exponent of the sought predicate. This may lead to a general conclusion (which may seem obvious, nevertheless I find it worth uttering) that the relation between the plane of content and the plane of expression is not only a relation between concepts and lexemes but that concepts can be also formalized at the surface level as other signs – grammatical structures and affixes; however, such formalizations are non-isomorphic (cf. 2.6.2).

Let us consider an example from Russian, this time concerning affixes, the verb засмерлять. (’shoot dead’). The derivational structure of the word can be recorded as:

108 Let me parenthetically observe that there is a very important difference between communicative grammar and epistemologically oriented linguistics in the approach to the relation between language and thinking. Unlike the latter, communicativism does not attempt a description of mental processes. As the basic unit communicativists select a PAS, which is not a structure of thought but a structure of meaning. Their description of text interpretation and text production is not a description of thinking but a description of how concepts are arranged in standard meaningful configurations. The comprehension of thought processes is a difficult task (if possible at all), whereas rendition of content configuration is a realistic undertaking, which I consider a strong point of the communicative methodology.

109 Compare with Karolak’s (2002: 36) analysis of the verb zastrzelić. The Polish verb zastrzelić is derived from strzelić by means of the prefix za-, which is a formal exponent of the concept KILL, while the Russian verb заспирить is derived from the imperfective verb спирать.
The word задерлить constitutes one lexical item; however, it contains exponents of two relational concepts: the root denotes the predicate SHOOT and the circumfix (a discontinuous morpheme) зад...-u- is a formal exponent of another predicative concept KILL.

In the light of the fact that both grammatical structure and affixes can function as formalizations of concepts, which I have just demonstrated, there is one more comment concerning Tabakowska’s idea of a schema that I would like to make now. Tabakowska maintains (and I entirely agree with her) that there is a continuum in language which consists of various types of meaning – the meanings of grammatical structures, lexemes, inflectional morphemes, derivational morphemes, phraseological units, idioms. These units embody conceptualizations at various levels of specificity, schemas being the least specified conceptualizations. What I would like to show is that there are words that conceptualize schemas and that such words reveal non-isomorphic configurations of content. Typical words that reflect schemas are nouns with absorption, i.e. most concrete nouns. Karolak (2002: 39–40) defines nouns with absorption as non-predicator predicate expressions which are distinguished from *verba finita* by the number of slots (positions) that they connote. If we perform the operation of transposition from a finite verb to a noun with absorption we block that valence slot (at the level of form) which is identical with a slot connoted by the superior predicative expression representing the first order predicate (cf. the rule of argument succession). This blocking results from the absorption of the argument position that the absorptive noun shares with the superior predicative expression (the position being empty for the latter).

Let us look at three selected absorptive nouns курильщик, убийца and символ and their English equivalents: smoker, killer and symbol. Their meaning coincides with the following relative clauses (syntactic nouns):

курильщик (чего-то) = тот, кто курит (что-то)
убийца (кого-то) = тот, кто убил (кого-то)
символ (чего-то) = то, что символизирует (что-то)

*killer (of someone) = someone who kills (someone)*
*smoker (of something) = some who smokes (something)*
*symbol (of something) = something that symbolizes (something)*

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112 Cognitivists equate meaning with conceptualization (Langacker 1991: 2, 141).
In such nouns all the operators of nominalization are absorbed in the process of transforming the incomplete independent sentence into a relative clause, i.e. there are no traces left in the form of indefinite and relative pronoun (Karolak 2002: 44–45). The nouns constitute formalizations of nearly complete predicate-argument structures. It is obviously due to language economy that complex syntactic structures can be rendered by means of single words. Such renderings are considered non-isomorphic from the communicative grammar perspective. From the point of view of derivation, the words курильщик, убийца, smoker and killer are morphologically complex and it is indeed through derivation that they gain their schematic (diagrammatic) character: the added formatives: льщик-∅, у-а, -er are indices of the argument positions implied by the predicates formalized as derivational bases. The function of the formatives is called mutation (Puzynina 1978: 194, Nagórko 2003: 214), where the base and the derivative represent totally different classes of denotata. The function of mutation discloses the non-isomorphic character of derivatives produced in such a way since, as I have just shown, it reveals their diagrammaticality (such derivatives are formalizations not only of single concepts but also of relations between concepts). The other two words символ and symbol are morphologically simplex (they are not derived from any other words); still, they are schemas as they denote relations of concepts, not single concepts. This shows that, although derivation may be one of the ways of discovering the lack of isomorphism in language, one has to keep in mind that there are non-isomorphic linguistic units whose discovery is more complex than simply finding out the type of derivational formative. Moreover, the difference between multimorphemic and monomorphemic non-isomorphic units may be treated as an indication of the gradability of the concept of isomorphism: morphologically simplex words which are exponents of conceptual relations may be regarded as less isomorphic than words which indicate such relations by combining the base and the affix

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113 Comprehensive research into nominalization within the framework of semantic syntax was conducted by Korytkowska and Małdżiewa (2002). Czapiga (2003) analyzes the same phenomenon; however, she does not closely follow the methodology of semantic syntax and rarely uses the term, focusing on its product which she calls deverbative. 114 One has to bear in mind that the described operations are performed on Russian, English and Polish which are Indo-European languages whose structure is comparable as they are excorporating (excentric) languages (Lachur 2004: 150). Incorporating (polysynthetic; Comrie 1981: 39) languages possess utterly different means of formalization as in such languages complements are formally absorbed (incorporated) into predicators. Thus, the rendition of the relation between concepts boils down to the analysis of one lexical exponent. It would be fascinating to investigate isomorphism in languages which offer configurations of formal means totally different from the Slavic or Germanic ones.
The above discussion shows that we can look for concepts at various language levels (in Saussure’s terms). The question which formalizations of content configurations are isomorphic and which are not will be considered in the next section.

2.6. Isomorphism and non-isomorphism from the communicative grammar perspective

2.6.1. Isomorphism in communicative grammar vs. isomorphism in mathematics

In this section I am going to present the way isomorphism is understood in communicative grammar. Let me note at this stage that, although isomorphism has been applied in the analysis of language within the communicative framework, this account is the first attempt to study the concept systematically, in comparison with other approaches and with reference to mathematics. Therefore, the following disquisition is the result of my own reflections concerning the nature of isomorphism; while entirely consonant with the communicative grammar approach to isomorphism, it is the first juxtaposition of the communicative and mathematical understanding of the notion.

In Hall Partee et al. (1990: 203) we find an excellent account of how the mathematical concept can be translated into any category which we would like to study in terms of isomorphism, whether it be a dress or a language:

The notion of isomorphism, the relation of “having the same structure”, is of fundamental importance in any attempt to set up a concrete model of an abstract system or a mathematical theory of a family of concrete systems. Informally speaking, two systems are isomorphic if some specified part of their structure is identical and they differ only in interpretation or content or in unspecified parts of their structure. For example, a paper pattern for a dress may be said to be isomorphic to the cut-out cloth with respect to size and shape, they differ only in their material. Japanese and Korean are sometimes said to be isomorphic with respect to their syntactic structure, a claim which would be true if the two languages differed in their morphemes but sentences could be put into morpheme-by-morpheme correspondence preserving syntactic configurations and permitting the same syntactic operations.

This simple instructive passage indicates that if we want to analyze any entity with respect to isomorphism, our key concept is a system (or a category in general terms) since the relation exists between objects of a system/category, whether it be dress patterns, living organisms, DNA or chemical compounds. What, then, constitutes a category in communicative grammar? It is the category of group involving a set of relational concepts and an operation
It is not enough to state that there exist elements of an object of a category and elements of another object of the category and that there is such a parallelism between those elements that there is a one-to-one correspondence between them. Certainly, this condition must be satisfied for isomorphism to exist between the objects (this principle is often highlighted by the iconicity school; it is, actually, they who speak of mapping); however, isomorphism requires yet other criteria. Firstly, if we perform an operation on the elements of the first object and another operation on the elements of the second object, despite the difference between the elements of the objects and the difference between the operations performed on them, the results of the operations must be parallel. And secondly, the mapping (function, transformation) must be invertible.

In the present approach to isomorphism in the context of communicative grammar, the elements of one object (a set from the conceptual level) are relational concepts, while the elements of the other object (a set from the level of linguistic form) are exponents of those relational concepts. The operation that is performed (defined) on the elements of the first object arranges them into a PAS whereas the operation that is defined on the elements of the second object arranges them according to syntactic rules. If the results of the operations are parallel, i.e. if after the operations there exists a one-to-one mapping between the elements of one object and the elements of another object which can be inverted, i.e. if after the operations the elements of the objects will retain the same combinatorial properties when mapped onto the other group, then the objects are isomorphic. Let us illustrate it with a simple example.

Let the concepts DOG, TAIL and WAG be elements of one set and the words dog, tail and wag elements of another set. The operation defined on the first object arranges the concepts into the following proposition:

\[ P(x, y) \rightarrow C(a, b) \rightarrow WAG(DOG, TAIL) \]

where WAG is a predicate which implicates the agent DOG and the patient TAIL, while the operation defined on the second object arranges the words into the following sentence:

\[ \{ \begin{array}{c} dog \\ tail \\ wag \end{array} \} \rightarrow The \ dog \ wags \ its \ tail. \]
where *wag* is a predicator, i.e. a verb with the force of sentence-building predication which connotes two argument expressions: the noun *dog* functioning as a subject and the noun *tail* functioning as an object\(^{115}\) in the sentence\(^{116}\).

If we juxtapose the results, we see that the mapping is invertible and that the operations are preserved, i.e. no matter which operation is performed first – the predicate-argument structuring or the syntactic combination – their results are parallel, which means that we end up with parallel relations between the words and between the concepts with the preservation of one-to-one correspondence between the elements of the first and the second object. In such a case we say that the groups are isomorphic. To put it more lucidly, let us call the element which is mapped an image; then, an exponent of the concept can be called its image. If the result of an operation performed on concepts is parallel to an operation performed on their images (terms, words), the group of concepts and the group of their images are isomorphic. This statement may be further simplified by the following reformulation: *the predicate-argument structure and the sentence are isomorphic or there is isomorphism between the predicate-argument structure and the sentence*. With respect to this we can state that the sentence *the dog wags [its] tail* and the predicate-argument structure \( \text{WAG} (\text{DOG}, \text{TAIL}) \) are isomorphic, which can be notated in the following way:

\[
\text{the dog wags its tail} \cong \text{WAG} (\text{DOG}, \text{TAIL})
\]

### 2.6.2. Shortcuts, clarifications, controversies

Let me now comment on certain practical shortcuts which are used in order to make the methods of analysis plain. They are concerned with two issues: the direction of analysis and the explanation of the use of the term *isomorphic* in communicativism.

Concerning the first issue: the maxims of communicative grammar state that there is a unity of meaning between the structure of content and the structure of expression; nevertheless, the structure of content is primary with

\(^{115}\) As defined in grammar (a complement).
\(^{116}\) *The* and *its* are functional entities which belong among terms (cf. the fourth axiom of communicative grammar). They have a purely referential/determinative function and thus they not affect the configuration. For instance, it would be ridiculous to assume that we speak of a tail which does not belong to this particular dog; thus *its* constitutes part of the term *dog* in the discussed sentence. Cf. the Russian *Собака виляет хвостом* and the Polish *Pies merda ogonem*, where functional morphemes are absent due to the fact that the category of definiteness is grammaticalized to a lesser extent than in English. Thus, I am disregarding functional morphemes in the notations in order to simplify the analysis. Communicativists sometimes provide information about functional morphemes in the notation when it has explanatory force (e.g. Awdiejew and Habrajska 2004: 95–97). More details concerning functional morphemes are given in 2.6.2.
Methodological considerations: isomorphism and non-isomorphism...

respect to the order of analysis (not superior but primary). This is a consequence of two assumptions: (1) the basic goal of language is communication and, following from this, (2) interpretation is recognition of a clearly defined scheme of verbal interaction (Fig. 6, Section 2.4). If the aim of language is message transmission, it is assumed that the receiver has to find out the initial cognitive representation which arises in the speaker’s mind. The representation is structured in the form of predicate-argument structures at the level of content and only then is dressed in a particular linguistic garment in the process of communication. Thus, our analysis begins from the accessible (configuration of form) in order to discover what is primary (and although the investigation starts from expressions and only in the second stage of analysis are configurations of content looked into, the eventual interpretation resides in the unified analysis of both levels). Because predicate-argument structures result from primary operations of content arrangement, the system of formalizations is analysed in relation to this primary arrangement. This is an important clarification because it justifies the unidirectional treatment of the relation. If I speak of isomorphism of the plane of signifiant in relation to the plane of signifié I follow the direction of the analysis of the message interpretation process, which does not exclude the possibility of mapping inversion.

With reference to the second issue: for the sake of clarity I refer not only to the configurations of correlates as isomorphic in relation to the configurations of concepts but also to the entities (elements) which constitute the configurations of correlates as isomorphic in relation to the entities (elements) belonging to the configurations of concepts. Such labelling is a metonymic reduction, where an entity stands for a configuration. Hence, if the configuration of formal exponents of concepts is a mapping (which satisfies the mentioned necessary conditions) of the configuration of concepts they denote, the exponents are labelled as isomorphic. In the following discussion I speak only about isomorphism of the exponents in relation to concepts, which is a metonymic reference to the isomorphic relation between the objects to which the exponents and the concepts belong. This explanation is crucial since it would be a methodological inconsistency to speak of isomorphic elements when only the objects they belong to can be defined as isomorphic.

Isomorphism between the objects under consideration can be represented by the following diagram:

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117 where elements of the set are arranged after the operations performed on them (= combinations, arrangements).
Fig. 7. Isomorphism in Communicative Grammar

Isomorphism in Communicative Grammar
Legend to Fig. 7.

- Operation defined on signs (exponents of concepts) – combining them into phrases or sentences (predicate-argument expressions)
- Operation defined on concepts – combining them into predicate-argument structures
- The sphere of ostensive-referential influence
- Semiotic triangle
- The sphere of isomorphic relation

As a consequence of combining signs and combining concepts there holds such a relation between the signs and the concepts that in each of the configurations (i.e. results of the performed operations\(^\text{118}\)) mapping is preserved. In accordance with the posited terminological simplifications the entities from the level of signs are called isomorphic if their arrangement is a mapping of the entities from the conceptual level.

Additionally, it is assumed that the standard result (image) of mapping is a term (a lexeme, a word). If the mapped image assumes a different form, e.g. a suffix or a schema (a grammatical structure) I speak of the absence of isomorphism, i.e. of non-isomorphism (cf. Section 2.5.2). During my research I found the status of such mappings controversial. On the one hand, we could presume that isomorphism is retained since the mapping is preserved, on the other hand, such mappings are certainly different from lexical images of concepts and the question arises whether to recognize them as separate units of the set of expressions or to treat them as forming a unity with lexemes to which they adhere (cf. the maxim of unity of grammar and lexicon in communicativism). The adoption of the second stance results in treating them as non-isomorphic, and their non-isomorphism would require a specification in terms of type of non-isomorphic realization. If the first stance is taken, they are regarded as isomorphic units – but wouldn’t then the status of their isomorphism be different from that of lexemes?

Although I opt for the first stance, I would like to comment on an idea triggered by the above controversy. The concept of isomorphism might be viewed as a gradable phenomenon, where entities more easily identifiable as

\(^{118}\) The term configuration may be used to denote the result of the operation or the operation itself.
formal exponents of concepts would manifest a higher degree of isomorphism, while those whose deciphering brings about more problems would manifest a higher degree of isomorphism. It is striking that a treatment of isomorphism as manifesting gradability diverges from the mathematical definition towards Lyons’s treatment of the notion, which is not unexpected once we compare linguistic categories with mathematical ones. Let me only briefly recall the discrepancy between classical (Aristotelian) and cognitive approach to categorization (Taylor 1995: 22–24, 38–58). According to the classical approach categories are defined in terms of a conjunction of necessary and sufficient binary features, they have clear boundaries and all members of a category have equal status, while in cognitivism categories are viewed in terms of a prototype, features are regarded as non-binary, categories have fuzzy boundaries, and there are “better” and “worse” members within a category. The Aristotelian attitude to categories resembles that of mathematicians and should not be disregarded as it helps us to order linguistic entities and the surrounding reality into clearly defined classes; however, there is an obvious difference between such units as number 5, whose membership in the set of real numbers is undeniable and it is neither better nor worse than number 6, and *hen*, which is certainly a worse member of the category *BIRD* than *robin* or *sparrow*. Therefore, it does not seem unjustified to regard certain semantic categories as demonstrating lower or higher degree of isomorphism.

If a position somewhere between the formal and the cognitive paradigm is taken, the following solution may be put forward: pursuing the mathematical understanding of the term with respect to membership in the category of isomorphic entities, i.e. considering linguistic entities as belonging or not belonging to the category, but at the same time taking into account the cognitive approach to categorization with respect to non-isomorphic linguistic entities which would be regarded as less non-isomorphic and more non-isomorphic. Defining the degree of isomorphism for a suffix or a grammatical structure can be compared to Rosch’s psychological experiments on categories, where the verification of the statement *duck is a bird* took subjects more time than the verification of the statement *robin is a bird* (Taylor 1995: 45); in the same way the verification of the image of a particular concept in the form of a term is likely to take less effort than verification of a suffix or schema as images of concepts.

In conclusion, I refer to those elements of the formal plane which are not terms as non-isomorphic due to the fact that normally they enter the one-to-one relationship with concepts as part of terms and not as some separate enti-

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119 The latter approach to categorization is supported by evidence provided especially by Rosch (1973, 1978).

120 The degree of membership is most often culturally conditioned (*robin* is certainly a prototype of the category *BIRD* for American people while *sparrow* for Poles).
ties. I take their non-isomorphic character for granted and specify them according to the type of exponent they constitute (suffix, schema); however, I do not entirely renounce the idea of the gradable character of the concept despite the fact that it is not included in the following analysis. The decision to classify entities like affixes or prepositional structures as non-isomorphic may be supported by the fact that the former cannot be understood as formalizations of particular concepts outside combinations with lexical roots while the latter cannot be interpreted outside scenarios or polypredicative structures.

Let us go back for a moment to the expression *The dog wags its tail* in the context of entities with various degrees of isomorphism. Obviously, the relation at the level of syntax is complicated by syntactic categories and reference which are embossed on expressions when they are combined into sentences. It is *the dog*, i.e. a specific designate that functions as the subject and as the third person singular it requires the addition of the -s ending on the verb; there is the simple present tense and indicative mood. This, however, does not obscure the primary relation between the signs, which is an exact mapping of the set of concepts arranged into the predicate-argument structure. Although elements indicating syntactic categories (grammatical endings or function words) are linearly isolatable, they are viewed as integral with the stems with which they constitute terms because they are functional in nature. According to communicative grammar they are in no way linked with the conceptual level and in order to retain isomorphism between objects we treat them as parts of terms. This is a consequence of a unified treatment of grammar and lexicon (cf. the fourth maxim of communicative grammar). The only case in which functional elements (aka syntactic operators; cf. Karolak 2002: 36) are treated as separate is a situation in which they denote concepts, but then they are only outwardly functional as in fact they introduce a non-isomorphic relation between the level of form and the level of content. An example of this appears in the already discussed sentence *I dziewczyna, cała zapłakana idzie do sklepu po czarną sukienkę*, where the grammatical structure po -ę can be treated as compression, i.e. it indicates the existence of a constitutive concept BUY which has no other formalization but the combination of those functional elements in the clause. As I suggested, the status of such structures may be discussed either in terms of a particular type of non-isomorphism (which is my choice) or explicaded with reference to gradability of isomorphism, as the retrieval of concepts hidden behind them is not a straightforward operation (e.g. requires reference to the whole syntactic context).

There is one other thing about isomorphism in communicative grammar that needs clarification, namely the levels of linguistic analysis (cf. the third

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121 Cf. the circumfix in the analysis of the Russian verb застрелить in section 2.5.2.
maxim of communicativism). The above discussion of isomorphism is primarily concerned with the ideational level, i.e. with preverbal cognitive representations that are verbalized through combination of terms. Here the concept of semantic standard plays a vital role because the decision whether a given linguistic unit makes up an isomorphic or a non-isomorphic configuration with other linguistic units depends on our knowledge of standard configurations of content. If a linguistic entity introduces a non-standard (e.g. external) relation into the configuration, it is considered non-isomorphic. It is obvious that verbalization involves a choice of formal means, which automatically activates analysis at the textual level. Apart from combination of terms this level involves other means which serve to organize the whole discourse. Such means are often non-isomorphic since they constitute elements exterior to predicate-argument expressions.

At the interactional level the way we study isomorphism is determined by pragmatic factors. Let me explain their role by referring to Fig. 7. The blue arrows indicate that the relation between conceptual and sign categories is also determined by reference. I would not like to narrow down the understanding of reference to pointing to a particular object or phenomenon in extralinguistic reality but rather to view it as a relation with the discourse and the immediate communicative environment. Frequently linguistic units used in real messages are not interpretable without such broadly understood reference; consequently, isomorphism of configurations, and more often its absence, must be defined with respect to those pragmatic (ostensive-inferential) factors which determine the interpretability of a message. If violation of the isomorphic structure is caused by an external referential operation, non-isomorphism at the interactional level of communicative grammar occurs (it is worth noting that it is a non-isomorphic rather than isomorphic relation when interactional factors play their part). If non-isomorphism is definable outside reference, it is referred to as non-isomorphism at the ideational level\textsuperscript{122}.

2.6.3. Linguistic theories of isomorphism vs. mathematics and communicative grammar

In the first chapter I discussed major views on isomorphism. Let me now summarize these views and appraise them in the light of communicative grammar model with special reference to mathematics, where the term had appeared earlier and which seems to be a practical benchmark for analyzing linguistic structures.

\textsuperscript{122} Adverbs are usually constituents of non-isomorphic structures at the ideational level of communicative grammar (cf. chapter III).
Taking into account all the mentioned approaches to the concept in linguistics isomorphism can be defined as:

- parallelism between structures from different levels of language, e.g. phonological and syntactic (Kuryłowicz’s definition)

- similarity between different languages with regard to structures of a particular linguistic level, especially the level of lexical semantics (but also phonology and grammar; Lyons’s definition)

- parallelism between syntactic structures of two (or more) languages, or parallelism between n-termed homogeneous predicates, or parallelism between designator matrices (Carnap’s definition)

- structural diagrammatic iconicity understood as a one-to-one correspondence between the signans and the signatum (a sign and its meaning) relating primarily to words, which connects the linguistic with the extra-linguistic (iconicity school: Haiman’s definition, Fisher and Nänny’s definition).

- the most obvious non-arbitrary structure-function relation, where major nodes and their relations in the coded function are reflected – more or less one-to-one – in the corresponding nodes and relations of the coding structure (iconicity school: Givón’s definition).

Indubitably, Carnap’s idea of isomorphism remains the most faithful to mathematics. He defines objects of his analysis not only in terms of possession of the same formal structure but also in terms of structure retention. Although his ideas are empirically untested we might expect that his understanding of the term can be used in purely syntactic comparisons of languages, many-termed predicates and any other syntactic matrices; however it seems impossible to apply it in the analysis of the relation between form and meaning.

Kuryłowicz, whose treatment of the notion is considered seminal in linguistics, goes further than Carnap because he systematically examines specific linguistic entities. His genius in the discovery of parallelism between phonological, morphological, and syntactic structures of language is astounding since it is outwardly impossible to compare for instance the structure of the syllable and the structure of the sentence. Like Carnap, Kuryłowicz is mathematically oriented as he analyzes relations between structures of different levels and he takes into account operations defined on elements of those structures, too. What I find especially valuable in his proposal is his attempt to uncover isomorphic relations between expression and content by “taming” the latter through morphological substance (cf. the glossematic division into the form of expression and the form of content); the only shortcoming of his approach is
the choice of means of “taming” since, in fact, the analysis of morphological substance boils down to the analysis of morphemes, which in my opinion belong to the sphere of expression (in my approach to the notion the means of “taming” are predicate-argument structures which definitely belong to the sphere of content).

It is not surprising that Lyons discusses not only isomorphism but also non-isomorphism in his research (he was, actually, the first to do so). Lyons focuses on categorial extension of concepts represented by lexemes from different languages. His definition of isomorphism is concerned with the problem of semantic equivalence between languages, and therefore, his isomorphism is a gradable phenomenon (there are languages which manifest higher or lower degree of isomorphism when equivalent units are compared). He does not reject the idea of structure, which is a defining feature of mathematical isomorphism – for him it is a structure of a given semantic field. Thus, it is not unexpected that categories which are compared reveal elements of structure that are not parallel, i.e. categories in one language are often composed of semes (cf. Polański 1999: 521) which are absent from equivalent categories in another language. Unlike Kuryłowicz, Lyons endeavours to study the level of content, but he compares only categories from this level, whereas his relating them to the level of expression is limited to stating that exponents of categories belong to different languages.

The definitions of isomorphism that I find least consonant with mathematics are those which have been put forward by iconicists, e.g. Haiman, Fischer123 and Nänny. Their sole mathematical feature is a one-to-one correspondence between words and their meanings. They equate isomorphism with structural diagrammatic iconicity, in which, in fact, no structure is involved and elements are not grouped into any specified sets (the set to which words belong is the whole lexicon of a language, or even lexicons of all languages while the other set is the set of their meanings). Moreover, what I find unsatisfactory in the approach is viewing structural diagrammatic iconicity as connecting the linguistic with the extralinguistic, which suggests that no distinction is made between meaning and reference. As I remarked in Chapter I, this understanding of isomorphism has been labelled in linguistics with other, perhaps, more appropriate terms: one form – one meaning hypothesis, one-to-one symbolisation, formal determinism, experimental motivation. In his research on diagrammatic iconicity Haiman also deals with iconicity of motivation (comparable to

123 Fischer (1999: 367–368) in one of her articles goes beyond Haiman’s definition in her understanding of isomorphism – apart from one-to-one correspondence, it carries the property of being structurally consistent, which places her isomorphism closer to mathematics. However, in her general classification of iconicity (Fischer and Nänny 1999: XXII) she follows Haiman’s definition.
Givón’s sequential order principle) and in that context uses the illuminating metaphor *the map is like the territory*, which understanding of iconicity is actually closer to the notion of mathematical isomorphism than its impoverished counterpart (cf. Haiman’s definition of isomorphism as impoverished kind of iconicity in Chapter I).

Givón views isomorphism in a yet different way, i.e. as a structure-function relation. This understanding of the notion is also discordant with the mathematical one. It does reveal iconic relations between concepts and expression, but it hardly manifests isomorphic relations between them (he discusses isomorphism with reference to iconicity principles). Such a perspective is rather loosely connected with mathematical isomorphism – the iconicity principles demonstrate a sort of general idea of parallelism between the plane of expression and the plane of content (e.g. a larger chunk of information is given a larger chunk of code, less predictable information will be given more coding material).

Despite differences in their approach to isomorphism, I find all the above theories important as their aim is to discover isomorphicity in the rules that govern language whether it be a relation between phonology and syntax or a parallelism between semantic fields of two languages. The understanding of isomorphism which I put forward also has its specific goal, which is completely different from the goals of the other approaches and which, hopefully, also has some merit. Unlike the other theories, I regard isomorphism as a tool for facilitating text interpretation. In the case of isomorphic adverbs I look into the relation they introduce into configurations whereas in the case of non-isomorphic ones I reformulate syntactic structures in which they reside into predicate-argument structures in order to discover the primary isomorphic configurations. The procedure of the analysis of adverbs in Chapter III is based on the juxtaposition of configurations introduced into messages by adverbs with predicate-argument structures and re-notation into isomorphic structures in the case of non-isomorphic adverbs. The procedure is explained in detail below.

### 2.6.4. Non-isomorphic linguistic entities and the procedure of their analysis. The question of isomorphicity

In the presentation of communicative grammar model and isomorphism as defined within this framework it was shown that isomorphic linguistic units, i.e. units which connote other linguistic units to form configurations parallel to propositional structures, are not ubiquitous in language but exist alongside units that form configurations whose structure is non-isomorphic in relation to predicate-argument structures. It is not the purpose of this study to provide
a quantitative analysis of linguistic units in terms of their isomorphic and non-isomorphic function, i.e. to analyze the ratio between the number of the former and the number of the latter in a given language. Such a venture would require analyzing all texts produced in the language, which is, by definition, impossible. One could perhaps restrict the material to a selected number of units in selected texts (corpora); still, it would not bring satisfying results due to speaker/producer creativity, a feature which determines texts and which is hardly measurable. It is, therefore, not my goal to state that there are more isomorphic units in a given language than non-isomorphic ones, or the other way round, but to discuss the phenomenon of isomorphism and its absence and then analyze selected utterances containing adverbs by deciding whether they are isomorphic or non-isomorphic in the sentential configurations and by showing what this entails for the interpretation of utterances.

So far the reader knows my definition of isomorphism. What then is non-isomorphism and how it is defined on linguistic configurations? I have already discussed certain cases of non-isomorphism in the preceding sections (i.e. suffixes and grammatical schemas denoting concepts and the idea of compression put forward by Szumska). Let me now address the issue of the lack of isomorphism in a more extensive way by describing various units which introduce configurations that are not parallel with propositional structures. As I want to refine the communicative analysis of non-isomorphic units I shall start with selected examples presented by Awdiejew and Habrajska (2004: 281–289) and Habrajska (2004b: 73–87) and only then propose my own classification of such units. Awdiejew and Habrajska (2004: 283) distinguish between internal and external non-isomorphism. Internal non-isomorphism arises when a concept is formalized as a part of speech which, in the authors’ opinion, is an untypical correlate of that concept. External non-isomorphism is concerned with the frame of actualization of the ideational content in terms of time, space, duration and iteration. The term isomorphism (pol. 'izomorficzności') is hyperonymous in relation to isomorphicity as it encompasses what I further describe as proper and iconic isomorphism. To avoid terminological ambiguity, in the following discussion and analysis the term isomorphism is extended to denote what communicatists label isomorphicity\(^{124}\) (cf. Fig. 11).

Let us consider the following examples of external non-isomorphism (only Polish examples are provided by Awdiejew and Habrajska; examples of non-isomorphic adverbs are omitted as they are analyzed in detail in the next chapter; non-isomorphic units are printed in bold):

\(^{124}\) Therefore external non-isomorphicity is further labelled as external non-isomorphism and internal non-isomorphism is further labelled as internal non-isomorphism.
Phrases (34) and (35) include two adjectives which function as emotive-evaluating interactional operators (Habrajska 2004b: 84). The addition of extra elements disrupts isomorphism of the configurations, in my opinion, I consider being expressions of personal judgment. Examples (36–38) require some revision as their non-isomorphism is of dual nature. On the one hand, they are externally non-isomorphic: they situate the configurations in particular spatiotemporal relations. The exponents of the relations are non-isomorphic in the sense that they are outside the predicate-argument configurations. On the other hand they are internally isomorphic because they serve as a means of compression (see below), i.e. reduction of the linguistic configuration by removing the correlate of the predicate. I exclude the last example from externally non-isomorphic units as its non-isomorphism is strictly internal – it resides in the compression of the structure. The denotation of a particular place is not external to the configuration since the predicate BE SITUATED implicates location.

The sentences and phrases below include internally non-isomorphic entities. Their non-isomorphism is shown by the notation of the predicate-argument structures they denote and also by providing their isomorphic counterparts:

(40) Znudziło mu się czytanie książki.
[bored he-DAT REFL-ACC reading book-GEN']
G (x, p) → G [x, g (x, y)]
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\[ G(x, p) \rightarrow C(x, p) \rightarrow \text{GET BORED}(x, p); \]
\[ p \rightarrow P(x, y) \rightarrow C(x, b) \rightarrow \text{READ}(x, \text{BOOK}) \]

Isomorphic reformulation: Znudziło mu się to, że czytał książkę.
['He was bored by reading the book’]

(41) Długi bieg go zmęczył.
['The long run tired him’]
\[ G(x, p) \rightarrow G\{x, F[f(x)]\} \]
\[ G(x, p) \rightarrow C(x, p) \rightarrow \text{GET TIRED}(x, p); \]
\[ p \rightarrow F(p) \rightarrow C(p) \rightarrow \text{LONG}(p); \]
\[ p \rightarrow P(x) \rightarrow C(x) \rightarrow \text{RUN}(x); \]

Isomorphic reformulation: Zmęczyło go to, że długo biegł.
['He was tired by the fact that he ran for a long time’]

(42) wycieczka autokarowa
['a coach trip’]
\[ P(x, y, \text{loc}) \rightarrow C(x, b, \text{loc}) \rightarrow \text{GO}(x, \text{COACH, TRIP}) \]

Isomorphic reformulation: jechać autokarem na wycieczkę (wycieczka, na którą jedzie się autokarem)
['a trip on which one goes by coach’]

(43) drewniany stół
['a wooden table’]
\[ P(x, y, z) \rightarrow C(x, b, c) \rightarrow \text{MAKE FROM}(x, \text{TABLE, WOOD}) \]

Isomorphic reformulation: stół zrobiony z drewna (zrobić stół z drewna)\(^{125}\)
['a table made of wood’ (‘make table from wood’)]

(44) Umyte okno lśniło w słońcu.
['the cleaned window gleamed in the sun’]
\[ SC(t_{1}, t_{0}) \]
\[ t_{1}: P(x, y) \rightarrow C(x, b) \rightarrow \text{CLEAN}(x, \text{WINDOW}) \]
\[ t_{0}: P(x) \rightarrow C(b) \rightarrow \text{GLEAM}(\text{WINDOW}); \]
\[ P(x) \rightarrow C(a) \rightarrow \text{BE CLEAN}(\text{WINDOW}) \]
\[ P(x, y) \rightarrow C(a, b) \rightarrow \text{SHINE}(\text{SUN, WINDOW}) \]

Isomorphic reformulation: Ktoś umył okno. Okno lśniło, ponieważ było czyste i świeciło na nie słońce.
['Someone cleaned the window. The window gleamed because it was clean and the sun shone on it’]

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(45) **Scyzoryk obiera jabłko.**

['The penknife is peeling the apple']

\[ P(x, y, z) \rightarrow C(x, b, c) \rightarrow \text{PEEL}(x, \text{APPLE}, \text{PEN-KNIFE}) \]

**Isomorphic reformulation:** Ktoś obiera jabłko **scyzorykiem**.

['Someone is peeling the apple with a penknife']

(46) **Zieleń drzew wywoływała w niej wspomnienia.**

['The Green (colour) of the trees evoked memories in her']

\[ \text{SC}: P(x, y) \Rightarrow P(x, y) \]

\[ P(x, y) \rightarrow C(x, b) \rightarrow \text{SEE}(x, \text{TREE}); > P(x) \rightarrow C(b) \rightarrow \text{BE GREEN}(\text{TREES}) \]

\[ P(x, y) \rightarrow C(x, y) \rightarrow \text{RECALL}(x, y) \]

**Isomorphic reformulation:** *To, że drzewa były zielone* (to, że widziała, że drzewa były zielone) powodowało, że ona coś **wpominała**.

['The fact that the trees were green made her recall something']

(47) **Janek choruje.**

['John ill-3-PERS-SG-PRES' ('John ills')]\[ P(x) \rightarrow C(a) \rightarrow \text{BE ILL}(\text{JANEK})\]

**Isomorphic reformulation:** *Janek jest chory.*

['John is ill']

(48) **Drzewa zielenią się w oddali.**

['Trees green-3-PERS-PL-PRES in the distance']

\[ P(x) \rightarrow C(a) \rightarrow \text{BE GREEN}(\text{TREES}) \]

**Isomorphic reformulation:** *Drzewa są zielone.*

['The trees are green']

(49) **Samochód przyspieszył.**

['The car accelerated']

\[ \text{SC}(t_1, t_0) \]

\[ t_1: P(x) \rightarrow C(a) \rightarrow \text{GO}(\text{CAR}) \]

\[ t_0: P(x) \rightarrow C(a) \rightarrow \text{GO}(\text{CAR}) \]

\[ G(p, q) \rightarrow G[t_1: P(x), t_0: P(x)] \rightarrow \text{FASTER}[t_1: P(x), t_0: P(x)]^{126} \]

**Isomorphic reformulation:** *Samochód zaczął jechać szybciej.* (Samochód jechał wolniej, a teraz samochód **jedzie szybciej**).

['The car started to go faster’ ('the car was going slower and now the car is going faster')]
According to Awdiejew and Habrajska, the above sentences and phrases represent internal non-isomorphism of various kinds. Examples (40), (41) contain nouns which are verbs from the functional point of view (cf. Awdiejew and Habrajska 2006: 162–164). Functionally, adjectives in (42) and (43) are nouns. In (44) the adjective *umyty* has a verbal function. In (45) we observe the processualization of the verb primarily denoting action by means of deagentization (the tool with which the apple is being peeled replaces the agent; cf. Habrajska 2004b: 74). The noun *zieleń* in (46) is an adjective from the point of view of its function. In examples (47) and (48) we find two verbs with adjectival function. Finally, in (49) we observe a situation where a verb indicates a formally condensed relation between a concept denoted by an adverb and the norm denoted by a predicate implicated by this concept (cf. Habrajska 2004b: 81).

Although intuitively correct, such an analysis of the non-isomorphic units seems slightly superficial, as it does not fully show the role of the units in the configurations they connote. Let me develop the discussion of non-isomorphic units by first juxtaposing the non-isomorphic and isomorphic entities from examples (40–49) in a table:

<table>
<thead>
<tr>
<th>non-isomorphic unit</th>
<th>part of speech or structure</th>
<th>isomorphic unit</th>
<th>part of speech or structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>czytanie</td>
<td>noun</td>
<td>czytał</td>
<td>verb</td>
</tr>
<tr>
<td>bieg</td>
<td>noun</td>
<td>biegł</td>
<td>verb</td>
</tr>
<tr>
<td>autokarowa</td>
<td>adjective</td>
<td>jechać autokarem</td>
<td>verb + noun</td>
</tr>
<tr>
<td>drewniany</td>
<td>adjective</td>
<td>zrobić z drewna</td>
<td>verb (+ preposition) + noun</td>
</tr>
<tr>
<td>umyty</td>
<td>past participle (adjective)</td>
<td>umył</td>
<td>verb</td>
</tr>
<tr>
<td>w słońcu</td>
<td>(preposition +) noun</td>
<td>słońce świeci na</td>
<td>noun + verb (+ preposition)</td>
</tr>
<tr>
<td>scyzoryk</td>
<td>noun (agent)</td>
<td>scyzorykiem</td>
<td>noun (tool)</td>
</tr>
<tr>
<td>zieleń</td>
<td>noun</td>
<td>były zielone</td>
<td>copula + adjective</td>
</tr>
<tr>
<td>wspomnienia</td>
<td>noun</td>
<td>wspominała</td>
<td>verb</td>
</tr>
<tr>
<td>choruje</td>
<td>verb</td>
<td>jest chory</td>
<td>copula + adjective</td>
</tr>
<tr>
<td>zielenią się</td>
<td>verb (reflexive)</td>
<td>są zielone</td>
<td>copula + adjective</td>
</tr>
<tr>
<td>przyspieszył</td>
<td>verb</td>
<td>jechał wolniej, jedzie szybciej (zaczął jechać szybciej)</td>
<td>verb + comparative adverb</td>
</tr>
</tbody>
</table>

Table 4.

---

127 The prepositional phrase *w słońcu* indicates compression where the predicate SHINE has no correlate at the level of form.
128 Participles are seldom treated as verbal forms in contemporary Polish grammars (cf. Nagórko 2003: 121, 126).
When we study the table, it becomes evident that the analysis of the non-isomorphic character of the units needs some refinement. The non-isomorphic entities indicate far more complex relations than a mere shift from one part of speech to another; thus, it is not enough to state that e.g. the situation in which the concept typically denoting an action is dressed in the garment of a noun reveals the non-isomorphic character of the noun. Such an approach to the relation between verbs and nouns and between other parts of speech (cf. Table 4) bears a resemblance to the iconicity of parts of speech mentioned in Chapter I and the concept of *bounding* (Tabakowska 1995: 80). In cognitive grammar the relation between a concept and its correlate in the form of a particular part of speech is often illustrated with the aid of icons, e.g.

Fig. 8. (Langacker 1991: 99)
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The images in Fig. 8 show how a notion is conceptualized when it is bounded by a particular part of speech. Langacker (1991: 98) discusses the difference between the verb explode and its nominalization explosion in terms of Fig. 8 in the following way:

The verb explode and its nominalization explosion can both be used to describe the same event (Something exploded!; There was an explosion!). An objectivist might conclude that the verb and noun are semantically identical, with the consequence that the grammatical category of an expression cannot be predicted from its meaning. My own claim is that explode and explosion contrast semantically because they employ different images to structure the same conceptual content: explode imposes a processual construal on the profiled event, while explosion portrays it as an abstract region. Nominalizing a verb necessarily endows it with the conceptual properties characteristic of nouns. My analysis straightforwardly accommodates the reification implied by deverbal nouns like explosion. The verb stem designates a process, comprising a series of component states scanned sequentially through conceived time. Each component state can be regarded as an entity (recall that this notion is maximally inclusive). Moreover, the very fact that these states are coordinated (through sequential scanning) as facets of an integrated, higher-order conception is sufficient to establish them as a set of interconnected entities, and hence as a region. Every process therefore defines an implicit region consisting of its component states. A nominalization like explosion simply raises this region to the level of explicit concern as the profile of the composite predication. [Fig. 8] is simply the abbreviatory notation adopted earlier for processes, except that I have added a dashed-line ellipse to indicate the implicit region defined by the interconnection of its component states. Within the verb itself, this latent region has no particular salience; standing in profile are the relational configurations of the individual states, not the region per se, which pertains to a higher level of conceptual organization. The effect of the nominalization is to shift the profile to this higher level: it takes the process designated by the verb stem as its base, and within this base it selects for profiling the higher-order region comprising the component states. These states are profiled only collectively, as facets of the abstract region, so despite their individual status as relations the overall predication is nominal.

Whatever form the concept EXPLODE assumes – that of a verb or that of a noun – it remains the same entity at the level of content. The above iconic representation of bounding does not reveal the proper non-isomorphic nature of the entities. As was observed before, there is no point in talking about isomorphism between isolated concepts and their correlates; thus, the notion of bounding is also insufficient for the explanation of the non-isomorphic character of nominalized forms as it confines the analysis to

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\(^{129}\) Cf. the distinction between proper and iconic non-isomorphism below.
the internal structure of lexemes. Isomorphism is revealed only when an entity is seen within a configuration.

This kind of analysis, i.e. an analysis of non-isomorphic units in the context of configurations they are part of, is presented by Szumska (2006) in her comprehensive study of adjectives in non-sentence-building predications. Szumska discusses non-isomorphism firstly in terms of undercoding and over-coding, and secondly in terms of predication type. She distinguishes three kinds of reductive undercoding in the context of non-isomorphism: compression (already mentioned in this thesis), condensation and contextless indefinite zero with specified value, and two kinds of overcoding: absolute pleonasm and relative pleonasm (Szumska 2006: 153).

Compression and condensation occur when correlates of certain concepts are removed from the formalized propositional structure. The difference between these notions lies in that in compression (where also metonymic structures belong) the concept which does not have its correlate in the sentential structure can be unequivocally recovered according to the principle of compensation while in condensation the incomplete verbalization of content cannot be pragmatically compensated, which sets hurdles in the process of message interpretation by creating a kind of informationally empty space that reinforces the contextual effect (Szumska 2006: 146–148). Let us illustrate the notions with the English equivalents of Szumska’s selected examples:

(50) bottle(d) beer \( (\emptyset_{\text{COMP}}) \); (cf. Polish piwo butelkowe)
(51) blue eyes \( (\emptyset_{\text{COMP}}) \); (cf. Polish niebieskie oczy)
(52) bottle gardens \( (O_{\text{CON}}) \); (cf. Polish ogrody butelkowe)
(53) delicate eyes \( (O_{\text{CON}}) \); (cf. Polish delikatne oczy)

In the first two phrases the concepts whose correlates are missing can be easily retrieved thanks to our standard knowledge: beer poured into bottles, eyes having (with) blue irises, while in the other two the concepts are far more difficult to divine. Szumska disambiguated (52) by finding the missing concept in the source from which she took the phrase (Magia Roślin [The Magic of Plants]– a guide to gardening and decorating): miniature gardens (put) in bottles. The missing concept in (53) resists disambiguation: ?eyes delicately set in the face, ?eyes whose look is delicate.

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130 The most comprehensive research on pleonasm known to me was done by Małocha-Krupa (2003). She discusses various kinds of pleonasms; however, she does not use the terms absolute and relative. I use these terms after Szumska (2006).


132 Szumska (2006: 154–200) provides numerous examples of compression, condensation, and pleonasms in basic nominal propositions with adjectives as accessory members.
The third type of reduction, contextless indefinite zero with a specified value\(^ {133} \) allows the speaker to adjust the level of specification. It indicates the distinction between what can be said about a given state of affairs and what the speaker wants or is able to say about it (Szumska 2006:149). For instance:

(54) I have hidden the jewelry \( \emptyset^N_x (\text{where}) \).
(55) Mary is reading \( \emptyset^N_y (\text{what}) \) and John is watching TV.

(Szumska 2006: 149; translation mine, K.O.)

As for redundant expressions, both kinds of pleonasms are non-isomorphic. An absolute pleonasm comes into being when a given semantic requirement is structuralized in language while a relative pleonasm occurs when a stereotypical belief is structuralized in language. The distinction between the types of pleonasms depends on the eliminability of the redundancy of a given expression. In absolute pleonasms elimination is conditioned by necessary features while in relative pleonasms it is conditioned by typical features (the difference between the types can be easily tested via "but-sentences"; Szumska 2006: 152). The following noun phrases my serve as examples of the two kinds of pleonasms:

(56) young girl (absolute pleonasm, cf. the test below)
(*This is a girl but she is young.
*This is a girl but she is not young.)

(57) green grass (relative pleonasm, cf. the test below)
(*This is grass but it is green.
vs. This is grass but it is not green.)

(Szumska 2006: 152; translation mine, K.O.)

Although the pleonasms are different, they both constitute typical non-isomorphic configurations of exponents: there are fewer elements in the conceptual configuration than in the formal one\(^ {134} \).

To sum up, undercoded structuring is non-isomorphic in the sense that a given element is absent in the configuration of form in comparison to the configuration of content, whereas overcoded structuring is non-isomorphic in the sense that there is an extra element in the configuration of form in comparison to the configuration of content. Szumska refers to the phenomenon of undercoded and overcoded structures that she discusses as facultative non-isomorphism since it is concerned with optional systemic operations in the case of undercoding and with speaker redundancy in the case of overcoding.

\(^ {133} \) Whose reference is unknown to the receiver, but known to the speaker (cf. Szumska 2006: 204, Grzegorczykowa 1990: 122)

\(^ {134} \) More about pleonasms in Final Remarks.
Methodological considerations: isomorphism and non-isomorphism...

(Szumska 2006: 145). Szumska contrasts optional systemic undercoding with obligatory systemic undercoding and refers to the former as reductive and to the latter as non-reductive. The non-reductive undercoding comprises three operations: amalgamation, endophoric ellipsis, and contextless definite ellipsis. Amalgamation, principally concerned with exponents of grammatical meaning will not be considered. However, endophoric ellipsis and contextless definite ellipsis exhibit non-isomorphism as defined in this study. Endophoric zero is a zero position with contextually specified value; contextually meaning either anaphorically or cataphorically. Endophoric zero ($0^E$) is “used” in order to prevent the occurrence of formal repetition which violates the cohesion of the text and also as a formal means of distinguishing between introvert and extravert reference (Szumska 2006: 145, 204; Bogusławski 1996: 48). In turn, contextless definite ellipsis ($\emptyset^G$) indicates a generic value of the zero position. Let us look at Szumska’s (2006: 145) example:

\begin{align*}
58) \quad & \text{wymienić parkiet } 0^E = *\text{wymienić parkiet na parkiet} \\
& \text{['change parquet' = 'change (old) parquet flooring to (new) parquet flooring']}
\end{align*}

\begin{align*}
59) \quad & \text{Janek pożycza } \emptyset^G_y \text{ (what) } \emptyset^G_z \text{ (from whom) i nie oddaje} \emptyset^G_y \text{ (what) } \emptyset^G_z \text{ (to whom).} \\
& \text{['John borrows } \emptyset^G_y \text{ (what) } \emptyset^G_z \text{ (from whom) and does not return' } \emptyset^G_y \text{ (what) } \emptyset^G_z \text{ (to whom)]}
\end{align*}

As we can see, both endophoric zero and contextless definite zero satisfy the criteria of being non-isomorphic since the configuration of linguistic units lacks correlates of certain elements from the conceptual configuration and thus mapping is not retained. Because those phenomena are mandatory in texts and their isomorphic counterpart structures are considered unacceptable, I call them obligatory non-isomorphic in contrast to compression, condensation and contextless indefinite zero with a specified value (whose non-isomorphism is optional).

The second aspect of non-isomorphism described by Szumska (2006: 262) is concerned with types of nuclear predication. She proposes the following types of predication within polypropositional groups:

\begin{itemize}
  \item INTERNAL
  \item ISOMORPHIC
  \item SENTENCE-BUILDING
  \item NON-INTERNAL
  \item NON-ISOMORPHIC
  \item NON-SENTENCE-BUILDING
\end{itemize}

![Fig. 9. (Szumska 2006: 262; translation mine, K. O.)](image-url)
Thus, if a nuclear predication within a polypropositional structure is not formalized at the linguistic level as a predicator of the main clause, its realization is non-isomorphic. Szumska provides two convincing examples of such a state of affairs (nuclear predication is formalized as a basic nominal group with an adjective as an accessory member):

(60) *Summer on this marvellous island lasts from May to October. The island is marvellous* (formalization of the nuclear predication) because summer lasts there from May to October.

(61) I was helped by my wonderful children. *My children are wonderful* (formalization of the nuclear predication) because they helped me.


As they outwardly resemble adjunctive predications, such formalizations of nuclear predications might be referred to as quasi-adjunctive predications. Quasi-adjunctive predications are also possible as formalizations of internal predications, in which case they should likewise be regarded as non-isomorphic, e.g.

(62) *The clear blue sky cheered us up at once. The fact that (Corr^COH) the sky was clear and blue cheered us up. vs.* *The sky cheered us up. The sky was clear and blue.*

The adjectives in the sentence have the same functions as their nominal derivatives: The blue (colour) and the clarity of the sky cheered us up. Such structuralizations involve a double formal operation on linguistic units:

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135 In the original the active voice is used: Pomagały mi moje wspaniałe dzieci ['Helped me my wonderful children'].

Adjunctive predications themselves can be non-isomorphic, for instance thanks to metonymic reductions that they involve, comp. examples in (63) and (64):

(63)  *I have eaten a red apple.* (non-isomorphic metonymic reduction)  
*I have eaten an apple. The apple had a red peel.*

[citation]

(64)  *He threw a red ball to me.* (isomorphic formalization)  
*He threw a ball to me. The ball was red*.

For the purposes of this study I would extend the scope of non-isomorphism onto internal predications in which the correlate of the cohesive relation between the nuclear and the internal predication within the polypropositional structure is absorbed in the correlate of the internal predicate.

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136 One could argue that such formulations are also non-isomorphic due to the exponent of definiteness of the object in the re-scription: *He threw a ball to me. The ball that he threw was red.* Still, we will treat such configurations as isomorphic, disregarding reference, which does not disrupt the correlation of the configuration of linguistic elements with the configuration of elements that they denote.
Let me then re-analyze Awdiejew and Habrajska’s examples of non-isomorphic entities in the light of the above comment.

The entities czytanie, bieg, wspomnienia and zieleń in (40, 65), (41, 66), (46, 67) are non-isomorphic as they constitute exponents of internal predications which absorb the correlate of cohesion with the nuclear predication (isomorphic realizations are provided underneath the clauses, the correlate of cohesion being a separate mapped entity)\(^{137}\):

\[(65)\] Znudziło mu się czytanie książki.
Znudziło mu się to, że (Corr\(^{\text{COH}}\)) czytał książkę.

['He was bored by the fact that he read the book’]

\[(66)\] Długi bieg go zmęczył.
Zmęczyło go to, że (Corr\(^{\text{COH}}\)) długo biegł.

['He was tired by the fact that he ran for a long time’]

\[(67)\] Zieleń drzew wywoływała w niej wspomnienia.
To, że (Corr\(^{\text{COH}}\)) drzewa były zielone powodowało to, że (Corr\(^{\text{COH}}\)) ona coś wspominała.

['The fact that the trees were green caused the fact that she recalled something’]

Karolak (2002: 46ff) refers to such nouns as nouns without absorption. They are functionally different from their clausal counterparts (cf. czytanie vs. to, że czytał, reading vs. the fact that he read) as they allow for *stronger reduction of correlates* of concepts implicated by concepts that these nouns formalize (cf. Karolak’s example: ‘To, że skazał ∅₂ na śmierć stało się przyczyną buntu vs. ∅₂ Skazanie ∅₂ na śmierć stało się przyczyną buntu’). This leads me to conclude that such entities satisfy criteria for another type of non-isomorphism which I call *iconic non-isomorphism* in contrast to *proper non-isomorphism* (where the criterion of invertible mapping is not retained). In the former relations they are iconically represented as *things* (cf. the concept of bounding discussed above and Tabakowska 1995: 23–32), which changes the scene construal\(^{138}\) by removing certain elements from the viewing arrangement\(^{139}\) (cf. Tabakowska 1995: 56–61). Cohesion is undoubtedly an entity external to the analyzed objects (it does not constitute a separate concept on the plane of content); however, when embedded in non-absorptive nouns, it allows these nouns to be placed as exponents of propositional arguments in the subject or

\(^{137}\) Also in the generative paradigm nominalizations such as odmowa were considered as lexical units different from the verbs from which they are derived (*odmówić*), cf. Chomsky’s lexicalist hypothesis (Polański 1999: 236).

\(^{138}\) The way the situation is presented.

\(^{139}\) All elements that constitute a situation.
object position, which prototypically results in the elimination of most of the possible argument\footnote{Arguments implicated by the predicate formalized as an absorptive noun.} exponents from the clause structure. Moreover, deverbalives may constitute formalizations of much more complex semantic structures than the verbs from which they are derived (cf. Czapiga 2009: 67–72).

A similar situation arises with the adjectival participle umyte, which also represents an instantiation of iconic non-isomorphism. It absorbs the correlate of cause and effect cohesion between the links of the scenario and thus results in the first argument being backgrounded. The adjectives autokarowa, drewniany, and the prepositional phrase w słońcu constitute compressed predicate-argument structures where the correlate of the predicate is missing. The noun scyzoryk is non-isomorphic as it is used as an argument expression x taking up the position of the agent while being a tool, which allows the agent to be removed from the sentential structure (this is a type of metonymic compression – the tool stands for the agent that uses the tool).

The non-isomorphism of the verb przyspieszył resides in the fact that it represents two separate concepts GO and SPEED, the latter being a gradable phenomenon which can be formalized as a one-place predicate (e.g. the positive adjective fast) or a two-place predicate (e.g. the comparative adjective faster). The verb przyspieszył formalizes SPEED as a two-place predicate.

From the point of view of proper non-isomorphism the verb choruje constitutes an isomorphic entity (cf. Janek jest chory vs. Janek choruje, both configurations being parallel with the conceptual structure). The only non-isomorphic property it possesses is its ability to change the scene construal and thus it might be referred to as iconically non-isomorphic.

The non-isomorphism of zielenią się is of dual nature. On the one hand this entity absorbs the correlate of cohesion and on the other it functions as an interactional operator in the sentence: Drzewa zielenią się w oddali. \textbf{The fact that} (Corr\textsuperscript{COH}) the trees are green \textbf{distinguishes them from} other distant objects that the speaker \textbf{sees} (Oper\textsuperscript{INTERACT}). The function of the operator is to indicate the importance of perception: the fact that the trees are green is significant for the way the speaker perceives them (cf. *drzewa są zielone w oddali, where the lack of the interactional function makes the phrase awkward, if not unacceptable).

To sum up, two major types of non-isomorphic correlation between the plane of expression and the plane of content are distinguished. I label the first type \textbf{proper non-isomorphism} and the second one \textbf{iconic non-isomorphism}. Following Awdiejew and Habrajska, I subdivide proper non-isomorphism into \textbf{internal} and \textbf{external}; however, the designation of the terms is slightly modified (Fig. 11).
2.6.5. Hyperterms and communicative modes as non-isomorphic configurations

Special kinds of non-isomorphic relations distinguished by Awdiejew and Habrajska (2004: 288) are represented by hyperterms and communicative modes. They will not be discussed in detail in this study as their non-isomorphism is self-evident. However, since they are important concepts in communicative grammar model, let me at least briefly show their non-isomorphic character.

Hyperterms are defined by Habrajska (2004b: 104) as condensed informational structures. They are lexemes that denote complex schemas in the form of whole scenarios, such as widow, wedding, concert, trip. Let us consider the covert scenario hidden in the hyperterm widow:

(68) **widow**

\[
\text{SC} (t_2, t_1, t_0)
\]

\[t_2: P (x, y) \rightarrow C (a, b) \rightarrow \text{HAVE (WOMAN, HUSBAND)}\]

\[t_1: P (x) \rightarrow C (a) \rightarrow \text{DIE (HUSBAND)}\]

\[t_0: \sim P (x, y) \rightarrow \sim C (a, b) \rightarrow \sim \text{HAVE (WOMAN, HUSBAND)}\]

As is evident, such words denote whole structures; therefore, when entering other configurations they introduce additional elements which do not satisfy the concept of mapping at the formal level (the correlates of the semantic configurations are hidden in the hyperterms).

I have already mentioned that communicative modes are defined by Awdiejew (Awdiejew 1999b: 240–247) as ways of representing information where two or more ideational representations refer to the same fragment of reality. They concern metonymy and metaphor first and foremost. Since metonymy has already been discussed in the context of compression, let me now...
illustrate the non-isomorphic correlation between the configurations of content and expression with metaphorical communicative modes. The most typical metaphorical communicative modes distinguished by Awdiejew are personification, animization, vegetabilization, reification and abstractization. The mechanism behind the modes is quite straightforward: the source domain of the metaphor is identified and compared with the target domain. Let us consider a Polish example of animization:

(69)  
\[ \text{ząb czasu} \] ['time's tooth']

source domain \text{ANIMAL} \rightarrow \text{target domain} \text{TIME}:

\[
P (x, y) \rightarrow C (a, b) \rightarrow \text{HAVE (ANIMAL, TOOTH)}
\]

\[
P (x, y, z) \rightarrow C (a, y, c) \rightarrow \text{BITE (ANIMAL, y, TOOTH)} \Rightarrow P (x, y, z) \rightarrow C (a, y, c)
\]

\[
\rightarrow \text{DESTROY (ANIMAL, y, TOOTH)}
\]

\[
\Rightarrow P (x, y, z) \rightarrow C (a, y, c) \rightarrow \text{DESTROY (TIME, y, TOOTH)}
\]

The conceptual configuration denoted by the phrase consists of many elements; therefore, the concept of mapping is not retained and the phrase is considered non-isomorphic. What is important about such configurations is the fact that their reconstruction is possible only through implementation of semantic standards, which enable us to see the connection between the ideational images represented by the source and the target domain.
CHAPTER III

On adverbs and their isomorphism/non-isomorphism

3.1. What is an adverb? A brief survey

The class of adverbs is often labelled as heterogeneous, non-homogeneous, peripheral or is defined in negative terms. Let me support this claim with selected quotations. Pullum and Huddleston (2003: 563) write: "The fact that adverbs can modify such a wide range of expressions makes the category somewhat heterogeneous". Grzegorczykowa (1975: 9) observes that adverbs constitute “a disparate class, often negatively defined as an autonomous part of speech which does not possess any formal features and thus is neither a noun nor a verb nor an adjective nor a numeral nor a pronoun (translation mine, K. O.).” For Chervinskiy and Nadel'-Chervinskaya (2004: 7) "adverb is a dynamic, capacious, expressive and vivid part of speech, but at the same time a very multifaceted and multihued one and in its diversity difficult to pin down (translation mine, K. O.)." Since the category is heterogeneous and the present study does not aspire to provide innovative solutions in the description of the whole class of adverbs but to illustrate the notion of isomorphism with this particular part of speech, I will limit the theoretical presentation of adverbs to basic facts which can be found in academic descriptive grammars of Russian, Polish and English.

3.1.1. Russian adverbs

In descriptive grammars of the Russian language adverb is defined as auto-semantic part of speech/grammatical class/lexical category which denotes a property of an action, a property of a property or a property of an object as it determines either a verb or an adjective or another adverb or a noun (Chervinskiy and Nadel'-Chervinskaya 2004: 19; Shvedova 2005: 703). The adverb’s primary syntactic function is that of adjunct or adverbial/modifier (Vinogradov 1972: 273). It is the only uninflected part of speech among the open lexical classes (cf. Quirk et al. 1973: 44–46).

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141 The following presentation of the Russian adverbs is based mainly on the most comprehensive source, i.e. Chervinskiy and Nadel'-Chervinskaya (2004).
142 The only trace of inflection in adverbs is the category of degree. However, if degree is considered a selective (classifying, non-inflectional) grammatical category (Wawrzyńczyk and Zmarzer 1987: 13–14), it should not be regarded as any kind of inflection.
From the lexico-semantic and derivational perspective adverbs are considered to be secondary, motivated and transitionary. They can be derived from adjectives, nouns, verbs, pronouns, numerals, and also from other adverbs, particles, and interjections. They may come into being as a result of the process of adverbialization\(^{143}\) of nouns (with frequent conversion of a prepositional phrase, i.e. of a noun in a particular grammatical case with a preceding preposition\(^{144}\)), pronouns, adverbial participles and numerals. Their transitionary character results from the fact that it is sometimes difficult to indicate the exact moment when a given part of speech becomes an adverb through conversion (cf. below). This issue concerns particularly adverbs founded on structures (cf. the study of Polish polysegmental adverbs in Wojdak 2004). For nouns converted into adverbs, the criteria for the indication of the completeness of conversion are:

- change in lexical meaning (on becoming adverbs nouns begin to indicate measure, grade, quantity, intensity and/or subjective evaluation of property)
- creation of a new syntactic relation (the grammatical case of nouns is determined by verbs while adverbs enter into the relation of adjunction with verbs)
- blending of a prepositional phrase into a word (the preposition becomes a prefix while the inflectional ending becomes a suffix)
- fossilization of a noun in the oblique case with a preposition (while the noun in its primary nominal function is used only in the nominative)
- the impossibility of being modified by adjuncts (which would split the preposition and the noun).

For participles converted into adverbs, the criteria for establishing the finalization of conversion are:

- the loss of processual meaning
- the loss of aspect
- the loss of the capacity to possess/govern complements.

The opacity of adverbs is emphasized by their frequent homonymy with other parts of speech. Firstly, they are often homonymous with short adjectives in the neuter gender and with the so-called predicatives of state\(^{145}\), e.g.

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\(^{143}\) i.e. a non-morphological means of derivation whereby new lexemes are created via conversion from one part of speech into another (Lachur 2002: 30).

\(^{144}\) Cf. the Russian term предложно-падежная конструкция in footnote 105.

\(^{145}\) Homonymy of adverbs and predicatives of state was discussed by Solecka (1988). A comprehensive account of predicatives of state can be found i.a. in Arutyunova (1988) and Mocarz (2005), who studied them from the confrontative perspective.
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Мне сегодня очень весело.

Дитя весь день было весело.

Митя весело улыбался друзьям.

In the first sentence the lexeme весело describes the internal state of the subject and thus is a predicative of state, in the second one it ascribes an attribute to the subject and thus is an adjective; in the third sentence it denotes the property of the verb and only in this sentence is it classified as an adverb. In older grammars predicatives of state (слова категории состояния, предикативы состояния) used to be regarded as adverbs; even nowadays they are sometimes labelled predicative adverbs (предикативные наречия). This term is not quite clear, since one of the basic adverbial functions is predication; however, as a rule regular adverbs are exponents of higher order predicates which implicate nuclear predicates while predicatives of state are correlates of sentence-building predicates.

Secondly, there are adverbs which are homonymous with closed classes, i.e. with prepositions, conjunctions, particles and also with modal words (modalizers, modulants), e.g.

Стань вблизи!

Школа находится вблизи его дома.

Едва сегодня встал!

Едва поужинал, сразу же ушел на работу.

Вот школа, в которой мы учимся.

Вот тебе и на!

Я это знаю наверное.

Он, наверное, придет.

As in open classes, the difference between the use of the lexemes in the above sentences lies in their syntactic function and subsequently in their relation with other entities. In sentences (73), (75) and (79) the units are classified as adverbs because they specify verbs; example (77) includes a pronominal adverb with a demonstrative function (cf. classification in Table 5) as it indicates an object (школа)\textsuperscript{146}. In sentence (74) вблизи is categorized as a preposition as it constitutes a prepositional phrase with the noun дом. Едва, the adverb which in sentence (75) means 'with difficulty, hardly', in sentence (76) functions as a conjunction meaning 'when, only when'. In sentence (78) вот is a particle which reinforces the exclamation effect\textsuperscript{147}. Наверное in the last sen-

\textsuperscript{146} Cf. the issue of Polish adverbs and pronouns as exponents of localization in Zaron (2005: 48–54).

\textsuperscript{147} Still, in descriptive grammars вот as a particle is classified as demonstrative, which function overlaps with that of the adverb вот. Grochowski (1984: 252–255) used to classify such entities as particle-adverbial expressions (’wyrażenia partykułowo-przysłówkowe’) and distinguished them from adverbs derived from adjectives, following Saloni’s (1974)
tence is a modal word; it does not constitute any part of the sentence and its function is to ground the whole sentence in subjective modality (it expresses a conviction of the speaker that the situation will happen).

These examples show that it is sometimes impossible to categorize a given lexical entity as an adverb without a syntactic context. The problematic distinction between certain adverbs and other parts of speech, the classification of polysegmental lexemes, especially those which arise from converted prepositional phrases, and of all other adverbialized parts of speech as adverbs are controversial issues which reveal the fuzziness of boundaries of this part of speech. While it is easy to categorize any isolated lexeme belonging to an open class, such as a verb, noun or adjective, it is sometimes quite difficult to decide whether a given unit is an adverb outside the sentence. Thus, morphological criteria (derivational patterns and the lack of inflection) are not sufficient to effect such a classification. One has to employ semantico-syntactic measures to categorize a unit as an adverb. The study will not propose new criteria for adverb classification; however, it is necessary to acknowledge that the fuzzy boundaries between adverbs, prepositional phrases and other parts of speech result from the quasi-functional approach to adverbs, i.e. an approach which purportedly employs a grammatical classification but actually relies on the role those lexemes play in sentences. Indeed, the following analysis is not aimed at providing new solutions with respect to the issue but it will hopefully show certain relations between the plane of expression and the plane of content which might cast some light on selected aspects of the nature of adverbs.

To finish the brief overview of Russian adverbs, let me present two typical classifications of adverbs contained in most descriptive grammars. For the sake of succinctness and clarity both classifications are presented in a single table. The first classification is made according to the level of abstraction (nominative function), the second one – according to syntactic function (for the most part the classifications are based on Lachur 2000: 152–155):

classification, which categorised the latter as adjectives; cf. Polish adverbs in 3.1.2. Actually, this approach to adverbs goes back to ancient times, when they used to be considered as “adverbial cases” of other words (Asher 1994: 40).
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<table>
<thead>
<tr>
<th>pronoun</th>
<th>demonstrative</th>
<th>non-demonstrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>дома, домой, весело</td>
<td>быстро, интересно</td>
<td>искренне, дрожмя</td>
</tr>
<tr>
<td>по-дружески, тонько</td>
<td>впустую, наизусть</td>
<td>грязновато, по-дружески</td>
</tr>
<tr>
<td>словно, наизусть, нигде</td>
<td>потому, почему</td>
<td>по-дружески, по-дружески</td>
</tr>
<tr>
<td>неожиданно</td>
<td>абсолютно, совершенно</td>
<td>абсолютно, безусловно</td>
</tr>
<tr>
<td>полезно</td>
<td>впервые, насмерть</td>
<td>впервые, насмерть</td>
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<tr>
<td>по-дружески, по-дружески</td>
<td>по-дружески, по-дружески</td>
<td>по-дружески, по-дружески</td>
</tr>
</tbody>
</table>

#### Table 5

<table>
<thead>
<tr>
<th>ADVERB</th>
<th>QUALITATIVE ADVERB</th>
<th>RELATIVE ADVERB</th>
<th>PREDICATIVE ADVERB</th>
</tr>
</thead>
<tbody>
<tr>
<td>дома, домой, весело</td>
<td>быстро, интересно, искренне, дрожмя, перекатом, вечером, грязновато, по-дружески, тонько, впустую, насмерть, по-дружески, словно, наизусть, нигде</td>
<td>потому, почему, соответственно, по основному, по-дружески, словно, наизусть, нигде</td>
<td>отделено, условно, отдельно, отдельно, отделено, условно, отдельно, отдельно</td>
</tr>
<tr>
<td>дома, домой, весело</td>
<td>быстро, интересно, искренне, дрожмя, перекатом, вечером, грязновато, по-дружески, тонько, впустую, насмерть, по-дружески, словно, наизусть, нигде</td>
<td>потому, почему, соответственно, по основному, по-дружески, словно, наизусть, нигде</td>
<td>отделено, условно, отдельно, отдельно, отделено, условно, отдельно, отдельно</td>
</tr>
</tbody>
</table>

**qualitative adverb**
- (defining adverb)
- (adjunctive adverb)

**relative adverb**
- (defining adverb)
- (adjunctive adverb)
The above classifications are sometimes slightly modified in various manuals. For instance, in semantic classifications pronominal adverbs are sometimes undivided into demonstrative (указательные) and non-demonstrative (неуказательные); on the other hand, pronominal generalizing ones (обобщительные) are sometimes rendered as pronominal defining (определительные), which is perhaps not the best solution as it may cause confusion in semantic classifications (cf. Chervinskiy and Chervinskaya 2004: 42). Additionally, the class of pronominal adverbs in some manuals contains (apart from those in the table) two other subclasses: personal pronominal adverbs, obviously associated with personal pronouns, e.g. *по-моему*, *по-твоему*, *по-нашему*, (also colloquially: *по-вашему*, *по-ее*, *по-его*, *по-их*, *по-ихнему*), and reflexive pronominal adverbs, to which subclass only one adverb belongs: *по-своему*. In semantic classifications qualitative adverbs (определительные/качественные) are occasionally referred to as self-characterizing (собственно-характеризующие) and are divided into three groups (instead of two), where apart from quantitative (measure and grade) adverbs (количество́ные наречия = наречия степени и меры) and adverbs of manner (наре́чия образа действия, e.g. *басом*, *бегом*, *наизусть*), there is another group excerpted from the latter, i.e. qualitative adverbs (in a narrower sense: качество́ные наречия, e.g. *быстро*, *хорошо*, *кое-как*).

Apart from the above classifications, there is another one, often provided by Russian grammarians, i.e. a classification based on word formation types. It is quite elaborate and I do not find it necessary to include it in this short introduction. Derivation is important for the present study but not in terms of derivational types and categories (as is usually done in descriptive grammars) but rather from the point of view of word-formation chains (sequences), where the first element (the closest to the root) indicates the primary semantic powers of the adverb derived from it. As a partial compensation for skipping the word-formation classification, in Table 5 I put numerous adverbial forms derived from various parts of speech by a range of derivational affixes (suffixal: *весело*, prefixal: *невдале́*, circumfixal: *воистину*, postfixal: *где-то*, complex prefixal: *мимоездом*); and also free – underived – lexical forms: *как*.

Summing up, the general approach to adverbs in contemporary grammars is influenced mostly by semantic and syntactic factors. As for the first factor, the classifications are rather inconsistent with reference to the predicative character – especially of manner adverbs – which is not taken into account in the grammars. The syntactic factor shows that there is not much difference

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148 There are a number of interesting publications devoted to those adverbs. They are referred to as gradual adverbs (Chudyk 2006), exponents of intensity of property (Janus 1981), adverbs of fullness of property (Komorowska 1992), exponents of the category of comparison (Ozga 2005c: 473).
between adverbs (a part of speech; наречия) and adverbials (a sentence part, обстоятельства); the latter are usually syntactically classified into the same groups as the former: adverbials of time, place, measure and degree, manner, reason and cause, purpose, condition, consent. The semantic approach certainly needs some revision. To some extent the proposals of Polish linguists, especially Grzegorczykowa (1975), which can be effectively applied in the classification of Russian adverbs, may serve as a solution to the problem of the inconsistency mentioned above (cf. classifications of Polish adverbs below). In turn, the syntactic classification indicates that the meaning and function of adverbs is not much different from those of other units which may constitute adverbials (nouns, adverbial participles, infinitives, cf. Lachur 2002: 213). This is quite in accordance with the general outlook of communicative grammar, where linguistic forms do not necessarily determine the basic meaning of concepts.

3.1.2. Polish adverbs

In the most recent Russian-Polish contrastive grammar manual Maryniakowa (1993: 214) observes that “in Polish adverbs possess the same semantic and morphological features as in Russian. The classification into semantic categories is also identical. The differences concern the lexical value of particular adverbs, e.g. the Russian adverbs здесь and сюда, denoting place. The Russian adverbs там and туда also denote place and direction, while in Polish the adverb там fuses the two meanings, etc.” (translation mine, K. O.). Actually, few differences between Polish and Russian are pointed out in the manual: the difference between formal exponents of the category of degree and some differences between word formation types. For instance, in Russian the suffix -у is added to adjectives ending with -ский, -цкий where in Polish suffix -о is added, cf. теоретически vs. bestialsko; the Russian adverb рановато is expressed in Polish by two lexical exponents dość wcześnie, which are semantically equivalent to the Russian single adverb; certain adverbs are derived from different parts of speech in the two languages: лежать vs. на лежанке; there are more adverbs derived from verbs in Russian than in Polish, in which the equivalent adverbs are often derived from nouns: впередонку vs. на wyścigi (Maryniakowa 1993: 214–225).

Apart from presenting word formation processes by which adverbs are derived149 and the category of degree for which some adverbs can be inflected, Polish grammars give only cursory comments on this category, which usually appear in classifications of parts of speech. Laskowski (1999: 64) provides

149 A whole monograph devoted to the study of the derivational structure of Polish adverbs was written by Cyran (1967).
general information on the morphology of adverbs and refers the reader to Grzegorczykowa (1975), to which I will shortly return. The description of adverbs in older manuals is not comprehensive either, e.g. in Sinielnikoff (1959: 132–134) it is limited to three pages.

Interestingly, despite all the affinities between Russian and Polish adverbs, the description of adverbs in Polish grammars is approached from quite a different angle. Generally, three kinds of classification are mentioned: semantic, grammatical, and syntactic. In Milewski’s (1973: 79–80, 93) semantic classification of parts of speech the adverb is defined as a semantically independent word (like verb, noun, and adjective) which performs a denotative function by designating property of features, states and actions\textsuperscript{150}. He regards them as tertiary words, functionally related to primary and secondary ones:

Primary words – i.e. nouns {...} do not modify, but are themselves modified – {...} secondary words, adjectives and verbs {...} modify nouns. In addition, Polish, as do many other languages, includes tertiary words, i.e., adverbs like dobrze (well), wysoko (highly), bardzo (very), which modify secondary words – adjectives and verbs – and which are never themselves modified. Adverbs designate certain properties of features, states, and actions, and are, therefore, semantically very dependent upon secondary words, which in turn are syntactically dependent upon primary words. Thus we have the syntactic series: adverb – adjective – noun, e.g., bardzo dobry człowiek (very good person), wysoko kwalifikowany robotnik (highly qualified worker) as well as the series noun – verb – adverb, e.g., ptak leci wysoko (the bird flies high), matka wychowała dobrze dzieci (the mother brought up the children well), etc. (Milewski 1973: 79–80).

In Saloni’s (1974) grammatical classification adverbs are put into a single category with particles and together they constitute particle-adverbs (partykulo-przysłówki; particle-adverbial expressions). They are uninflected (like exclamations, prepositions and conjunctions); they cannot be used on their own (in contrast to exclamations) and they do not fulfil a connective function (in contrast to prepositions and conjunctions). It is important to stress that Saloni excluded from the category of adverb all adverbs derived from adjectives; the latter were regarded by him as adjectives with neutralized inflection. Thus, for Saloni only such units as ukradkiem, wkrótce, na schwał are classified as adverbs, while words like szybko, blisko, inteligentnie, zielono are regarded as adjectives (Nagórko 2003: 122)\textsuperscript{151}. Finally, Laskowski’s syntactic classification defines adverbs as autosyntagmatic (syntactically independent) unaccommodated (incongruent) lexemes which do not enter into syntactic

\textsuperscript{150} Cf. Laskowski (1999: 53) or Nagórko (2003: 118) where Milewski’s classification is presented in a chart.

\textsuperscript{151} A similar idea was expressed by the Russian linguist L.V. Shcherba (cf. Sitarski 2001: 26).
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relations with nouns (Laskowski 1999: 59). Laskowski’s classification is based on Grochowski’s (1986) division of words but is more detailed and also modified in terms of terminology (Laskowski 1999: 59). In Grochowski’s (1986: 37–38, 51) classification of uninflected parts of speech adverbs are defined as lexemes which are not used on their own, do not perform a connective function, occur in declarative utterances, and do not enter into a syntactic relation with nouns (i.e. are not their dependents). According to Grochowski (1986: 53) they are grammatically polyfunctional as they can perform the function of predicatives, predicative interjections, adnominal or adnominal-adverbal operators, additions, particles, conjunctions, relators, and prepositions.

Grochowski (1986: 53) claims that the change of the linear position of adverbs in the sentence does not influence their distribution, i.e. does not change the syntactic relation into which they enter. It is this property of adverbs that leads Grochowski to state that they do not combine with nouns in syntactic relations. Interestingly, Grochowski deliberately excludes adverbs’ adherence to nomina actionis from his discussion by denying phrases like czytanie głośno, chodzenie szybko, spacer tamtędy, wyjazd donikąd the status of adverb-cum-noun syntactic relation.

The status of this relation is one of the most hotly debated issues among Polish grammarians. This problem and also other controversial questions concerning syntactic classification of adverbs is extensively reviewed by Krzyżanowska (2006) in her unpublished PhD dissertation. The author focuses especially on the order of locative adverbs but in the first chapter of her study she discusses major current approaches to syntactic categorization of all types of adverbs. In the final remarks of the chapter she concludes that linguists generally concur that adverbs are autosyntagmatic lexemes which enter into syntactic relations with verbs and/or adjectives, do not perform the connective function and do not govern cases. Adverbial collocations with nouns, numerals and connoting prepositional phrases have also sparked off a debate. The status of units such as niemal, prawie, zgoła, całkiem which collocate with nouns, z górą, niespełna, ponad,około, which collocate with numerals, bardzo, dosć, dużo, nadzwyczaj, zbyt, which collocate with adjectives is controversial (Krzyżanowska 2006: 19–20). Some of them can be regarded as numerals (e.g. mało, dużo), some as particles (e.g. ponad,około), and some as modalizers (e.g. prawie, niemal). There is, however, a thin line between those defined as the

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152 In his more recent publications Grochowski distinguishes other functions of adverbs, e.g. adverbs in the superlative degree as metatextual operators (Grochowski 2008: 61–72).
153 Cf. other publications on adverbs, prepositions and particles, e.g. Grochowski (ed.) 1995, Grochowski (ed.) 2005. To my knowledge, Kubicka’s (2010) thesis (PhD, unpublished) is the most recent study of Polish adverbs.
154 For instance, in Wisniewski (1995) collocation with numerals is seen as a criterion of distinction between particles (which collocate with numerals) and adverbs (which do not).
above parts of speech and those defined as adverbs, e.g. *dużo* in *dużo owoców* is a numeral (it collocates with a noun) but in *dużo inteligentniejszy* and *dużo pracuje* it is an adverb (it collocates with an adjective or a verb). Additionally, as in Russian classifications, adverbs are sometimes considered homonymous with predicatives (predykatywy; e.g. *cicho mówi* vs. *ależ tu cicho*, cf. Laskowski 1999: 61).

In general, syntactic classifications are considered to be the most adequate as they show the means of distinguishing between parts of speech in the clearest way while semantic classifications are said to have many failings. Nevertheless, it is Grzegorczykowa’s (1975) monograph that is considered definitive with respect to adverb classification, though her approach is predominantly semantic – she classifies adverbs according to the role they play in the semantic structure of the sentence. Therefore, I decided to quote the table with the classification of adverbs which was proposed over thirty years ago by the semanticist (Grzegorczykowa 1975: 30; translation mine, K.O).

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155 Thus as in classifications of Russian adverbs many obstacles are brought about by homonymy of parts of speech.
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Fig. 12.
The role of adverbs in the semantic structure of the sentence
The decision to quote this classification in full was dictated not only by its status in Polish linguistics but also by the fact that Grzegorczykowa sees some adverbs as units with predicative function, which idea is close to the approach adopted in this study. One of the axioms of communicative grammar concerns the relation between concepts – predicates, arguments – and their exponents; thus, the ascription of predicative function to adverbs is of great significance for the communicative model. From the purely grammatical point of view Grzegorczykowa’s classification may be assessed as imperfect; nevertheless, it is important from the point of view of the research into isomorphism in language because it refers to the relation between the plane of expression and the plane of content.

Let me illustrate the classification with selected examples. First order predicates are adverbs which describe properties of a situation, e.g. *jest ciemno* or properties of objects, e.g. *Jan wygląda staro, biało pomalowany stół*. In other approaches the first subgroup is treated as predicatives while the second one is called by Grzegorczykowa herself quasi-adverbs (in Polish *przysłówki pozorne*). They can describe either a subject or an object; hence, their semantic collocation displays affinities with adjectives, cf. *Jan wydaje się stary, stół jest biały* (thus they are first order predicates for Grzegorczykowa). Modifiers of whole sentences as in *Jan niechybnie załatwił tę sprawę, Marysia prawdopodobnie jest chora* are excluded from the class of adverbs in contemporary grammars, where they are categorized as modalizers or modulants (modalizatory, modulanty). The largest group consists of adverbs which function as second order predicates, i.e. denote various properties of action, e.g. *biegnie szybko, prędko załatwia, pisze ręcznie*; limiting adverbs, which narrow down the extension of reference of the predicate and collocate with either verbs or adjectives, e.g. *słaby fizycznie, utwór piękny literacko, różnić się znaczeniowo*; temporal adverbs, which localize events in time, e.g. *pracuje nocą, przyjechał wieczorem, odznaczony pośmiertnie, za młodu był nauczycielem*; and in space, e.g. *leży na dole, idzie bokiem, wstrzyknąć domięśniowo* (*domięśniowo* being somewhere between a locative and a qualifying adverb); quantifying adverbs, which indicate number/amount *tańczy często, zwiedzali długo*, intensity (gradual adverbs; cf. Chudyk 2006), e.g. *dużo pracuje, znacznie wyższy, zdumiewająco piękna, kolosalnie się boi*, and simultaneously number, measure and time. This last group consists of three subgroups: frequentative adverbs, e.g. *co niedziela zwiedza muzeum, codziennie pije kawę*, durative adverbs, e.g. *codziennie długo czyta, pożyczył książkę na krótko*, and logical quantifiers where

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156 The difference between adverbs indicating number and those which simultaneously indicate time, number and measure is not clear. Grzegorczykowa (1975: 58) explains that the latter measure the duration of activity and at the same time refer in some way to quantitative properties of events.
the time of event is quantified either generally or partially, e.g. Jan zawsze/przeważnie/czasami przychodzi punktualnie.

As far as the controversial adnominal position is concerned, Grzegorczykowa (1975: 9–10) considers it to be secondary. It is a position either adjacent to nomen actionis (chodzenie szybko) or to a noun used in the function of a predicate (niemal anioł, prawie trup) or it is the result of syntactic ellipsis (which in my terminology is a manifestation of non-isomorphic configuration of correlates)\textsuperscript{157}.

Applying semantic criteria in the classification of adverbs is sometimes considered dubious\textsuperscript{158}. Perhaps it is true that from the purely grammatical point of view it is difficult to semantically determine the boundaries of a given part of speech. On the other hand, syntactic classifications display no less fuzziness and no fewer problems in the classification of adverbs.

It is not my aim to unravel the controversies. However, I need to make a decision which units I consider to be adverbs. In order to avoid unnecessary dilemmas I am taking the same stance as most linguists who have been conducting a contrastive Russian-Polish research into adverbs, i.e. I follow the traditional Russian classification. Like Wołodźko (1984: 8–9) I assume that Polish adverbs may describe a verb (e.g. isć przebojem), an adjective (e.g. nadzwyczaj zdolny), another adverb (e.g. bardzo dobrze) and a noun (e.g. Kraków wczoraj) and I follow the semantic division of adverbs presented in the description of Russian adverbs above. Actually, even if some linguists do not regard an entity which I analyze as an adverb it will not affect my research since my task is not to prove the “adverbiality” of adverbs but to show in what way units usually regarded as adverbs display their abilities to arrange concepts into either isomorphic or non-isomorphic configurations; thus, I find semantic definitions of adverbs more valuable for the present study.

### 3.1.3. English adverbs

In Polish-English contrastive grammars adverbs are likewise referred to as a negatively defined heterogeneous class, e.g. Fisiak et al. (1978: 212) start the discussion of adverbs with the following comment: “Adverbs is a grammatical category name which has been associated traditionally with a large, morphologically and syntactically non-homogeneous group of words. Very often the basis for the assignment of a particular word to this group was that it did not fit into any of the better defined classes.” I shall point out basic differences

\textsuperscript{157} Sitarski (2001: 100) expresses similar views on adnominal position of adverbs in the Russian language.

\textsuperscript{158} A criticism of this sort was once directed at me in connection with the analysis presented in Ozga (2005b).
between Slavic and English adverbs; however, let me first summarize basic facts about English adverbs.

The most common characteristic of the English adverb is morphological (derivational): adverbs are most often derived from adjectives (and to a lesser extent from participles) by the addition of the suffix -ly (Quirk et al. 1973: 267), e.g. political → politically, close → closely, and less commonly from nouns by suffix -wise, e.g. clock → clockwise, money → moneywise or -wards, e.g. back → backwards, home → homeways. There are a handful of older prefixal formations with a-, e.g. afresh, aloud, anew, apace. It is more difficult to categorize compounds such as furthermore, nowadays, meantime, forthwith and morphologically simplex adverbs, like often, here, well, now. Adverbs with -ly are sometimes derived from non-adjectival bases, e.g. bodily, namely, partly, matter-of-factly (Quirk et al. 1973: 267, Huddleston and Pullum 2003: 566, Fisiak et al. 1978: 216).

The adverbial suffix -ly has its adjectival twin and thus morphological grounds are not always sufficient to distinguish between parts of speech (here: adjectives and adverbs). For instance, the lexemes motherly, lovely, cowardly, beastly, deathly are adjectives derived from nouns (Huddleston and Pullum 2005: 124).

As in the two Slavic languages, the most tricky classes of adverbs are those which are homonymous with other parts of speech. Here belong adverbs which have the same form as adjectives (which does not occur in Polish and is possible in Russian only for short adjectives in the neuter gender), conjunctions and prepositions. The fusion of conjunctions and adverbs results from their connective function in the sentence, e.g. when – a time adverb that functions in a sentence as a conjunction which introduces an adverbial clause, e.g. He saw them when they were in London.

The homonymy with prepositions occurs in adjunctive syntactic function. In intransitive verbs such as look on, the particle on is recognized as a prepositional adverb functioning as adjunct, e.g. The men look on. If the particle is followed by an NP (in the case of transitive verbs) it is usually classified as a preposition, e.g. He took in the dog. Nonetheless, the mobility of the particle can be

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159 Some grammars note also a homonymy of adverbs with certain nouns, e.g. yesterday and adjectives, e.g. much. This is criticized by Huddleston and Pullum (2003: 564–5). They exclude yesterday from the adverb category and include it among propouns on account of the fact that NPs can also function as adjuncts (yesterday being a pronominal head of a NP) and that it can modify nouns (which function is not licensed for adverbs). Words like much are treated by them as determinatives even in clauses in which they modify verbs (e.g. We didn’t like it much), since practically all determinatives (apart from interrogatives and relatives) that can occur in NP structure with a non-count singular head (and much can fulfil this function, e.g. We haven’t got much time) can also modify verbs, adjectives and adverbs.

160 For a detailed discussion of adverbs vs. conjunctions see Quirk et al. (1973: 271–274).
considered as an argument for its adverbial character, e.g. *He took the dog in*. Modern descriptive grammars (Huddleston and Pullum 2003: 564) sometimes exclude prepositional adverbs from the class of adverbs, e.g. lexemes such as *outside* (*The tap is outside*) are categorized as prepositions on the grounds that they cannot modify a verb.

The distinction between homonymous adjectives and adverbs is effected by words which they modify. Adjectives modify nouns, and adverbs modify verbs, adjectives or other adverbs, e.g.

*She's a hard worker. (adj)*  vs.  *She works hard. (adv)*

*They are very fast. (adj)*  vs.  *They are going very fast. (adv)*

There are homonyms whose meaning differs significantly, e.g. *dead, pretty, jolly, well, far*. The adjectives denote quality while the adverbs denote intensity:

*She’s dead serious. (adv)*  vs.  *She’s dead. (adj)*

*jolly good! (adv)*  vs.  *jolly mood (adj)*

*It’s pretty obvious. (adv)*  vs.  *She’s a pretty girl. (adj)*

Still, there is a number of pairs whose meaning is only slightly different, e.g. *early, monthly, deadly, downright*:

*deadly poison (adj)*  vs.  *deadly poisonous (adv)*

*a monthly magazine (adj)*  vs.  *a magazine published monthly (adv)*

*early morning (adj)*  vs.  *He got up early. (adv)*

Apart from adverbs that are distinguished from adjectives by the suffix -ly, there is a group of adverbs which can assume two forms: with the suffix or without it, the latter being homonymous with adjectives. There are two kinds of such adverbial pairs: they can differ in terms of stylistic or semantic markedness. For instance, adverbs such as *regularly, nicely, tenderly* have their “-ly-less” counterparts *regular, nice and tender* but the latter are unacceptable in standard English; they are often used in non-standard varieties, informal language, in popular culture (e.g. song lyrics): *love me tender, treat me nice, that’s real nice of you* (Huddleston and Pullum 2003: 567). On the other hand such adverbs as *free/freely, pretty/prettily/ sharp/sharply* collocate with different words and have different signification, e.g. *travel free of cost vs. choose freely, pretty cold vs. dress prettily, at nine sharp vs. answer sharply* (Willim and Mańczak-Wohlfeld 1997: 57, 191)\(^{161}\).

---

161 The distinction between adjectives and adverbs is not always entirely clear-cut. Adjectives occur in predicative functions with verbs other than the copula *be*, e.g. *She stood still, We laid them flat*. However, such sentences as *The moon shone brightly* and *The moon shone bright*, despite the lexical verb on which they are founded, have different structures: in the first one *brightly* is an adverb; in the second one *bright* is regarded as a predicative adjective like in *The moon was bright* (Huddleston and Pullum 2003: 567). Let us also note that the
In sentences adverbs function either as adverbials or as modifiers. Adverbials may be described in terms of opposition to other sentence constituents: they are neither subjects, verbs, objects nor complements. The adverbial function may be specified according to its integrity with the structure (Quirk et al. 1973: 421):

**ADVERBIALS**

- Integrated in clause structure
- Peripheral in clause structure

**ADJUNCTS**

**DISJUNCTS**

**CONJUNCTS**

*Fig. 13.*

Quirk et al. (1973: 268) list three conditions, of which at least one must be satisfied in order to classify the function of an adverb as an adjunct. The conditions prove that the adverb is integrated within the clause structure to at least some extent:

Firstly, the adverb cannot appear initially in a negative declarative clause marked off from the rest of the clause by a comma or its equivalents in intonation, e.g.

*Proudly, he showed his diploma to his parents.*

*He proudly showed his diploma to his parents.*

*Proudly, he didn’t show his diploma to his parents.*

Overlap between adjectives and adverbs is even greater with comparatives and superlatives than with the plain form, e.g. *They are singing loud,* *She is moving slow* vs. *They are singing louder than usual,* *She was moving the slowest of them all.* Interestingly, the adjectives good, bad and the adverbs well, badly have the same comparative and superlative forms: better, best, worse, worst (Huddleston and Pullum 2003: 569–570).
Secondly, it can be contrasted with another adverbial in alternative negation because it indicates that it can be the focus of clause interrogation, e.g. *Are they playing indoors or are they playing outdoors?*

Thirdly, it can be juxtaposed with another adverbial in alternative negation as it reveals that it can be the focus of clause negation, e.g. *I didn’t see him beforehand, but I did see him afterwards.*

The adjunctive function and the disjunctive function hold when an adverb is not integrated in the clause and thus, the above conditions apply to it in reverse, e.g.

\[
\begin{align*}
\text{Frankly, it is nice.}  \\
\text{Frankly, it isn’t nice.}  \\
*\text{It frankly isn’t nice.}  \\
*\text{Is it nice probably or is it nice possibly?}  \\
*\text{It isn’t nice probably but it is nice possibly.}
\end{align*}
\]

The difference between disjuncts and conjuncts lies in their semantics: disjuncts express evaluation with regard to the form or content of the message, e.g. *Briefly, I do not want to talk about it, Honestly, I am sick and tired of you whingeing,* while conjuncts have connective functions, e.g. *We went to the party, Mike, however, decided to stay at home.*

As modifiers adverbs premodify or postmodify primarily adjectives and other adverbs (but not only, cf. the list below), e.g. *They are very quiet, He is lazy enough to spoil the job.* The question of the modifying function is vital for the definition of adverbs since they may modify various categories other than nouns, which is their distinctive feature. Huddleston and Pullum (2003: 562) list categories that can be modified by adverb:

- **Verb:** *They [almost suffocated].*
- **Adjective:** *The article was [almost incomprehensible].*
- **Adverb:** *She [almost always] gets it right.*
- **Determinative:** *[Almost all] the candidates failed.*
- **PP:** *They are [almost without equal].*
- **NP:** *She read [almost the whole chapter] in one day.*
- **Verb:** *She [behaved annoyingly].*
- **Adjective:** *We’d had enough of his [annoyingly unpredictable] behaviour*
- **Adverb:** *They are late [annoyingly often].*
- **Clause:** *Annoyingly, they hadn’t left us any milk.*

Let us note that English adverbs may modify NPs but hardly ever nouns. Quirk et al. (1973: 282) provide a few instances of adverbs which premodify nouns within noun phrases: *the away games, the then president, the above sen-
On adverbs and their isomorphism/non-isomorphism. They also list examples where adverbs postmodify NPs, e.g. the neighbour upstairs, your friend here, the direction back, the sentence below, his trip abroad (Quirk et al. 1973: 281).

Finally I want to review the semantic functions of adverbs. The following table presents VP-oriented adjuncts, clause-oriented adjuncts and adverbial modifiers of adjectives and adverbs with reference to their meaning in the structures:

<table>
<thead>
<tr>
<th>adverbs as VP-oriented adjuncts</th>
<th>adverbs as clause-oriented adjuncts</th>
<th>adverbs (or Adv Ps) as adverbial modifiers of adjectives and adverbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means or instrument: planets can be detected radio-telescopically.</td>
<td>Degree: The share price has increased enormously.</td>
<td>Speech act-related: this [frankly rather unsavoury] character</td>
</tr>
<tr>
<td>Act-related: they deliberately kept us waiting.</td>
<td>Temporal location: his [recently very aggressive] behaviour</td>
<td>Temporal order: his [already very difficult] situation</td>
</tr>
<tr>
<td>Manner: She walked unsteadily to the door.</td>
<td>Activity: We were staying in a motel temporarily.</td>
<td>Aspectuality: an [already quite difficult] situation</td>
</tr>
<tr>
<td>Duration: the play was next performed in 1911.</td>
<td>Frequency: Do you come here often?</td>
<td>Frequency: her [sometimes very harsh] criticisms</td>
</tr>
<tr>
<td>Affectuality: Some of the guests are already here.</td>
<td>Speech act-related: Fortunately this did not happen.</td>
<td>Frequency: her [sometimes very harsh] criticisms</td>
</tr>
<tr>
<td>Modality: Politically, the country is always turbulent.</td>
<td>Evaluation: This is necessarily rather rare.</td>
<td>Speech act-related: this [frankly rather unsavoury] character</td>
</tr>
<tr>
<td>Connective: Moreover, he didn’t even apologize.</td>
<td>Modal: It is essential, rather rare.</td>
<td>Modality: a [probably unintentional] slight</td>
</tr>
<tr>
<td>Temporal order: the poem was next performed in 1911.</td>
<td>Temporal location: his [recently very aggressive] behaviour</td>
<td>Modality: a [probably unintentional] slight</td>
</tr>
</tbody>
</table>

Table 6. (based on Huddleston and Pullum 2003: 576, 583)

162 Such expressions as inside information or outside door are said to contain adjectives converted from adverbs (Quirk et al. 1973: 282).
Virtually all the semantic functions that can appear in clause structure can be found in the structure of adjective phrases. However, the degree function is the most common. A great number of \textit{-ly} adverbs are bifunctional, i.e. apart from their primary function (which most often is manner), they may act as degree adverbs, e.g.:

\begin{center}
\begin{tabular}{@{}lp{8cm}@{}}
  MANNER & DEGREE \\
  \textit{They behaved} \textit{dreadfully} & vs. \textit{I'm dreadfully} sorry. \\
  \textit{He was acting} \textit{suspiciously} & vs. \textit{The kids are suspiciously} quiet. \\
  \textit{She solved the problem} \textit{easily} & vs. \textit{She speaks easily} the most fluently. \\
\end{tabular}
\end{center}

(Huddleston and Pullum 2003: 583)

Unlike Slavic languages which are inflectional (fusional), English is an isolating (positional) language and, accordingly, English grammars discuss parts of speech in terms of the linear position, which is a significant property of the language and which can influence its semantics (this is not to say that word order is unimportant in Polish and Russian; still, the linear position is less prone to influence meaning in these languages). Consequently, English adverbs are also classified by grammarians with respect to the place they occupy in clause structure. Three positions are distinguished (Huddleston and Pullum 2003: 575):

1. \textbf{front (initial) position} – before the subject
2. \textbf{end (final) position} – after the verb, and possibly after some or all of its dependents
3. \textbf{central (middle) position:}
   a) in clauses headed by an autosemantic verb: between the subject and the verb
   b) in clauses headed by an auxiliary verb:
      • between the subject and the verb
      • immediately after the verb

In clauses headed by an auxiliary verb, the position after the verb is more frequent and then its is not always unambiguously distinct from the end position.

Huddleston and Pullum (2003: 575, 579) illustrate the positions and the way meaning can be influenced by them with the following examples:
On adverbs and their isomorphism/non-isomorphism

<table>
<thead>
<tr>
<th>Happily, they watched TV until dinner.</th>
<th>SEMANTIC TYPE</th>
<th>POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>They happily watched TV until dinner.</td>
<td>manner</td>
<td>central</td>
</tr>
<tr>
<td>They watched TV until dinner happily.</td>
<td>manner</td>
<td>end</td>
</tr>
<tr>
<td>They watched TV happily until dinner.</td>
<td>manner</td>
<td>end</td>
</tr>
<tr>
<td>*They watched happily TV until dinner.</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Chris won’t frankly talk about it.</td>
<td>manner</td>
<td>central</td>
</tr>
<tr>
<td>Chris won’t talk frankly about it.</td>
<td>manner</td>
<td>end</td>
</tr>
<tr>
<td>Chris won’t talk about it frankly.</td>
<td>manner</td>
<td>end</td>
</tr>
<tr>
<td>*Frankly Chris won’t talk about it.</td>
<td>speech act-related</td>
<td>front</td>
</tr>
<tr>
<td>Chris frankly won’t talk about it.</td>
<td>speech act-related</td>
<td>central</td>
</tr>
</tbody>
</table>

Table 7.

The last sentence with happily is unacceptable as there is a general prohibition against splitting the head and its NP object in English.

Let us also note that if an adverb is placed immediately after a catenative auxiliary verb it may be an adjunct of either the clause headed by the auxiliary or the non-finite clause functioning as its complement, e.g.:

(81) I would **frankly** [want a lot more money than that for it].
(82) I would [**frankly** explain to him what the position was].

(Huddleston and Pullum 2003: 575)

In the first sentence the adverb frankly fulfils the speech act-related function while in the second one it is a manner adjunct.

Last but not least, I would like to mention another issue that is essential to the discussion of adverb position in English; namely, prosodic detachment. Adjuncts may be set off from the rest of the clause by intonational boundaries to form separate segments. In writing such segmentation is usually marked by commas. Let us consider the difference between two sentences where the adverb functions as a clause-oriented evaluative adjunct (Huddleston and Pullum 2003: 578):

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163 Not all manner adverbs occur in this position, e.g. the suffixless fast and hard: *Tom will fast write a letter, *Bill hard tried to win (Fisiak et al. 1978: 219).
(83) Chris had, luckily, forgotten it.
(84) Chris had luckily forgotten it.

The difference in meaning between the sentences can be described in terms of subjects involved. In the first sentence the message is that it was lucky for the speaker or the speaker and Chris that he had forgotten it, while in the second one the focus is on Chris – he was lucky to have forgotten it.

3.1.4. Summarizing remarks

To sum up let me point out certain differences between Polish, Russian and English adverbs and also between approaches to their description.

Firstly, unlike Polish and Russian, in defining adverbs vis-à-vis other parts of speech, English does not use the criterion of inflection. In Polish and Russian adverb is a sole category among open classes which lacks inflection, while for English adverbs this feature is not distinctive, due to the isolating character of the language (where inflection is practically nonexistent).

Secondly, while in the Slavic languages adverbs can be derived from various parts of speech by means of a number of derivational affixes and compounding, in English adverbs are formed by quite a limited range of derivational affixes.

Thirdly, in Polish there is no homonymy between adjectives and adverbs, while in Russian such homonymy exists only for short adjectives in the neuter gender, which are easily distinguishable from adverbs in syntactic context. For English the homonymy with adjectives is one of the central issues relating to part-of-speech determination. Interestingly, certain Polish and Russian classifications treat adverbs derived from adjectives as uninflected adjectival forms (cf. Saloni 1974), which shows that also in these Slavic languages there is a strong link between these parts of speech (not only derivational).

Fourthly, the issue of adnominal position is controversial in Polish and English classifications, while Russian grammars treat this position as acceptable. There is a difference between the approaches in Polish and English grammars, which lies in the treatment of nominal syntactic groups. In English, NPs rarely occur in sentences without determinatives because the category of definiteness is grammaticalized to a greater extent than in the Slavic languages\(^\text{164}\) (via e.g. the definite and indefinite article), while in Polish nouns can freely be used in sentences as single elements of NPs (heads only). As a rule neither Polish nor English grammars allow adnominal positions; however, the latter

\(^{164}\) Which does not means that definiteness/indefiniteness are not important in the Slavic languages.
tolerate adverbs as modifiers of NPs, while the former are not in full agreement about it (e.g. Grochowski 1986: 53 vs. Grzegorczykowa 1975:9–10).

Fifthly, English semantic classifications of adverbs are more detailed and include such classes as domain, aspectuality, serial order, etc. This does not exclude the possibility of categorizing the Slavic adverbs with reference to such narrowly specified criteria.

Sixthly, there is a difference in the treatment of prosodically detached modal adverbs in English and in the Slavic grammars; the latter exclude such words from the class of adverbs and they are categorized as modalizers (cf. modalizatory, модальные слова).

Seventhly, unlike Polish, Russian and English semantic classifications are strongly influenced by classifications of clause elements (części zdania), in this case adverbials. As a result of this and the phrase-determined approach in English, the boundary between adverbs and adverbials tends to be fuzzy.

Finally, due to the positional character of the English language, English classifications are additionally based on the linear position of the adverb in clause structure while Polish and Russian classifications do not use this criterion.

### 3.2. A study of selected classes of adverbs

#### 3.2.1. The procedure of the analysis and the selection of the material

In the following analysis I distinguish six classes of adverbs. The division into classes was dictated primarily by the type of conceptual configurations which are formalized as phrases with adverbs. In the description of the classes I refer to the types of non-isomorphism presented in Chapter II. The procedure of the analysis is based primarily on representation of the configurations via symbolic notation and in the case of non-isomorphic structure on isomorphic reformulations. All the names of concepts are in upper case letters and all isomorphic reformulations in the analysis are provided in English.

The data were collected from descriptive grammar manuals, modern linguistic accounts of adverbs, dictionaries and the Internet. Sometimes examples from the three languages differ slightly as not all structures with adverbs are equivalent in them. Despite these differences a single symbolic notation and reformulation is usually provided for all three languages since the point is to indicate the possibility of occurrence of certain types of configuration in them all. However, certain differences between the languages are paid more attention in cases where valuable conclusions can be drawn.

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165 Note the attempt at a linear classification of adverbs recently made by Krzyżanowska (2006). Still, she deals only with locative adverbs and she analyzes them within the domain of formal plane (deliberately delimiting the scope of her survey).
Naturally, the analysis does not contain all types of adverbs distinguished in descriptive grammars (e.g. one of the major classes – the domain adverbs – is not discussed, cf. Ernst 2004); modalizers and predicatives of state are also excluded. Evaluative adverbs are never treated as a point of departure in the analysis; however, if there is a case of evaluation which I find worth describing, I do so.

I refer to methodologies other than that of communicative grammar when I find they are of explanatory value for the research.

### 3.2.2. Class 1. Isomorphic adverbs modifying verbs

Isomorphic adverbs are adverbs which enter into syntactic relations with verbs. An isomorphic adverb is as an exponent of a higher order predicate which implicates a predicate whose formal exponent is a verb. There occurs a modification of the ideational image denoted by the verb under the influence of the concept denoted by the adverb, thus isomorphism is retained not only configuration-wise but also in terms of iconicity\(^{166}\).

A classical example of this category are adverbs of pace which modify motion verbs (I do not provide a symbolic notation for all the examples as they are similar to one another), e.g.

(85) *Иван идёт быстро.*
(86) *Jan idzie szybko.*
(87) *John is going fast.*
(88) *Машина медленно едет сквозь город.*
(89) *Samochód wolno jedzie po ulicach miasta.*
(90) *The car is going slowly.*
(91) *Отряд быстро двигался по дороге.*
(92) *Odziały przemieszczały się szybko.*
(93) *The troops moved quickly.*
(94) *Иван быстро идёт.*

\[
F \left[ f (x) \right] \\
F (p) \rightarrow C (p) \rightarrow \text{QUICK} (p) \\
p \rightarrow P (x) \rightarrow C (x_{\text{prop}}) \rightarrow \text{GO} (Ivan)\]

\[167\]

(95) *The troops moved quickly.*

\[
F \left[ f (x) \right] \\
F (p) \rightarrow C (p) \rightarrow \text{QUICK} (p) \\
p \rightarrow P (x) \rightarrow C (x_{\text{prop}}) \rightarrow \text{MOVE} (\text{TROOPS})
\]

\[166\] as understood in communicative grammar (cf. Chapter II).

\[167\] It can also be notated as \[p \rightarrow f (x) \rightarrow \text{GO} (Ivan)\]
Another fairly straightforward instance of such isomorphism can be found in adverbs denoting strength which collocate with verbs denoting pressure, e.g.

(96) Сильно/легко нажал кнопку.
(97) Mocno/lekkо nacisnął guzik.
(98) *He pressed the button hard/gently.

\[
F [g (x, y)]
F (p) \rightarrow C (p) \rightarrow \text{HARD/HARD} (p)
p \rightarrow P (x, y) \rightarrow C (x_{\text{ind}}, b) \rightarrow \text{PRESS} (x_{\text{ind}}, \text{BUTTON})
\]

Interestingly, the English adverb *gently* in sentence (98) is homonymous with a semi-isomorphic unit which modifies the action and at the same time introduces a configuration of another predication into the syntactic structure, cf. *He gently smiled at Mary.* Configurations like that are discussed in Class 4.

Despite the seeming simplicity of the relation, there are more complex cases where pace or strength function as semes of a predicate and not as discrete conceptual spheres or where the adverb does not in fact specify the verb. Let us compare a handful of syntactic configurations. e.g.

(99a) Маша шла быстро/медленно.
(99b) Marysia szła szybko/wolno.
(99c) *Mary was going quickly/slowly.*

(100a) Маша бежала быстро.
(100b) Marysia biegła szybko.
(100c) *Mary was running quickly.*

(101a) Маша мчалась быстро.
(101b) Marysia pędziła szybko.
(101c) *Mary dashed quickly.*
(101d) *Mary was dashing quickly.*

(102a) Маша бежала медленно.
(102b) Marysia biegła wolno.
(102c) *Mary was running slowly.*

(103a) *Маша мчалась медленно.*
(103b) *Marysia pędziła wolno.*
(103c) *Mary dashed slowly.*
(103d) *Mary was dashing slowly.*

The above combinations of linguistic units are outwardly similar; however, the adverbs they contain perform different functions. In examples (99a–c) the adverbs are isomorphic since they enter into a syntactic relation with verbs as their modifiers and at the same time denote the concept of pace which
creates a configuration with concepts formalized by motion verbs **unmarked in terms of pace**. There is a slightly different situation in examples (100a–c) and (101a–d), where pace is an inherent constituent, a seme of the verbs: both RUN and DASH are marked by the property of speed, and therefore, the combination of their verbal exponents with adverbs denoting quick pace demonstrates overcoded structuring. The configuration *run quickly* is a relative pleonasm while the configuration *dash quickly* is an absolute pleonasm, which can be confirmed by the “but” test168:

(104)  *She was running but she wasn’t running quickly.*
       or *She was running but she was running slowly.*

(105)  *She was dashing but she wasn’t dashing quickly.*
       or *She was dashing but she was dashing slowly.*

Although the concept of running involves the concept of speed I treat the configurations in (100a–c) as isomorphic since the concept of speed is scalar in the concept of running, thus I collocated the verbs not only with the exponent of QUICK but also with that of SLOW (102a–c). I view both those pace concepts as higher order predicates which implicate the concept of running. In (101a–d) the overcoded structuring reveals a non-isomorphic relation because the concept of speed is incorporated in the concept of dashing as its constituent to the extent that deprives it of its gradability (the ungradability of speed is made additionally conspicuous by the fact that the continuous form of the verb *dash* in the configuration with *quickly* is perceived as awkward, cf. 101d); thus, if we make a predication which ascribes gradable pace to the concept of dashing, i.e. if we make a collocation of a higher order predicate denoting pace and its propositional argument DASH, we end up either with a redundant non-isomorphic configuration, as in (101a–d) or with an unacceptable configuration, as in (103a–d).

Apart from pleonastic syntactic expressions other violations of isomorphism in configurations with pace adverbs may occur:

(106a)  Маша быстро/медленно шла в магазин за сахаром.
(106b)  Marysia szybko/wolno szła do sklepu po cukier.
(106c)  Mary was going to the shop quickly/slowly

(107a)  Маша быстро пошла в магазин за сахаром.
(107b)  Marysia szybko poszła do sklepu po cukier.
(107c)  Mary quickly went to buy sugar.
(107d)  Quickly, Mary went to buy sugar.

---

168 See **relative pleonasm** and **absolute pleonasm** in Chapter II.
The above sentences show that the isomorphism of configurations depends also on aspect and Aktionsart (Stawnicka 2009: 18ff) of the verbs and, additionally, on the position of the adverb. In the sentences with the imperfective aspect the verb requires the pace function from the adverbs and thus the adverbs are isomorphic (106a–c). In the sentences with perfective aspect (107–108) the denotation of the adverbs is ambiguous in Polish and Russian. They can be isomorphic entities denoting pace or be interpreted as discourse organizing operators. Their meaning could then be rendered as ‘at once’ in the case of szybko and быстро or ‘with delay = some time had passed before she started the action’ in the case of wolno, медленно, although the latter are awkward in such configurations. They do not perform a predicative function in the configurations but are exponents of text coherence and thus constitute externally non-isomorphic entities. English makes a clear distinction between these two meanings by means of word order. In (107c) and (108c) quickly and slowly function as isomorphic pace adverbs (the use of slowly being as awkward as in the Russian and Polish examples – 108a, 108b) while in (108d) the initial position can only be interpreted as a discourse organizing operator. In Russian and Polish the tendency to interpret the adverbs as discourse organizers in sentences (107a), (107b) is prompted not only by aspect but also by the verbs’ Aktionsart because in such verbs as пойти, побежать, помчаться, pójść, pobiec, popędzić the prefixes are pregnant in ingressive meaning (cf. Stawnicka 2009: 48), i.e. they profile the initial stage of action (in English the profiling is instigated via word order; cf. the meanings: ‘at once’ and ‘some time before she started the action’).

In spite of the fact that slowly and quickly and their Polish and Russian counterparts can function as discourse organizing operators in such contexts as those presented above, they retain the ‘pace’ meaning. Although they are not grounded within the semantics of the proposition and do not modify the verbs, the primary “amount of pace” that they denote cannot contradict the “amount of pace” which resides within the predicate. Hence one cannot use медленно, wolno, slowly as discourse organizers with sentences containing verbs denoting high speed though the words do not isomorphically modify verbs (cf. examples 109 and 110 below). The fact that we can trace their original meaning

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169 The determination of meaning by the position of such adverbs as slowly was convincingly explained by McConnell-Ginet (1982: 159), cf. her examples: Slowly, everyone left. vs. Everyone left slowly.
in such configurations is even more conspicuous in English, where, despite the initial position of *slowly* and *quickly*, only the latter is acceptable in sentences containing the verb *run* and *dash*; cf. (109d) and (110d).

(109a) Маша быстро побежала/помчалась в магазин за сахаром.
(109b) Marysia szybko pobiegła/popędziła do sklepu po cukier.
(109c) Mary quickly ran/dashed to buy sugar.
(109d) Quickly, Mary ran/dashed to buy sugar.

(110a) *Маша медленно побежала/помчалась в магазин за сахаром.
(110b) *Marysia wolno pobiegła/popędziła do sklepu po cukier.
(110c) *Mary slowly ran/dashed to buy sugar.
(110d) *Slowly, Mary ran/dashed to buy sugar.

Additionally, the fact that pace adverbs can function as discourse organizing operators may with no trouble be confirmed by a simple test of substitution with such entities as *at once, promptly, immediately, od razu, немедленно*, e.g.

(111a) Маша немедленно побежала в магазин за сахаром.
(111b) Marysia od razu pobiegła do sklepu po cukier.
(111c) Immediately, Mary ran to buy sugar.

Let us also note that the notion of goal achievement increases the probability of interpreting the units under consideration as discourse operators. The verb *run*, whose pace can be modified by both *quickly* and *slowly*, as was shown in (104), does not undergo such modification when the goal of the action, e.g. buying sugar (109–110), is explicit in the utterance – such sentences do not allow *медленно, wolno, slowly*. On the other hand, when the goal is not verbalized, the interpretation of the units as classical pace adverbs seems quite natural, cf. (112) where both high and low speed can be expressed in the sentences:

(112a) Маша быстро/медленно побежала по лесу.
(112b) Marysia szybko/wolno pobiegła po lesie.
(112c) Mary quickly/slowly ran in the wood.

As far as pleonastic non-isomorphic configurations are concerned, not only pace adverbs but also the mentioned adverbs of strength can be redundant in configurations with verbs which fuse the meaning of pressure and the meaning of strength. Because the latter meaning is a non-gradable integrated semantic constituent of such verbs, their combination with adverbs which denote a scalar concept of strength produces an effect of absolute pleonasm, e.g.

(113a) Сильно стиснул зубы.
(113b) Mocno zacisnął zęby.
(113c) He clenched his teeth hard.
3.2.3. Class 2. Spatiotemporal adverbs. The question of external non-isomorphism

In communicative grammar adverbs which function as temporal, spatial and durative localizers are excluded from the adverb category and classified as ideational operators (Habrajska 2004b: 87). Nevertheless, as traditional part-of-speech classifications tag them as adverbs, I shall explain the nature of their non-isomorphism and discuss the grounds on which they are differentiated from adverbs. Communicativists treat them as externally non-isomorphic (Awdiejew and Habrajska 2004: 287); accordingly, these entities are not integrated within the propositional structure and thus should not generate the relation of implication with the predicate. The localizing function is also performed by spatiotemporal adverbials (in Cracow, to school, etc.). Let us consider the following examples:

\begin{align*}
(116a) & \text{Иван встал рано.} \\
(116b) & \text{Jan wstał wcześnie.} \\
(116c) & \text{John got up early.} \\
& \text{Loc > P (x) \rightarrow Loc_{temp} > C (x_{prop}) \rightarrow EARLY > GET UP (John)} \\
(117a) & \text{Иван долго читал газету.} \\
(117b) & \text{Jan długo czytał gazetę.} \\
(117c) & \text{John spent a long time reading a newspaper.} \\
& \text{Loc > P (x, y) \rightarrow Loc_{dur} > C (x_{prop}, b) \rightarrow LONG > READ (John, NEWSPAPER)} \\
(118a) & \text{Иван долго спал.} \\
(118b) & \text{Jan długo spał.} \\
(118c) & \text{John slept long.} \\
& \text{Loc > P (x) \rightarrow Loc_{dur} > C (x_{prop}) \rightarrow LONG > SLEEP (John)}
\end{align*}
(119a) Вчера шел дождь.
(119b) Wczoraj padał deszcz
(119c) It rained yesterday.
\[ \text{Loc} > \text{P} \rightarrow \text{Loc}_{\text{temp}} > C \rightarrow \text{YESTERDAY} > \text{RAIN} \]

(120a) Сегодні мої ідем в театр.
(120b) Dzisiaj idziemy do teatru.
(120c) We are going to the theatre today.
\[ \text{Loc} > \text{P} (x, \text{loc}) \rightarrow \text{Loc}_{\text{temp}} > C (x_{\text{ind}}, \text{loc}) \rightarrow \text{TODAY} > \text{GO (we, THEATRE)} \]

(121a) В післяднє время я смотрєл нєсколько інтерєсних фільмов.
(121b) Ostatnio widzialem kilka interesujacych filmow.
(121c) I've recently seen a couple of interesting films.
\[ \text{Loc} > \text{P} (x, y); P (x), P (x) \rightarrow \text{Loc}_{\text{temp}} > C (x_{\text{ind}}, b); C (a), C (a) \rightarrow \text{RECENTLY} > \text{WATCH (I, FILMS)}; \text{INTERESTING (FILMS)}, \text{SEVERAL}_{\text{ind}} (\text{FILMS}) \]

(122a) Вдало заходить сонце.
(122b) Słońce zachodzi w oddali.
(122c) The sun is setting in the distance/?afar.
\[ \text{Loc} > \text{P} (x) \rightarrow \text{Loc}_{\text{spac}} > C (x_{\text{prop}}) \rightarrow \text{FAR} > \text{SET (SUN)} \]

(123a) Чим вони там делять?
(123b) Co oni tam robią?
(123c) What are they doing out there?
\[ \text{QUEST} > y \rightarrow \text{Loc} > \text{P} (x, y) \rightarrow \text{Loc}_{\text{spac}} > C (x_{\text{prop}}, y) \rightarrow \text{THERE} > \text{DO (they, y);} \]

The examples and the notations clearly show that adverbs in sentences (116–123) are not integrated within the proposition; neither are they exponents of higher order predicates nor are they implicated by the nuclear predicates. That they are outside the proposition is even more conspicuous in (117c), (121a) and (122c), where the equivalent Russian and English adverbials reveal their externality: spend a long time, в последнее время, in the distance - they are correlates of durative, temporal, or spatial localization of the propositions. It is noteworthy that the English adverb long collocates only with state verbs, while the duration of actions is indicated by other means, e.g. spend a long time.

The operators in sentences (123a–c) are bifunctional. They perform the proposition localizing function and simultaneously act as emotive-evaluative interactional operators expressing annoyance. According to Awdiejew’s (2004a: 125) classification of emotive acts and operators, such entities are described as denoting the state of affairs unfavourable to “I” and caused by
“he”. They turn the utterences into homogeneous intentionally definite speech acts, i.e. acts expressing at the same time negative evaluation and negative emotion.

Notwithstanding the external isomorphism of adverbial entities in the above syntactic configurations, spatiotemporal adverbs manifest a strong tendency to function as exponents of arguments implicated by main predicates in the proposition. It is so due to the fact that there is a natural propensity to use localizing adverbs with verbs which themselves denote nothing but localization. In such combinations the adverbial specification of localization is expected, predicated by the verb. Therefore, I am inclined to treat such adverbs as exponents of a special kind of arguments (124–126):

(124a) Они двигались вперед.
(124b) Posuwali się do przodu.
(124c) They moved forward.

\[
P(x, \text{loc}) \rightarrow C(x_{\text{ind}}, \text{loc}_{\text{dir}}) \rightarrow \text{MOVE (they, FORWARD)}
\]

(125a) Там находится памятник Мицкевичу.
(125b) Tam znajduje się pomnik Mickiewicza.
(125c) The statue of Mickiewicz is situated over there.

\[
\text{SC (t}_1, t_0) \\
\quad t_1: P(x, y) \rightarrow C(x_{\text{prop}}, y) \rightarrow \text{BUILD (MONUMENT, Mickiewicz)} \\
\quad t_0: P(x, \text{loc}) \rightarrow C(x_{\text{ind}}, \text{loc}_{\text{dir}}) \rightarrow \text{BE SITUATED (MONUMENT, THERE)}
\]

(126a) Инструктор часто повторяет процедуру.
(126b) Instruktor często powtarza procedurę.
(126c) The instructor often repeats the procedure.

\[
P(x, y, \text{loc}) \rightarrow C(a, b, \text{loc}_{\text{dur}}) \rightarrow \text{REPEAT (INSTRUCTOR, PROCEDURE, OFTEN)}
\]

In such configurations adverbs are exponents of concepts integrated within the conceptual structure. We can find supplementary evidence for this in Russian, which distinguishes between place adverbs and direction adverbs collocating with state/position verbs and with motion verbs respectively (cf. здесь, там, дома vs. сюда, туда, домой)\(^{170}\).
As in Class 1, in this class of adverbs we can find entities which create redundant configurations when combined with specific verbs. These are place adverbs that go with verbs that possess ‘place’ as their seme. Let us compare some phrases:

(127a) Мы недавно вернулись сюда из Германии.
(127b) Wróciśmy tu niedawno z Niemiec.
(127c) We came back here recently from Germany.

(128a) Мы приехали сюда недавно.
(128b) Przyjechaliśmy tu niedawno.
(128c) We came here recently.

(129a) Я скоро оттуда уеду.
(129b) Wyjadę stąd wkrótce.
(129c) I will leave soon.

Interestingly, the pleonastic character of place adverbs in examples (127), (128), (129a–b) is difficult to verify by the ‘but’ test.

(130) We came back, but we didn’t come back here.
(131) We came but we didn’t come here.
(132) I am leaving, but I am not leaving ‘here’/this place.

These units may then be regarded as relative pleonasms. Consequently, I am inclined to treat them as non-isomorphic due to the overcoded structuring introduced by adverbial configurations\(^\text{171}\) (we returned = we returned here). The redundancy of the combinations in examples (129a–b) can additionally be proved via comparison to the English (129c), where the adverbial exponent here is certainly disfavoured in the structure.

Unfortunately, the issue is not as straightforward as that. The elimination of the adverbial component is controversial in (133), while sentences in (134) demonstrate a seeming contradiction between the meaning of the verb and the meaning of the adverb:

(133a) Я еду туда.
(133b) Jędę tam.
(133c) I am going there.

(134a) Мы вернулись туда в 10.
(134b) Wróciliśmy tam o 10-tiej.
(134c) We returned there at 10.

\(^{171}\) Unlike *run quickly*, which is classified in the present study as an isomorphic unit. The question of non-isomorphism in pleonasms is addressed in Final Remarks.
The problem of the obligatory argument position of adverbs in (129, 133, 134) can be explained with regard to viewing arrangement (Tabakowska 1995: 60–61). The maximal scope of predication (cf. Evans 2007: 190) for the verbs *go, come (back)/return* and *leave*\(^\text{172}\) includes several semes: the adlative component, the ablative component\(^\text{173}\), surface, way (the perlitive component), motion (indicated by the arrow in Fig. 14–16) and the conceptualizer. The difference between these verbs lies in their profiling different constituents of the predication, i.e. they have different semantic foci. Each verb focuses on a certain seme while the remaining components constitute the background. *Go* focuses on the surface and motion, *return* is focused on the ablative component and *leave* profiles the ablative component, which can be presented as follows (the profiles are indicated with P and shading):

![Diagram 1](image1)

Fig. 14. (the focus of the verb *go*)

![Diagram 2](image2)

Fig. 15. (the focus of the verb *leave*)

\(^{172}\) For the sake of succinctness I do not mention Russian and Polish equivalents of the verbs and adverbs, but the following description concerns all three languages.

\(^{173}\) Cf. the description of *iść* in Karolak (2002: 210), and *jechać* in Ozga (2005b: 280).
The above figures indicate which component is more prominent in each of the verbs. On the basis of this the redundancy becomes even clearer for the combination of the place adverbs with the verbs return and leave – the already profiled semes overlap with the meaning of adverbs, which brings about a pleonastic “focus on focus”. As for the verb go (jechać, ехать) in (133), which profiles neither the adlative nor the ablative component, its combination with the place adverb there (tam, туда) is isomorphic. However, it is noteworthy that the adverb’s obligatory placement in this context changes the semantic focus of the verb and thus creates a new meaning which, incidentally, has a separate single exponent in all three languages: go there – head, ехать туда – направляться, jechać tam – zmierzać. The configurations in (133) are isomorphic because without the adverb the direction is backgrounded, i.e. unspecified. The adverb profiles it as the verb’s argument.

Examples in (134) can also be explained in terms of viewing arrangement, but additionally the notion of scenario is supportive. This time the category of conceptualizer comes into the foreground (cf. Awdiejew 2004b). The outwardly contradictory configuration RETURN + THERE is possible in language due to the perspective, the point of view (Habrajska 2004a: 113) of the conceptualizer. In (134) THERE means HERE, which becomes clear once we have studied the stages in the scenario:

(135) $\text{SC} (t_3, t_2, t_1, t_0)$

$t_3$: BE IN PLACE 1 $\rightarrow$ HERE
$t_2$: LEAVE PLACE 1
$t_1$: ARRIVE AT PLACE 2 $\rightarrow$ HERE
$t_0$: BE IN PLACE 2 $\rightarrow$ HERE; PLACE 1 $\rightarrow$ THERE

\[174\] Cf. the notion of proper and deictic orientation in Tabakowska (2001b: 22).
Thus, when the conceptualizer says that they returned *there*, he assumes the perspective from stage t-3 in the scenario which at that time meant *here* for them. I consider such combinations to be non-isomorphic since they require interpretation via scenario, i.e. a sequence of predicative configurations.

The category of localizers in communicative grammar includes a group of adverbs denoting medical terms:

(136) коаксил принимают внутривенно/перорально
(137) сделать укол внутримышечно/подкожно
(138) вводить лекарства ректально
(139) приёмовать леки достнне/doodytnczo
(140) zrobić zastrzyk dożylnie/domieśniowo/podskórnie
(141) administer the drug intramuscularly/orally/rectally/intravenously

According to communicativists such adverbs are again categorized as externally non-isomorphic localizers since they only indicate the places into which the drugs are administered. There are, however, good grounds to argue against this interpretation because drug administration involves localization and, additionally, the action of administrating or taking is specified. Such adverbs are unlikely to function as constituents of the theme, thus the action “is predicated about” by the localization (cf. Szumska 1996: 26). In this case the adverbs assume their primary isomorphic function, i.e. they are correlates of higher order predicates which implicate predicates whose formal exponents are verbs.

With regard to rheme, the place adverbs *tu/tam* and *здесь/там* are also isomorphic in sentences expressing habitual actions in Russian and Polish:

(142) Молодежь здесь обычно отдыхает.
(143) Ludzie zwykle dobrze się tu bawią.

In examples (142) and (143) *здесь* and *tu* are constituents of the rheme. Being part of the predication they are obligatory in such sentences; their elimination produces generic sentences of dubious acceptability:

(144) ?Молодежь обычно отдыхает.
(145) ?Ludzie zwykle dobrze się bawią.

In English place adverbs are disallowed in such contexts. In English the rhematic component is placed within the sentence-building predication (146), which even more strongly stresses the significance of this constituent in semantic structure. For this reason I regard such configurations as isomorphic:

(146) *This is a place where visitors can experience true solitude.*

---

175 Grzegorzyckowka (1975: 114–115).
There is one more issue that I would like to consider in the discussion of this class: homonymy between adverbs and prepositions, as illustrated in (147–148) and (151–153).

(147) Иван живет рядом.
(148) Jan mieszka niedaleko.
(149) He lives nearby.
(150) *He lives near/next to.
(151) Иван живет рядом с родителями.
(152) Jan mieszka niedaleko szkoły.
(153) He lives near/next to the school.

As I mentioned in Section 3.1.1, descriptive grammars of Russian classify lexemes such as рядом either as adverbs or as prepositions because at the syntactic level they specify verbs or nouns (noun phrases) respectively. From the perspective of isomorphism there is no difference between the units and they should in both cases be classified as prepositions as they are always exponents of concepts semantically related to the concepts formalized as nouns (or NPs). The formalizations are different because the one with a noun (or an NP) is isomorphic as the configuration of form can be mapped onto the configuration of content (and vice versa) while the one without a nominal exponent is non-isomorphic: it is an instance of undercoded structuring – the structure involves a phoric (exophoric or endophoric) zero (O\textsuperscript{F}), whose value can be retrieved from the text or from the situation:

(154) Иван живет рядом O\textsuperscript{F}.
(155) Jan mieszka niedaleko O\textsuperscript{F}.

O\textsuperscript{F} = the person/place that was mentioned in the text or deictically indicated

Let us note that English possesses a separate exponent for the syntactic structures with the phoric zero, cf. nearby in (149) and near/next to in (150, 153), where the former does not require syntactic complementation while the latter does.

To sum up, the approach to adverbial localizers in communicative grammar needs to be modified through the following reformulation: there are cases where localizers are not integrated within the propositional structure and thus their exponents exhibit external non-isomorphism; nevertheless, there are frequent instances of localizers being integrated within the semantic structure as arguments of predicates whose correlates are verbs, in which case they are either isomorphic (according to the pleonastic character of configurations they constitute with verbs) or non-isomorphic (when they instigate whole scenarios). Additionally, as part of the rhematic structure certain localizers are obligatory in utterances and as such they ought to be treated as isomorphic.
When a localizer is non-isomorphic, it still exhibits “semantic tangency” with the propositional structure – the localizing adverb is a formal exponent of a concept which does not implicate the concept formalized as a verb; however, the localizer’s occurrence is disallowed in a relation with verbs of contradictory aspect, e.g. durative adverbs cannot be combined with perfective verbs in Russian and Polish (*Он долго прочитал газету, *Długo przeczytał gazetę).

The category of adverbs displaying external non-isomorphism via localization of the conceptual structure in time also comprises such adverbs as e.g. the Polish bezdziejnie. Since they offer access to scenarios and at the same time are exponents of discrete concepts, they are discussed in Class 5.

3.2.4. Class 3. Adverbs denoting intensity of property or state

3.2.4.1. Intensification and visualization

Intensifiers and detensifiers (downtoners)\(^\text{176}\) aroused much interest among linguists, which is reflected in comprehensive studies of these adverbs (e.g. Bolinger 1972, Jurkowski 1976, Janus 1981, Śmieszkiewicz 1985, Komorowska 1992, Klein 1997, Klein 1998, Chudyk 2006). Śmieszkiewicz (1985: 89–98) classifies degree adverbs into four groups: expressions of (1) intensity, (2) sufficiency, (3) completeness, and (4) expressions of complementary relation. With reference to this classification adverbs belonging to groups (1–3) are analyzed in Sections 3.2.4.1 and 3.2.4.2. Group (4) is described in Section 3.2.4.3 as this type of adverbs has the property of being able to change the implicational capacity of concepts formalized as contiguous linguistic entities in the linear structure of the utterance. There are of course numerous nuances in the degree of intensifying and detensifying adverbs as well as in the way they function which I am not going to discuss. I will merely point to their role in syntactic configurations with reference to isomorphism.

In communicative grammar adverbs denoting intensity are treated as non-isomorphic operators since they do not constitute exponents of discrete concepts but merely indicate the intensity of concepts formalized by adverbs (очень быстро едет, bardzo szybko jedzie, he goes very fast), adjectives (слегка сладкий, lekko słodki, slightly sweet), or verbs (ужасно боится, strasznie sie boi, he’s terribly scared). Moreover, they may function as emotive-evaluative interactional operators. Thus, they neither introduce a separate concept into the predicative configuration nor constitute higher order predicates implicating constitutive notions. Such status of degree adverbs is certainly

\(^{176}\) *Intensifier* is a general term for those degree adverbs which enhance “the grade of the predicate” while *detensifier (downtoner)* is a term for the degree adverbs which “restrict the grade of the predicate, making it weaker” (Klein 1997: 21).
non-controversial with regard to those which do not have any morphological (derivational) relation with other parts of speech (cf. Chudyk 2006: 25). Over forty years ago Cyran (1967: 12) expressed a similar opinion, although his study was not concerned with the notion of isomorphism; he wrote:

It turns out that adverbs of degree possess hardly any semantic value of their own and they serve merely to modify the meaning contained in an adjective or an adverb that is modified by them, which brings their function close to the function of prefixes and suffixes (cf. *bardzo miły, prze-miły, mil-utki*). It is therefore worth considering whether such combinations as *bardzo prędko, zupelnie zły* should be regarded as one syntactic constituent (translation mine, K. O.).

There is no reason for treating the specification of verbs in terms of degree in a different way, the more so that adjectives and adverbs determined by quantitative adverbs usually take on the role of the predicative177 in the sentence (Cyran 1967: 12)178, and thus are exponents of sentence-building predication, which function is primarily performed by verbs.

However, I am far from claiming that we can put an equation mark between the ad-adjectival and the ad-verbal position of adverbs. The difference is huge and resides primarily in the fact that "virtually any adverb modifying an adjective tends to develop a grading meaning" (Klein 1997: 4)179, which cannot be said about adverbs modifying verbs, e.g.

(156) *They treated him dreadfully. = in a dreadful way/very badly*  
(157) *I am dreadfully sorry. = extremely*  

(Huddleston and Pullum 2003: 583–584)

The type of modification of verbs by degree adverbs depends on the presence/absence of the property of gradability in verbs. Klein (1997: 9) illustrates it with the following examples:

(158) *He often treats him awfully. = in an awful way*  
(159) *He often beats him awfully. = very hard*  
(160) *She screams awfully. = very hard*  

---

177 Understood traditionally (copula + predicative).  
178 Cyran (1967: 12) regards the attributive (non-sentence-building) use of such AdjNG as secondary, e.g. *Przyszedł szalenie zdolny chłopiec*. The uses of attributive AdjNG have a restricted function (cf. Szumska 2006: 224, 228).  
179 Bolinger (1972: 23) illustrates it with the following example: “One who is innately good is one who is more than ordinarily good; one who is coldly polite is less than ordinarily polite”. The examination of the norm, i.e. the function of quantitative adverbs against "the ordinariness", is beyond the scope of this study.
We should also bear in mind that, although we can find many verbs denoting scalar concepts which go with degree adverbs\(^{180}\), there are many more adjectives which can combine with the intensifiers since “adjectives are the prototypical gradable elements” (Klein 1997: 13). As for the combination of adverbs of degree with adverbs, there is one fundamental restriction in English: there are few cases where two -ly adverbs can go together (e.g. absolutely honestly in (163b) below). However, -ly adverbs can be graded by the adverbs very and quite.

Let me now illustrate the non-isomorphic character of degree adverbs with selected examples and their symbolic notation:

\[(161a) \text{У него очень высокий уронень Холестерина.} \]
\[(161b) \text{On ma bardzo wysoki poziom cholesterolu.} \]
\[(161c) \text{He has a very high cholesterol level.} \]
\[
\begin{align*}
P(x, y) & \rightarrow C(x_{\text{ind}}, b) \rightarrow \text{HAVE (he, CHOLESTEROL)} \\
P(x) & \rightarrow C^{\text{intens}}(x) \rightarrow \text{MUCH}^{\text{intens}}(\text{CHOLESTEROL})
\end{align*}
\]

\[(162a) \text{Лягушка прыгнула очень высоко.} \]
\[(162b) \text{Żaba skoczyła bardzo wysoko.} \]
\[(162c) \text{The frog jumped very high.} \]
\[
\begin{align*}
P(x, y) & \rightarrow C(a_{\text{def}}, \text{loc}^{\text{spac}^{\text{intens}}}) \rightarrow \text{FROG (JUMP, HIGH}^{\text{intens}})
\end{align*}
\]

\[(163a) \text{Adam ужасно боится экзаменов.} \]
\[(163b) \text{Adam strasznie boi się egzaminów.} \]
\[(163c) \text{Adam is dreadfully scared of exams.} \]
\[
\begin{align*}
P(x, y) & \rightarrow C^{\text{intens}}(x_{\text{prop}}, b) \rightarrow \text{BE SCARED}^{\text{intens}}(\text{Adam, EXAMS})
\end{align*}
\]

\[(164a) \text{Мой муж страшно храпит.} \]
\[(164b) \text{Moja babcia strasznie chrapie.} \]
\[(164c) \text{My boyfriend snores dreadfully.} \]
\[
\begin{align*}
P(x) & \rightarrow C^{\text{intens}}(a) \rightarrow \text{SNORE}^{\text{intens}}(\text{HUSBAND/GRANDMOTHER/BOYFRIEND})
\end{align*}
\]

\[(165a) \text{Иван очень/немножко устал.} \]
\[(165b) \text{Jan jest strasznie/trochę zmęczony.} \]
\[(165c) \text{John is extremely/slightly tired.} \]
\[
\begin{align*}
P(x) & \rightarrow C^{\text{intens}}(x_{\text{prop}}) \rightarrow \text{BE TIRED}^{\text{intens}}(\text{John})
\end{align*}
\]

\[(166a) \text{Они были вполне преданные советской власти.} \]
\[(166b) \text{Jest całkowicie oddany sprawie.} \]
\[(166c) \text{He is completely committed to non-violence.} \]
\[
\begin{align*}
G(x, \sim p) & \rightarrow C^{\text{intens}}(x_{\text{ind}}, \sim C) \rightarrow \text{BE COMMITTED}^{\text{intens}}(\text{he, } \sim \text{VIOLENCE})
\end{align*}
\]

\(^{180}\) I disregard configurations denoting the so-called measure of action (like go fast, repeat frequently) in the discussion of degree adverbs. They are treated as separate classes in the present thesis (cf. Class 1 and Class 2).
(167a) Мне это совершенно не нравится.
(167b) Zupełnie mi się to nie podoba
(167c) I do not like it in the least/at all.
(167d) I thoroughly dislike it.

\[ P(x, y) \rightarrow C^{\text{intens}}(x_{\text{ind}}, y) \rightarrow \sim \text{LIKE}^{\text{intens}}(I, y) \]

(168a) Говорю совершенно откровенно, что это правда.
(168b) Mówię zupełnie/absolutnie szczerze, że to prawda.
(168c) I am telling you absolutely honestly that it is true.

\[ F\{H[x, y, f(x)]\} \rightarrow C^{\text{intens}}\{C[x_{\text{ind}}, y_{\text{ind}}, C(x)]\} \rightarrow \text{HONESTY}^{\text{intens}}(\text{TELL}[I, \text{you}, \text{BE TRUE}(x)]); \]

The notations clearly show that the adverbs do not constitute separate conceptual bases: they are in a way embedded in the scalar concepts.

It has already been mentioned that in communicative grammar adverbs of degree are treated only as operators which operate on the category of intensity (either intensifying or detensifying\(^{181}\)). This is quite straightforward in morphologically simplex adverbs. However, the status of those founded on lexemes denoting discrete concepts is a more controversial issue. Chudyk (2006: 37) regards them as stylistic or expressive synonyms of very. The question now is: are they only synonyms or is there something more to them? Let us analyze the following examples with reference to cognitive linguistics and LPW:

(169a) болезненно ревнивый\(^{182}\)
(169b) piramidalnie głupi
(169c) monumentally stupid

In cognitive linguistics and in ethnomarkistics the communicative aspect of language is pushed into the background while the epistemological one is in focus. That is why these linguistic approaches study how the world is reflected in language and how we perceive, conceptualize it\(^{183}\). One of the central notions in cognitivism and in LPW is the notion of metaphor. According to these approaches metaphor is ubiquitous in language and thus explication of metaphors reveals what is hidden in linguistic expressions. In order to decipher a metaphor we need to identify the source domain and compare it with the target domain. For instance, for the target domain TIME the source domain is

\(^{181}\) I only touch upon the issue of evaluation in the context of the degree adverbs. However, I find the issue highly interesting and will probably pursue it in future research. The matter that is most interesting in evaluation via those adverbs is the way intensifiers and detensifiers combine with adjectives and verbs denoting positive and negative values. Such a study could be carried out within the framework proposed by Krzeszowski (1997).

\(^{182}\) Adnominal intensifying derivatives are much less frequent in Russian than in English and Polish (cf. piramidalnie, monumentally vs. чрезвычайно, грандиозно).

\(^{183}\) Cognitivists actually equate meaning with conceptualization (Langacker 1991: 2, 141).
MONEY, for the target domain ARGUMENT the source domain is BATTLE. Consequently, we encounter expressions like *He is wasting/spending time* (comp. *he is wasting/spending money*) and *She attacked every weak point in my argument, I hit back at his criticism* (Ungerer and Schmid 1997: 121–125).

In the cognitive approach examples (169a–c) are treated as metaphorical expressions and so I shall discuss them with reference to the domains mentioned:

### SOURCE DOMAIN

- PYRAMID
- MONUMENT

### TARGET DOMAIN

- STUPIDITY

**VASTNESS**

(projected seme)

*Fig. 17.*

### SOURCE DOMAIN

- DISEASE

### TARGET DOMAIN

- ENVY

**ANOMALY**

(projected seme)

*Fig. 18.*

In (169b) and (169c) STUPIDITY is related to PYRAMID or MONUMENT by ascribing the salient seme of the objects, i.e. their huge size, to the target domain. In (169b) stupidity as an abstract concept cannot be discussed with regard to the physical dimension, and thus its measurement is interpreted in terms of intensity. In turn, example (169a) reveals the relation between ENVY and DISEASE. If too strong, envy can, like disease, be considered anomalous. The desired state in this case is HEALTH. It is desired because (good) health is
the norm and hence there are such expressions as e.g. \textit{develop healthy feelings} where HEALTH is the source domain and FEELING is the target domain.

If treated in this way, expressions (169a–c) should be considered non-isomorphic, not because of the lack of the corresponding item in the conceptual domain but rather as evoking additional conceptual configurations:

\begin{align*}
(170) & \quad P(x) \rightarrow C(x) \rightarrow \text{BE STUPID} (x) \\
& \quad P(x) \rightarrow C(a) \rightarrow \text{BE VAST} (\text{pyramid}) \\
& \quad \Rightarrow P[f(x)] \rightarrow C[C(x)] \rightarrow \text{BE VAST} [\text{BE STUPID} (x)] \\
(171) & \quad P(x) \rightarrow C(x) \rightarrow \text{BE ENVIOUS} (x) \\
& \quad P(x) \rightarrow C(a) \rightarrow \text{BE ANOMALOUS} (\text{DISEASE}) \\
& \quad \Rightarrow P [f (x)] \rightarrow C [C (x)] \rightarrow \text{BE ANOMALOUS} [\text{BE ENVIOUS} (x)]
\end{align*}

The notations demonstrate that the conceptual configurations are more complex than the linguistic phrases. The concept of mapping is not retained; therefore, according to cognitive analysis, the phrases are non-isomorphic. Let me reiterate at this point that the conceptual structure of the metaphors is revealed through our common knowledge of the world, i.e. through semantic standards. It is via the standards that we can discover the connections between the ideational images produced by the cognitive domains.

In the light of the cognitive explication of (169a–c) the question of the status of the degree adverbs which are morphologically motivated assails us again. Naturally, the above visualizing is vital for creating the linguistic picture of the world in a person’s mind but it is not necessarily salient in real communication – we do not have to visualize a pyramid, a monument or a disease in order to interpret the message and to assess the intensity of the property.

Visualization of metaphorical phrases depends of course on the linguistic awareness of the speaker. For some speakers they are semantically transparent (cf. Tabakowska 2001b: 20, 32, 41), while for others they are quite opaque. Let us consider the following phrase:

\begin{align*}
(172) & \quad \textit{see the writing on the wall}
\end{align*}

The meaning of this metaphorically founded idiom in contemporary language use is ‘there are clear signs that something will fail or no longer exist’ and such is its communicative function – a prediction of an impending misfortune. One does not need to know the cultural context on which the metaphor was founded in order to understand the message. However, there certainly are speakers in whom the idiom evokes quite a realistic picture. It was a writing
which mysteriously appeared on the wall of the royal palace that warned the Chaldean king Belshazzar against the fall of his rule\textsuperscript{184}.

Let us return to conceptually-marked degree adverbs. Their transparency is a controversial issue since the borderline between those which are intelligible and those which are not is extremely fuzzy. Let us consider the adverbs \textit{cordially}, \textit{dead(ly)}), and \textit{deeply} (and their Russian and Polish equivalents) in the following sentences:

\begin{itemize}
\item \textbf{(173a)} \textit{I cordially hate hospitals.}
\item \textbf{(173b)} \textit{Сердечно ненавижу больницы.}
\item \textbf{(173c)} \textit{Serdecznie nie znoszę szpitali.}
\item \textbf{(174a)} \textit{Это смертельно скучно.}
\item \textbf{(174b)} \textit{This is deadly/dead boring.}
\item \textbf{(174c)} \textit{To jest śmiertelnie nudne.}
\item \textbf{(175a)} \textit{Anne deeply believes in the existence of the soul.}
\item \textbf{(175b)} \textit{Анна глубоко верит в существование души.}
\item \textbf{(175c)} \textit{Anna głęboko wierzy w istnienie duszy.}
\end{itemize}

A cognitive linguist might provide illuminating explications of these metaphors. In (173) the roots of \textit{FEELINGS} are associated with \textit{HEART} (hence such expressions in English as \textit{from the bottom of my heart, I am giving you my heart}), \textit{HATE} is \textit{FEELING} which comes from \textit{HEART}. In (174) \textit{BOREDOM} is a negative notion which is associated with being \textit{PASSIVE}, death is an irreversibly \textit{PASSIVE} state – if one is bored to a high degree the boredom’s \textit{PASSIVENESS} resembles the state of \textit{DEATH}. In (175) \textit{FAITH} is a \textit{CONTAINER} whose bottom is fathomless\textsuperscript{185} and can be measured in terms of \textit{DEPTH}. On the other hand, these expressions are fully comprehensible without resorting to the explications.

At the beginning of the discussion of metaphors I posed (and parried) the question whether motivated degree adverbs are mere stylistic or expressive synonyms of \textit{very}. I offer an unambiguous answer to it. In my opinion semantic

\textsuperscript{184}This is the writing that was inscribed: MENE, MENE, TEKEL, UPHARSIN. This is the interpretation of the thing: MENE; God has numbered your kingdom, and brought it to an end; TEKEL; you are weighed in the balances, and are found wanting. PERES; your kingdom is divided, and given to the Medes and Persians. Then commanded Belshazzar, and they clothed Daniel with purple, and put a chain of gold about his neck, and made proclamation concerning him, that he should be the third ruler in the kingdom. In that night Belshazzar the Chaldean King was slain (the Book of Daniel 5, 25–30). \textit{MENE, MENE, TEKEL, UPHARSIN} (sometimes \textit{MANE TEKEL FARES}) are Aramaic words which may be literally translated as ‘It has been counted and counted, weighed and divided.’

\textsuperscript{185}Thus, expressions like \textit{completely deep, zupełnie głęboki, совсем глубокий} are considered incorrect in the respective standard varieties (cf. the issue of property limit in Apresjan 2000: 75, Komorowska 1992: 136–137).
transparency of such metaphorical expressions is determined by subjectivity. It depends on two factors: firstly, on the degree to which the metaphor has been conventionalized in a given language and secondly, on the transparency of the conceptual visualization. There are speakers for whom the expression *wyjść na czymś jak Zabłocki na mydle*\(^1\) ('to make a bad deal, to sustain a loss') is quite transparent (the dissolving soap on Zabłocki’s ship lurks somewhere in the corners of their minds) and there are speakers who are completely unaware of the picturesque etymology of this metaphor; still, they are able to interpret the message. To be sure, expressions with degree adverbs are not as complex as such idioms, however, it is impossible not to notice their metaphorical character. Therefore, the above considerations are relevant to the analysis of isomorphism of those degree adverbs which are derived from lexemes signifying discrete concepts. If treated as denoting complex metaphorical configurations, intensifiers must be considered non-iso-morphic with regard to multiple configurations. However, if treated as exponents of intensity, their non-isomorphism is based on the lack of mapping of a single element from the formal configuration onto the conceptual one. In this context the status of those degree adverbs which are derived from parts of speech initially denoting states or actions is easier to establish as they demonstrate an indirect reference to the subject of action or state or to the conceptualizer (which makes them more transparent configuration-wise). As they introduce a different type of non-isomorphism, they are discussed together with Class 4 adverbs.

### 3.2.4.2. Degree adverbs as interactional operators. The question of modality\(^2\)

Chudyk’s (2006: 37) analysis of stylistic and expressive variants of *very* foregrounds the issue of the interactional function of the degree adverbs. Adverbs in clauses like:

\[(176a) \quad \text{Офигенко красивая картинка!} \]
\[(176b) \quad \text{Zarąbiście długi film!} \]
\[(176c) \quad I \text{ woke up on a phenomenally cold and wet spring day.} \]

---

\(^1\) Tabakowska (personal communication).

\(^2\) Epistemic modality is juxtaposed here with other types of modality. The complexity of the phenomenon of modality (cf. Tutak’s (2003: 51–69) review of the approaches to modality in logic and linguistics) makes it an issue that cannot be exhaustively examined within the confines of this study. My intention at this point is to draw the reader’s attention to the relationship between isomorphism and modality, which requires in-depth research. Epistemic modality is understood here as defined by Karolak (2004: 331): “Epistemic modality denotes (...) the speaker's truth-valued attitude to the content of dictum (translation mine, K. O.)."
On adverbs and their isomorphism/non-isomorphism

constitute not only intensifying means but they also reveal the speaker’s attitude to the concepts (denoted by adjectives in (176a–c)). According to Awdie-jew’s (2004b: 115) classification of operators the function of adverbs in (176a–c) can be described as emotive-evaluative. Adverbs with this function are operators which turn utterances into speech acts. Examples (176b) and (176c) constitute homogeneous intentionally indefinite speech acts where the state of affairs is unfavourable to the speaker. They are homogeneous as both emotion and evaluation are negative. Example (176a) is also a homogeneous intentionally indefinite speech act; however, the state of affairs in this act is favourable to the speaker – emotion and evaluation are homogeneously positive. The speech acts could be reformulated in the following way:

(177a)  *This picture is so beautiful that it makes a very strong impression on me.*
(177b)  *This film is so long that it evokes negative evaluation and negative emotions in me.*
(177c)  *This morning is exceptionally cold for the spring and because of this my mind boggles.*

As interactional operators the degree operators profile the role of the conceptualizer in the structure. The conceptualizer is of course ever-present in communication and any epistemic assertion can be reformulated as starting with: *I am convinced that it is true that*, e.g.

(178)  *It is very cold = I am convinced that it is true that it is very cold*\(^{188}\)

Thus any assertive expression uttered in real communication contains epistemic modality unformalized as a separate exponent (cf. Grzegorczykowa 1999: 44). Karolak (2002: 225) and Grzegorczykowa (1999: 29–30) treat it as a higher order predicate which implicates the *dictum* and the speaker; without it the proposition cannot be a categoreme (Karolak 2002: 12):

(179)  MOD (P, x)

The discussion of isomorphism from the communicative grammar perspective requires some modification of this approach to modality. In my opinion (24) is true for all kinds of modality but the epistemic since epistemic modality is embedded in any unmarked proposition:

(180)  \(P^{\text{Emod}} = \text{epistemic modality predicate}\)

In the present model epistemic modality is treated as a component of the predicate and not as a separate conceptual domain and thus the formalization of epistemic modality in language is regarded as overcoded structuring\(^{189}\):

(181) *He is tall.* – isomorphic structure (implicit epistemic modality)

(182) *I am convinced that it is true that he is tall.* –
non-isomorphic (overcoded) structure (explicit epistemic modality)

Hence, I treat expressions like (181) as isomorphic despite the lack of
formal correlate of modality since epistemic modality is a an obligatory com-
ponent which is superimposed on the main predicate\(^{190}\).

According to the communicative grammar approach, all other types of
modality are treated in a different way. They are not embossed within the pre-
dicate and the constitute separate higher order predications as in (179), cf.

(183) *It is nice (isomorphic configuration) =
= I am convinced that it is true that it is nice (non-isomorphic configuration)*

(184) *It is nice (isomorphic configuration) ≠
≠ I hope it is nice (isomorphic configuration) =
= Hopefully, it is nice (non-isomorphic configuration)\(^{191}\)

\(^{189}\) Szumska (2006: 154) in the discussion of AdjNG assumes that modus and temporality
are obligatorily absent in the structure of noun phrases with the non-sentence-building
adjectival predicative component and thus regards such structures as non-reductively un-
dercoded. In the present approach such structures are considered isomorphic because epis-
temic modality is not treated as a discrete conceptual base but as a component of predic-
tion, and as such does not influence mapping.

\(^{190}\) Cf. Bogusławski’s (1977: 230–231) approach to the issue of modal frame: “…there exist
sentences, and what is more, sentences which are predominant in language, where no mod-
al attitude of the speaker is expressed. For even the most general and neutral expressions
cannot be interpolated in sentences devoid of special modal expressions in order to account
for the supposed modal attitude. The reason is simply that they render the sentences ine-
quivalent, and, consequently, non-synonymous with their original forms. This is valid even
for so very general expressions as *I say (that), I say*; let alone such words as *I think, I sup-
pose, I accept, I assume, I know, I am sure, I want you to know, I want to tell you, I declare,* etc.
This can be seen, among other things, from the fact that sentences with *say* are indeed used,
but only in definite situations, while the specificity of their use cannot be discarded as stylis-
tic, pragmatic, etc.; the effect of substituting a sentence beginning with *I say* for an arbitrary
sentence is absolutely queer in a purely cognitive sense; it calls the hearer’s attention to the
speaker’s activity with which the previous content had nothing to do. One of course can say
ABOUT the speaker that he says so and so, or that he wants his hearer to know this and this,
etc. But this is the content of one’s own sentence about the speaker, not the content of the
speaker’s sentence. Speaking is not, or, to be more exact, need not be, pronouncing the
word *say* or a similar one and complementing it with something. One can also express in a
sentence with *I say* or with some other word what COULD be told by the speaker about
himself as the utterer of a certain sentence; and that not incidentally by this or other speak-
er, but by every speaker with reference to a given sentence structure and a given situation.
The basic component of such a report would surely have to be the word *I say*. We may as-
sume that this would be a rational interpretation of Wierzbicka’s representations with *I say.*
Still, even this cannot count as disengaging a SENTENCE PART. At best what we have here is
a correlate of the notion “sentence” on the plane of performance, of human acting. It is evi-
dent that such a functional notion cannot reflect the fact that a sentence comprises a certain
CONSTITUENT. Besides, it has never been cast in doubt that sentences, apart from having
a certain structure, are created and pronounced.”
In emotive-evaluative speech acts modality is expressive and thus expression of emotion and evaluation is superimposed on the predicate-argument structure. Such utterances are enriched with an additional modal component whose adverbial formalization is non-isomorphic:

(185)  
*The morning is phenomenally cold*

\[ \text{MOD} [P (x)] \rightarrow \text{C} [\text{intens} (X_{\text{ind}})] \rightarrow \text{IRRITATE} \text{ BE COLDintens (MORNING), I} \]

Isomorphic reformulation:

*That the morning is phenomenally cold irritates me (the speaker).*

Modality is treated here as a configuration of a higher order predicate IRRITATE and agent (the speaker, I), constituting additional elements on the plane of content which are not formalized on the surface and thus it produces another type of non-isomorphism, based on “cutting into” the interactional level.

### 3.2.4.3. Degree adverbs changing the implicational capacity of other concepts

The problem of degree adverbs introducing additional propositional structures is particularly interesting in the context of isomorphism. Such adverbs are not only exponents of intensification of concepts formalized by adjacent adjectives, adverbs and verbs but they also enrich them by the addition of a propositional argument predicating about a point of reference (Grzegorczykowa 1975: 67–68), e.g.

(186a) Э́тот стол слишком высок.
(186b) *Ten stół jest za wysoki.*
(186c) *This table is too high.*

\[ \text{G} (x, p) \rightarrow \text{C} (\text{def}_p) \rightarrow \text{BE HIGHER (TABLE}_{\text{def}} \text{N}) \]

(187a) Э́тот стол слишком высок ⇒ для ребенка.
(187b) *Ten stół jest za wysoki ⇒ dla dziecka.*
(187c) *This table is too high ⇒ for a child.*

(188a) Э́тот стол слишком высок, ⇒ чтобы ребенок мог за него усесться.
(188b) *Ten stół jest zbyt wysoki, ⇒ żeby dziecko mogło przy nim siedzieć.*
(188c) *This table is too high ⇒ for a child to be able to sit at.*

---

191 Cf. the question of modalizers.
192 Cf. category of the observer/conceptualizer (Awdiejew 2004b)
193 In Polish Awdiejew refers to the phenomenon as „przebicie na poziom interakcyjny” (Awdiejew, personal communication).
Isomorphic reformulation:
This table is higher than tables at which children are able to sit.

(189a) Он достаточно подрос ⇒ и вполне может жить без присмотра матери.
(189b) On jest dość/wystarczająco samodzielny ⇒ żeby pojechać na wakacje bez opieki.
(189c) He is old enough ⇒ to live on his own.
(189d) He is sufficiently self-reliant ⇒ to live on his own.

(190a) Я слишком боюсь начальника ⇒ чтобы поговорить с ним о повышении в должности.
(190b) Zbyt się go boję ⇒ żeby z nim porozmawiać o awansie.
(190c) I am too afraid of the boss ⇒ to talk to him about my promotion.

Examples (186–188) are ordered in a way which gradually reveals the whole structure. The important thing is that structures with these adverbs tolerate ellipsis – contextless indefinite zero with specified value. Like the previously discussed types, these adverbs are not correlates of discrete concepts. Their function is to change the implicational capacity of the concept formalized by the contiguous lexeme which, due to this change, becomes a formalization of a higher order predicate whose implicational capacity is extended by a propositional argument. The configurations that are generated in this way resemble those which are constituted by comparative adjectives and adverbs. Like comparative adjectives and adverbs they juxtapose predications in terms of a relative norm. In (189) the norm is satisfied, while in (188, 190) the first predication refers to an undesirable state with respect to the norm, cf.:

(191a) The table is bigger than the one suitable (norm) for children.
(191b) If he were less self-reliant he couldn’t live on his own but he is not (norm).
(191c) I am afraid of the boss more than one usually is (norm) in order to decide to talk to him.

The idea that these adverbs are not correlates of discrete concepts but change the configurational properties of other concepts is supported by the fact that in Russian short adjectives may function as exponents of two-argument predicates single-handed (i.e. without the help of the adverb слишком):

(192a) Этот стол оказался велик для моей комнаты.
= This table turned out to be too big for my room.
(192b) Это платье мне узко.
= This dress is too tight (for me).

\(^{194}\) Grochowski (2001: 196) calls them operators of gradation (operatory gradacji).
3.2.5. Class 4. Adverbs as exponents of separate predications

3.2.5.1. Non-isomorphic and semi-isomorphic adverbs as exponents of a separate predication implicating the same agent as the sentence-building predication

There are three types of such adverbs, which differ in the degree of the semantic tie with the sentence-building predicate. The first type contains units which are correlates of additional predications in the sentence, whose bond with the sentence-building predicate reveals a low degree of semantic tangency (based merely on the concurrence of the agents). The non-isomorphism of those adverbs is revealed through the following symbolic notations and isomorphic reformulations:

**TYPE 1**

(193a) Иван ходит босиком, нагишом, голышом.
(193b) Jan chodzi boso/nago/goło.
(193c) John walks [around the house] naked/nude.
(193d) John is walking barefoot.
\[ P (x) \rightarrow C (x_{\text{prop}}) \rightarrow \text{WALK (John)} \wedge P (x) \rightarrow C (x_{\text{prop}}) \rightarrow \text{BE NAKED (John)} \]
Isomorphic reformulation: *John is walking. John is naked.*

(194a) Сидел неподвижно.
(194b) Siedział nieruchomo.
(194c) He sat still.
(194d) He sat motionless/motionlessly.
\[ P (x) \rightarrow C (x_{\text{ind}}) \rightarrow \text{SIT (he)} \wedge \sim P (x) \rightarrow \sim C (x_{\text{ind}}) \rightarrow \sim \text{MOVE (he)} \]
Isomorphic reformulation: *He sat. He didn’t move.*

(195a) Ребенок спит спокойно.
(195b) Dziecko śpi spokojnie.
(195c) The child is sleeping peacefully.
\[ P (x) \rightarrow C (a) \rightarrow \text{SLEEP (CHILD)} \wedge P (x) \rightarrow C (a) \rightarrow \text{BE PEACEFUL (CHILD)} \]
Isomorphic reformulation: *The child is sleeping. The child is peaceful.*

(196a) Бессонно вертелся на кровати.
(196b) Wiercił się bezsennie.
(196c) He tossed sleeplessly.
\[ P (x) \rightarrow C (x_{\text{ind}}) \rightarrow \text{TOSS (he)} \wedge \sim P (x) \rightarrow \sim C (x_{\text{ind}}) \rightarrow \sim \text{SLEEP (he)} \]
Isomorphic reformulation: *He tossed. He didn’t sleep.*

(197a) Они бездомно шлялись/волочились.
(197b) Собаки бездомно лают.
(197c) Błąkali się bezdomnie.
They wandered homeless/homelessly.

\[
P(x) \rightarrow C(x_{\text{ind}}) \rightarrow \text{WANDER (they)} \wedge \sim P(x, y) \rightarrow \sim C(x_{\text{ind}}, b) \rightarrow \sim \text{HAVE (they, HOME)}
\]

Isomorphic reformulation: *They wandered. They were homeless.*

The adverbs introduce independent nuclear predications into the sentences – they do not constitute exponents of higher order predications that implicate the sentence-building predications as we would prototypically expect\(^{195}\). The concept of mapping is not retained in the syntactic configurations since adverbs in these contexts are correlates of concepts requiring an agent\(^{196}\) which cannot be connoted by the adverbial exponent. The agent is retrieved via the rule of argument succession (cf. Chapter II) – adverbs “inherit” the subject (the agent) from the verbs with which they are syntactically related.

**TYPE 2**

The second type contains entities which formalize concepts that introduce a separate predication into the sentence but at the same time semantically “co-operate” with the sentence-building predicate:

\([\text{198a–199b}]\)

\(\begin{align*}
\text{(198a) } & \text{Нечаянно прижала крысе хвост.} \\
\text{(198b) } & \text{Niechcący nastąpiła szczurowi na ogon.} \\
\text{(198c) } & \text{[I'm afraid] I inadvertently took your bag when I left.} \\
\text{(198d) } & \text{She stepped on the rat’s tail accidentally.}
\end{align*}\)

\[
G[x, h(x, y, z)] \rightarrow C[C(x_{\text{ind}}, b_{\text{def}}, c)] \rightarrow \sim \text{INTEND [she, TREAD (she, TAIL, RAT)} < b_{\text{def}} : P(x, y) \rightarrow C(a, b_{\text{def}}) \rightarrow \text{HAVE (RAT, TAIL}_{\text{def}})
\]

Isomorphic reformulation: *She didn’t intend to step on the rat’s tail.*

\(\begin{align*}
\text{(199a) } & \text{Машинально сунул руку в карман за пистолетом.} \\
\text{(199b) } & \text{Odruchowo sięgnął do kieszeni po pistolet.} \\
\text{(199c) } & \text{He instinctively reached for the gun.}
\end{align*}\)

\[
\begin{align*}
& \sim G \{x, H [x, \text{loc, g}(x, y)]\} \rightarrow \sim C \{x, C \{x, \text{loc, C} (x, y)\}

& \rightarrow \sim \text{BE AWARE} \{x, \text{REACH} [x, \text{POCKET, PULL} (x, \text{GUN})}
\end{align*}\)

Isomorphic reformulation: *He wasn’t aware that he reached for the gun.*

In (198–199) the semantic correspondence between the predicate formalized as an adverb and the sentence-building predicate is such that the first one implicates the second one as a higher order predicate for which the sentence-building predicate is a propositional argument. The important thing is that yet another argument is implicated by the second-order predicate, namely the


\(^{196}\) I use the term as a shortcut to denote the first argument of any predicate, be it an action or state or position or process.
agent, and because of this the formal and the conceptual configurations are not parallel. Additionally, in (199a–c) the prepositional phrases introduce another non-isomorphism, where the predicate PULL is implicit.

Let us consider other examples:

(200a) Смотрел на нас испытывающе.
(200b) Spoglądał na nas badawczo.
(200c) He looked at us searchingly.

\[ P(x, y) \rightarrow C(x, y_{\text{ind}}) \rightarrow \text{LOOK (he, we) } < \rightarrow P(x, y) \rightarrow C(x, y_{\text{ind}}) \rightarrow \text{EXAMINE (he, we)} \]

Isomorphic reformulation:

*He examined us by looking at us ∧ The way he looked at us revealed that he examined us.*

(201a) Усмехнулся обидно/иронически/язвительно/насмешливо/.
(201b) Uśmiechnął się szyderczo/ironicznie.
(201c) He gazed at us resentfully/scornfully.
(201d) He smiled ironically.

\[ P(x, y) \rightarrow C(x, y_{\text{ind}}) \rightarrow \text{SMILE (he, we) } < \rightarrow P(x, y) \rightarrow C(x, y_{\text{ind}}) \rightarrow \text{RESENT (he, we)} \]

Isomorphic reformulation:

*He smiled at us ∧ the way he smiled revealed that he resented us.*

(202a) Нервно кашлял [как будто его все время что-то беспокоило].
(202b) Kaszlał nerwowo.
(202c) He coughed nervously.

\[ P(x) \rightarrow C(x) \rightarrow \text{COUGH (he) } < \rightarrow P(x) \rightarrow C(x) \rightarrow \text{BE NERVOUS (he)} \]

Isomorphic reformulation:

*He was nervous and that is why he coughed ∧ He coughed and this revealed that he was nervous.*

(203a) Рявкнул сердито/гневно.
(203b) Wrzasnął/ryknął gniewnie/wściekle.
(203c) He yelled angrily/furiously

\[ P(x) \rightarrow C(x) \rightarrow \text{YELL (he) } < \rightarrow P(x) \rightarrow C(x) \rightarrow \text{BE ANGRY (he)} \]

Isomorphic reformulation:

*He was angry and this is why he yelled ∧ He yelled and this revealed that he was angry.*

(204a) Ответил по по и-мэйлу/письмом/письменно.
(204b) Odpowiedział mailowo/listownie.
(204c) He replied by e-mail.
P (x, y) → C (x, y) → REPLY (x, y) < > P (x, y, z) → C (x, b, z) → SEND (x, E-MAIL, y)

Isomorphic reformulation:
He replied somebody by sending them an e-mail ∧ He sent an e-mail and this was the way he replied.

In communicative grammar the above examples are considered to be different from the previous set because here the semantic bond between the non-sentence building predicate and the sentence-building one is much tighter. The concepts whose exponents are verbs are not only implicated by the concepts formalized as adverbs but are also modified by them, producing a specific visualization, e.g. smile produces a different ideational image than smile ironically197 and it is usually recognizable as a separate gestalt in non-verbal communication. Despite the configurational non-isomorphism they produce (the concept they formalize are separate predications implicating either one or two arguments), in communicative grammar they are classified as semi-isomorphic198 due to the mentioned modifying properties. Semi-isomorphic adverbs modify the meaning of contiguous terms – the propositional argument implicated by the concepts which the adverbs formalize produces an ideational image different from the image evoked by the predicative concepts formalized by the same terms when unaccompanied by the adverbs. At the same time the adverbs introduce configurations which are non-isomorphic with regard to proper non-isomorphism.

Grzegorczykowa (1975: 80) and Czapiga (2003b: 430) illustrate the internal relations within structures of this kind in a diagram form:

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John yelled furiously
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Fig. 19.

The isomorphic reformulations in (200–204) show that Fig. 19 requires some modification as the relation between the predicates is bilateral, e.g. in (203) the adverbial correlate of the predicate is bifunctional: the agent yelled in a furious way and the fact that he yelled resulted from his being furious. Hence, I propose to alter the diagram as follows:

197 Cf. Thomason and Stalnaker’s (1973) idea that adverbs make modified verbal predicates out of plain ones. Consider for example the following comment by Eckardt (1998: 3): “We take ‘singing loudly’ to be a specific variant of ‘singing’ and ‘carefully carrying out the garbage’ as a specific variant of ‘carrying out the garbage’.

198 More detailed remarks concerning semi-isomorphic adverbs can be found in Class 6.
Let us note that from the morphological point of view the adverbs in (200) are related to participles. The difference between adverbial participles and adverbs derived from participles resides in the fact that the function of the former is to introduce a secondary predication into the sentence while the latter are bifunctional – they introduce a separate predication and at the same time modify the sentence-building predication (which is the index of their semi-isomorphicity), e.g. *zgodził się milcząco* (he agreed and he did not speak) vs. *zgodził się milcząc* (his being silent was a sign of his agreement; cf. Grzegorczykowa et. al. 1999: 527)\(^{199}\).

Let us consider one more example in which the agent implicated by the predicates is identical:

(205a) Маша пишет старательно.
(205b) Asia pisze starannie.
(205c) *Joan writes neatly.*

The sentences are interesting as they show a different focus in English in comparison with Russian and Polish. In the latter languages both the effort and the result are profiled in the phrases while in English only the result is in focus, cf. the reformulations (206a) for Polish and Russian, (206b) for English:

(206a) *Joan does her best/puts in a great deal of effort to write neatly which is evidenced by what is written by her.*
(206b) *Joan writes and what she writes looks neat.*

**TYPE 3**

This type comprises adverbs formalized as concepts which inherit agents; however, the role of the first argument is played by the whole sentence-building predication. Moreover, the focus is not on the agent in the configuration but on the patient (which is often identical with the observer, the conceptualizer)\(^{200}\) and thus the isomorphic reformulations are most likely to assume the passive voice:

(207a) Мария улыбнулась провоцирующе/вызывающе.
(207b) Maria uśmiechnęła się prowokacyjnie/wyzywająco.

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\(^{199}\) A large number of carefully analyzed Polish and Russian examples can be found in Czapig (2004b: 151–159): *niewzruszenie, niezdecydowanie, błagalnie, wzdychającco, wyzywająco, испуганно, примиряюще, взволнованно, раздражающе, осуждающе*, etc.

\(^{200}\) Following Paducheva’s (2011: 197) terminology, adverbs belonging to this type and also adverbs in 3.2.5.2. could be defined as egocentric linguistic elements, i.e. ones which are speaker-oriented.
(207c) Mary smiled provocingly/defiantly.
G [g (x, y), y] → C [C (x_{prop}, y), y] → PROVOKE [SMILE (Mary, y), y]

Isomorphic reformulations:
That Mary smiled at a person provoked this person.

or with the appropriate focus: The person was provoked by the fact that Mary smiled at them.

(208a) Загадочно посмотрела на меня.
(208b) Spojrzała na mnie zagadkowo/tajemniczo/intrygująco.
(208c) She mysteriously/enigmatically/intriguingly looked at me.
G [g (x, y), y] → C [C (x, y_{ind}), y_{ind}] → INTRIGUE [LOOK (x, I), I]

Isomorphic reformulations:
That Mary looked at me intrigued me.

or with the appropriate focus: I was intrigued by the fact that Mary looked at me.

In contrast to Type 2 the semi-isomorphic character of the above adverbs is more difficult to establish as we can hardly specify the modification of the ideational image of the sentence-building predicate. It is perhaps because the intention of its agent is indeterminate, cf.: That Mary looked at me intrigued me vs. The way Mary looked at me intrigued me. Actually, both interpretations are possible though with the first one we arrive at non-isomorphicity while with the second one at semi-isomorphicity of the structure (which configuration-wise is non-isomorphic (proper non-isomorphism) but iconic-wise is isomorphic (iconic isomorphism) as the concept formalized by the adverb changes the ideational image of the concept with the verbal correlate).

Additionally, the sentence-building predication is somewhat back-grounded and thus we could risk a hypothesis that nuclear predication in these sentences is formalized not as a sentence-building predicate (being a back-ground) but as an adverb (being a figure\textsuperscript{201}), which is manifested in the isomorphic reformulations, e.g.: g: That Mary looked at me [a syntactic noun – a propositional argument (first argument)] G: intrigued [a verb formalizing the nuclear predication] y: me [an exponent of the second argument].

With reference to Types 2 and 3, the (mutual or unilateral) modification of the ideational image (resulting in semi-isomorphicity) can be established only if we can see the connection between concepts. Let us consider (209) to show the anticipated interpretive obstacles which may arise in non-trivial combinations:

(209a) *Язвительно играл на рояле.
(209b) *Szyderczo grał na fortepianie.
(209c) *He scornfully played the piano.

\textsuperscript{201} as understood in cognitive linguistics (cf. figure-ground organization in Evans 2007: 79).
The semantic standard of being scornful and the semantic standard of playing the piano do not yield to amalgamation without additional discursive knowledge (Awdiejew 2001: 26–27). We do not know whether he scorned someone who was present while he was playing the piano or whether he wanted to show his scorn through playing the piano or whether he scorned the playing itself. In this study the focus is on sentences in which isomorphism or its lack is easily identifiable. By examples (209a–c) I want to emphasize that, naturally, there are cases where the issue of iconic isomorphism cannot be investigated without the pragmatic context.

3.2.5.2. Non-isomorphic adverbs as exponents of a separate predication whose agent does not coincide with the agent of the sentence-building predication

This group of adverbs is particularly interesting as they are correlates of constitutive concepts implicating arguments which have to be endophorically or exophorically retrieved from the discourse. In the conceptual configurations denoted by the phrases below the propositional argument formalized as a construction with the verbal centre occupies the second position in the higher order structure:

(210a) Неожиданно рявкнул.
(210b) Wrzasnął niespodziewanie.
(210c) He unexpectedly shrieked.

\[ \neg G \{x, f(x)\} \rightarrow \neg C \{x, C(x_{\text{ind}})\} \rightarrow \neg \text{EXPECT} [x, \text{SHRIEK (he)}] \]
Isomorphic reformulation:
The conceptualizer didn’t expect him to shriek.

(211a) Подскочил внезапно/незадачно-незадачно.
(211b) Podskoczył nagle.
(211c) He suddenly jumped up.

\[ \neg G \{x, f(x)\} \rightarrow \neg C \{x, C(x_{\text{ind}})\} \rightarrow \neg \text{EXPECT} [x, \text{JUMP UP (he)}] \]
Isomorphic reformulation:
The conceptualizer didn’t expect him to jump up.

(212a) Удалился незаметно.
(212b) Wymknął się niepostrzeżenie/niezauważenie.
(212c) He slipped away unnoticed.

\[ \neg G \{x, f(x)\} \rightarrow \neg C \{x, C(x_{\text{ind}})\} \rightarrow \neg \text{NOTICE} [x, \text{SLIP AWAY (he)}] \]
Isomorphic reformulation:
The conceptualizer didn’t notice him slip away.

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202 Understood as text or text and situation.
(213a) Он безнаказанно бьет друзей.
(213b) Bijе kolegów bezkarnie.
(213c) He beats his friends with impunity.
\[ \sim H \left[ x, y, g \left( x, y \right) \right] \rightarrow \sim C \left[ x, y_{\text{ind}}, C \left( x_{\text{ind}}, b \right) \right] \rightarrow \sim \text{PUNISH} \left[ x, \text{he}, \text{BEAT} \left( \text{he, FRIENDS} \right) \right] \]
Isomorphic reformulation:
Nobody punishes him for beating his friends.

(214a) Публично оскорбил президента.
(214b) Publicznie obraził prezydenta.
(214c) He insulted the president in public.
(214d) ?He publicly insulted the president.
\[ G \left[ x, G \left[ x, g \left( x, y \right) \right] \right] \rightarrow C \left[ x_{\text{ind}}, C \left[ a, C \left( x_{\text{ind}}, b \right) \right] \right] \]
\[ \rightarrow \text{WANT} \left( \text{he, KNOW} \left[ \text{SOCIETY, INSULT} \left( \text{he, PRESIDENT} \right) \right] \right) \]
Isomorphic reformulation:
He wanted the society (at large) to know that he insulted the president.

In sentences (210–214) I labeled the first argument conceptualizer (cf. the isomorphic reformulations) since we actually do not know who the person is and, as I have already remarked, the knowledge of the text or a situation helps us to specify it. In examples (214a–c) the interpretation is different because the sentence contains the hyperterm PRESIDENT that instigates a whole constellation of semantic standards which, in combination with other elements from the sentence, leads us to interpret the first argument as SOCIETY.

Interpretation through semantic standards combined in sentences (214a–c):

A president leads a society.
A president is a public person \rightarrow Everyone in a given society should know the president.
If somebody insults the president without hiding his offence, the society learns about it.

Additionally, (214a–c) demonstrate volitional modality on the part of the offender: He wanted people to know that he insulted the president (cf. the isomorphic reformulation).

Examples (213a–c) are of a yet different nature since the sentences have a quantifying value, which can be represented by the following existential quantification:
\[ \sim \exists x \ H \left[ x, y, p \right]; p \rightarrow g \left( x, y \right) \]

The formula reads as follows: There is no such person that punishes him for beating his friends. Thus the position of the first argument denotes ‘no person’.
In (212c), (213c) and (214c) the discussed concepts are not formalized as adverbs. In spite of this English syntactic equivalents of the Slavic adverbs are also non-isomorphic because they do not reveal the implications of the concepts whose correlates they constitute (cf. the isomorphic reformulations).

3.2.5.3. Degree adverbs in the context of separate non-isomorphic predications

Previous examples discussed with reference to this class were concerned exclusively with adverb + verb collocations. As I mentioned in the presentation of the degree adverbs, virtually any adverb collocating with an adjective acquires intensifying (or detensifying) meaning. Now I want to analyze two adverbs which, regardless of the part of speech they collocate with, retain the degree meaning. However, they are “reluctant” to go with verbs in all three languages, especially in English:

(215a) ?Он невыразимо тоскует.
(215b) ?On niewyrażalnie tęskni.
(215c) On niewyrażalnie tęskni.
(215d) On niewyobrażalnie cierpi.
(215e) ?He inexpressibly/unimaginably yearns.

\[ \neg G^{\text{mod}} \{ x, G \{ x, g^{\text{intens}} (x_{\text{ind}}, y) \} \} \rightarrow \neg C^{\text{mod}} \{ x, C \{ x, C^{\text{intens}} (x_{\text{ind}}, O^E) \} \}
\]

\[ \rightarrow \neg \text{CAN} \{ \text{CONCEPTUALIZER, IMAGINE} [\text{CONCEPTUALIZER, YEARN}^{\text{intens}} (he, O^E) \}
\]

Isomorphic reformulation:
The conceptualizer cannot imagine how ardently he yearns for sth/sb.

(216a) Он невыразимо добr.
(216b) On jest niewyrażalnie wdzięczny.
(216c) He is inexpressibly sad.

\[ \neg C^{\text{mod}} \{ x, G \{ x, g^{\text{intens}} (x_{\text{ind}}) \} \} \rightarrow \neg C^{\text{mod}} \{ x, C \{ x, C^{\text{intens}} (x_{\text{ind}}) \} \}
\]

\[ \rightarrow \neg \text{CAN} \{ \text{CONCEPTUALIZER, EXPRESS} [\text{CONCEPTUALIZER, BE GOOD}^{\text{intens}} (he) \}
\]

Isomorphic reformulation:
The conceptualizer cannot express how good he is.

(217a) Этот перевод неописуемо ужасен.
(217b) Nieopisanie się cieszę.
(217c) The meal is indescribably delicious.

\[ \neg G^{\text{mod}} \{ x, G \{ x, g^{\text{intens}} (x) \} \} \rightarrow \neg C^{\text{mod}} \{ x, C \{ x, C^{\text{intens}} (a) \} \}
\]

\[ \rightarrow \neg \text{CAN} \{ \text{CONCEPTUALIZER, DESCRIBE} [\text{CONCEPTUALIZER, BE DELICIOUS}^{\text{intens}} (MEAL_{\text{def}}) \}
\]
Isomorphic reformulation:
The conceptualizer cannot describe how delicious the meal is.

(218a) Эти фотосумки удивительно дешевые.
(218b) To zadziwiająco niska cena.
(218c) He is surprisingly robust.

G [x, g^{intens}(x_{ind})] → C [x, C^{intens}(x_{ind})]
→ BE SURPRISED {CONCEPTUALIZER, BE ROBUST^{intens}(he)}

Isomorphic reformulation:
The conceptualizer is surprised at how robust he is.

Unlike other degree adverbs, which do not constitute exponents of discrete concepts and whose sole function is to indicate the intensity of the concept formalized by the adjacent part of speech (cf. Class 3), adverbs morphologically related to verbs produce a clear reference to a separate ideational image by focusing on the conceptualizer and often also on his capacity to comprehend the intensification (formalized by the suffixes -им-, -алн-, -able-). I am inclined to regard them as non-isomorphic, not because of the lack of the corresponding conceptual element but because they point to separate configurations whose salient component is the subject of the activity or state and often a modal predicate (cf. isomorphic reformulations). Interestingly, the conceptualizer usually does not concur with the agent of the sentence-building predicate:

(219a) On niewyobrażalnie cierpi. – I/you cannot imagine how terribly he suffers.
(219b) Niewyobrażalnie cierpię. – You cannot imagine how terribly I suffer.
(219c) ?I am surprisingly robust. – I am surprised at how robust I am.

3.2.6. Class 5. Scenarios, quantification and qualification. The issue of adnominal adverbs

3.2.6.1. Adverbs as entities introducing scenarios and as entities quantifying/qualifying objects

Adverbs belonging to this group have a special function. They do not modify the verbs with which they go but indicate a temporal sequence, a scenario. They are most often used in Polish; therefore, Polish examples are treated as point of departure in their description. Russian and English prefer a predicative adjunct (cf. Pisarkowa 1965: 109–117) in such contexts:

(220a) Został odznaczony pośmiertnie.
(220b) Został pośmiertnie uniewinniony i zrehabilitowany.
(220c) Он был посмертно награжден орденом.
(220d) Он был посмертно реабилитирован.
(220e) He was posthumously awarded the Silver Star.
(220f) He was posthumously rehabilitated.
SC (t₂,t₁,t₀)
\[ t₃: \neg P \left( x, y \right) \rightarrow \neg C \left( a, y \right) \rightarrow \neg RESPECT \left( PEOPLE, he \right) \]
\[ t₂: P \left( x \right) \rightarrow C \left( x \right) \rightarrow DIE \left( x \right) \]
\[ t₁: P \left( x, y \right) \rightarrow C \left( x, y \right) \rightarrow REHABILITATE \left( x, he \right) \]
\[ t₀: P \left( x, y \right) \rightarrow C \left( a, y \right) \rightarrow RESPECT \left( PEOPLE, he \right) \]
Isomorphic reformulation:
\( (t₃): He \ wasn’t \ respected. \ (t₂): He \ died. \ (t₁): He \ was \ rehabilitated. \ (t₀): He \ is \ respected. \)

(221a) Niepotrzebnie zrobiła operację.
(221b) Na próżno szukali broni.
(221c) Зря/напрасно сделала операцию.
(221d) The instructor struggled vainly to open his parachute.
(221e) They searched in vain for the missing gun.
SC (t₂,t₁,t₀)
\[ t₁: P \left( x, y \right) \rightarrow C \left( x, b \right) \rightarrow SEARCH \left( x, GUN \right) \]
\[ t₀: \neg P \left( x, y \right) \rightarrow \neg C \left( a, y \right) \rightarrow \neg FIND \left( x, GUN \right) \]
Isomorphic reformulation:
\( (t₁): They \ searched \ for \ the \ gun. \ (t₀): They \ didn’t \ find \ the \ gun. \)

(222a) Zabierali głos kolejno.
(222b) Они высказывались поочередно.
(222c) They spoke one by one.
SC (..., t₃, t₂, t₁ ...)
\[ \begin{align*}
  t₃: & \ P \left( x \right) \rightarrow C \left( x \right) \rightarrow SPEAK \left[ x \right] \\
  t₂: & \ P \left( x \right) \rightarrow C \left( x \right) \rightarrow SPEAK \left[ x \right] \\
  t₁: & \ P \left( x \right) \rightarrow C \left( x \right) \rightarrow SPEAK \left[ x \right] \\
\end{align*} \]
conceptualized as a whole
\( \text{(cf. summary scanning below)} \)
Isomorphic reformulation:
\( (t₃): x \ spoke. \ (t₂): y \ spoke. \ (t₁): z \ spoke. \)

(223a) Przeprowadzać badanie na czczo.
(223b) Анализ крови сдается натощак.
(223c) You need to do the test before you’ve eaten.
\[ \begin{align*}
  t₁: & \neg P \left( x, y \right) \rightarrow \neg C \left( x, y \right) \rightarrow \neg EAT \left( x, y \right) \\
  t₀: & \ P \left( x, y \right) \rightarrow C \left( x, y \right) \rightarrow \neg TEST \left( x, y \right) \\
\end{align*} \]
Isomorphic reformulation:
\( (t₁): x \ hadn’t \ eaten. \ (t₀): y \ tested \ x. \)

(224a) Umarł bezdzietnie.
(224b) Умер бездетным.

\[ \text{Cf. a scenario proposed by Zaliznyak (1990: 116).} \]
(224c) *He died childless.* (adj).

SC (t-2, t-1, t0)

\[ \text{t-2: } \sim P(x, y) \rightarrow \sim C(x, b) \rightarrow \sim \text{HAVE (he, CHILDREN)} \]

\[ \text{t-1: } P(x) \rightarrow C(x) \rightarrow \text{DIE (he)} \]

\[ \text{t0: } P(x, y) \sim C(x, b) \rightarrow \sim \text{LEAVE (he, CHILDREN)} \]

Isomorphic reformulation:

\[ \text{(t-2): } \text{He didn’t have children.} \quad \text{(t-1): } \text{He died.} \quad \text{(t0): } \text{He left no children.} \]

Looking at the scenarios and the reformulations we can discover the configurations introduced by adverbs. They are non-isomorphic as they are correlates of additional propositional structures.

Examples in (221) contain adverbs of purpose which indicate the expected result of an action (t0) after it has been performed (t-1), thus designating a two-phased scenario. Notably, adverbs of purpose such as *unnecessarily, in vain, vainly, niepotrzebnie, na próżno, зря, напрасно, впустую* introduce scenarios only in one of the possible meanings, i.e. the meaning of “ineffective action”. Zaliznyak (1990: 120, 122) distinguishes two other meanings: “erroneous opinion” and “evaluation”. Adverbs in such expressions as *потратил деньги напрасно/впустую, niepotrzebnie/на próżno wydał pieniędze, he spent the money unnecessarily* do not point to a scenario but function as emotive-evaluative interactional operators, their non-isomorphism founded on an additional modal configuration (cf. Class 3).

Examples in (222) differ from the rest as they contain a scenario of the same activity repeated in a sequence by different persons. This structure is more transparent in English which actually structuralizes it as sequence – *one by one*. The composition of the scenario in Russian and Polish brings to mind the notion of *summary scanning* used by cognitive linguistics in the analysis of language:

Atemporal relations contrast with “processes”, which define the class of verbs. (...) the distinction between a process and a complex atemporal relation involves the contrast between “sequential” and “summary scanning”. Sequential scanning is the mode of processing we employ when watching a motion picture or observing a ball as it flies through the air. The successive states of the conceived event are activated serially and more or less instantaneously, so that the activation of one state begins to decline as that of its successor is initiated; essentially, we follow along from one state to the next as the event unfolds. On the other hand, summary scanning is what we employ in mentally reconstructing the trajectory a ball has followed (e.g. in identifying a pitch as a curve, fastball, or slider and diagraming its degree of curvature). The component states are activated successively but cumulatively (i.e. once activated they remain active throughout), so that eventually they are all coactivated as a simultaneously accessible whole. The difference between a complex atemporal relation (like across) and the corresponding verb (cross) is therefore attri-
buted not to their intrinsic content, but rather to the mode of scanning employed in their activation – a matter of conventional imagery (Langacker 1991: 22–23).

The analysis of kolejno (поячередно) is perhaps not as straightforward as in Langacker’s example because across does not indicate an activity repeated by different people. Nevertheless, the adverb deprives the predications of the temporal and modal frame and such atemporalized predications are “accumulated in layers on one another”, constituting a whole – an event (cf. Willim’s (2006: 120) analysis of iteration of an eventuality).

The English translation (223c) of the phrase with na czczo (223a) plainly shows the scenario hidden in the Polish adverb. The sequence of events is revealed by the conjunction before which divides the stages of the scenario.

Examples (222) and (223) deserve an additional comment. Apart from the non-isomorphic adverbs they contain periphrastic predications (Jędrzejko 2002), which are connected with the stylistic level (level of text organization) in communicative grammar and can also be discussed in terms of isomorphism. The Polish zabrać głos and przeprowadzić badanie are periphrastic expressions whose meaning is often equated with wypowiedzieć się and zbadać respectively (cf. the English periphrastic the priest married them = the priest joined them in matrimony). The stylistic periphrastic variants can be suspected of being non-isomorphic since there are two linguistic units which formalize a single concept. The issue is not as straightforward as that, since not all periphrastic expressions are exactly equivalent to their non-periphrastic counterparts, especially when we take into account the metaphorical character of such complex entities. For instance, the periphrastic zabierali głos induces a metaphor of the uncountable VOICE from which the participants in the discussion take some part. Thus, on the one hand we see a meronymy PART-WHOLE and on the other hand a visualization: VOICE is collected like THINGS (which are countable). The question is whether periphrastic structures really refer to a single conceptual element which can be formalized as a single exponent identical with the periphrastic phrase.

Examples (224a–c) disclose a difference in grammaticalisation between Polish vs. Russian and English. In the latter languages the predication is formalized as an adjective in contrast to the Polish adverbial correlate – both formalizations being non-isomorphic. Let us consider a similar structure with a qualitative Polish adverb and qualitative adjective in Russian and English:

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204 Cf. a cognitive analysis of the verb arrive at by Podhorodecka (2007: 110–111), on the basis of which expressions like arrive at a conclusion may clearly be distinguished from the simple conclude. Cf. also reification.
(225a) *Umarł/ożenił się młodo.*
(225b) *He died/got married young.*
(225c) *Умер/женился молодым.*

Although these expressions do not designate scenarios, I have decided to discuss them at this point as they are remarkable from the point of view of the study of isomorphism. The Polish adverb *młodo* and its Russian and English adjecival equivalents formalize predicates implicating two arguments which refer to the norm. This places the use of the forms close to comparative adjectives, which is evident in the following reformulations:

*When he died he was younger than people usually are when they die.*
*When he got married he was younger than people usually are when they get married.*

The confirmation of the reference to norm can be found in such expressions as *Umarł stosunkowo młodo* = *he was relatively young when he died*, where *stosunkowo* and *relatively* point to the relation with the normally expected age of death. There is, however, a difference in focus between the adjecival and adverbial formalizations. The Russian and English adjectives profile the discreteness of the predications because adjectives do not usually combine with verbs; thus, the structure is easily divided into: *he died* and *he was young* (the latter expression being of exactly the same pattern as *he died young – die* in a way absorbs the role of a copula) – the relation between the predications is not in focus. In turn, the Polish *młodo* as a part of speech syntactically related to a verb profiles the relation between the predications, focusing on the fact that he was not generally young but that his youngness/youth is related to his dying, thus more clearly pointing to a standard age of dying. The English dictionaries attempt to solve the problem of being “generally young” and “relatively young” in such expressions as (225c) by distinguishing between the meanings of young: “not as old as the norm or as would be expected” (Soanes and Stevenson 2003: 2045).

The relation to norm, resulting from the tangency of predications can be illustrated by the following age estimations, with the age varying according to the combination with the verb (I use Polish formalizations as they are adverbial):

(226a) *Młodo umarł.* (age ≈ 30–50 years)
(226b) *Młodo się ożenił.* (age ≈ 18–23 years)
(226c) *Młodo został profesorem.* (age ≈ 35–40 years)

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205 Cf. the analysis of *too, zbyt, слишком* in Class 3.
206 In Pisarkowa’s (1965: 107) approach such elements as *młodo* (= *kiedy był młody*) in *umarł młodo* are labelled *predicative adverbials*, comp. *Mąż lubi żonę zdrową*, which in one of the possible interpretations can be reformulated as *Mąż lubi, kiedy żona jest zdrowa.*
Let us now consider a few instances of adverbs whose function is to quantify or qualify objects:

(227a) sztywno nakrochmalony obrus
(227b) жестко накрахмаленный кокошник
(227c) stiffly starched tablecloth
(227d) ?nakrochmalil obrus sztywno
(227e) *He starched the tablecloth stiffly.
(227f) ?Жестко накрахмалил кокошник.

\[ t_1: P (x, y) \rightarrow C (x, b) \rightarrow \text{STARCH} (x, \text{TABLECLOTH}) \]
\[ t_0: P (x) \rightarrow C (a) \rightarrow \text{STIFF} (\text{TABLECLOTH}) \]
Isomorphic reformulation:
\[ (t_1): \text{Somebody starched the tablecloth. (t}_0): \text{The tablecloth was stiff.} \]

(228a) Grubo pokroił chleb.
(228b) Мелко нарезал лимон.
(228c) He sliced the bread thickly.
(228d) grubo pokrojony chleb
(228e) мелко нарезанный лимон
(228f) thickly sliced bread
\[ t_1: P (x, y, z) \rightarrow C (x, b, c) \rightarrow \text{CUT} (x, \text{BREAD, SLICES}) \]
\[ t_0: P (x) \rightarrow C (a) \rightarrow \text{THICK} (\text{SLICES}) \]
Isomorphic reformulation:
\[ (t_1): \text{He cut the bread into slices. (t}_0): \text{The slices were thick.} \]

(229a) czysto uprana koszula
(229b) чисто выстиранный платок
(229c) have the office swept clean
(229d) ?чисто выстирать платок
(229e) ?czysto uprać
(229f) sweep the office clean
\[ t_1: P (x, y) \rightarrow C (x, b) \rightarrow \text{SWEEP} (x, \text{OFFICE}) \]
\[ t_0: P (x) \rightarrow C (a) \rightarrow \text{CLEAN} (\text{OFFICE}) \]
Isomorphic reformulation:
\[ (t_1): \text{He swept the office. (t}_0): \text{The office was clean.} \]

(230a) nakarmoniono nas obficie
(230b) нас обильно накормили
(230c) horses were fed generously
\[ H [x, y, f (x)] \rightarrow C [x, b, C (a)] \rightarrow \text{FEED} [x, \text{HORSES, MUCH (FOOD)}] \]

(231a) Tanio sprzedał samochód.
(231b) Дешево купил мотоцикл.
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(231c) He bought the car cheap.
(231d) tanio kupiony samochód
(231e) дешево купленный мотоцикл
(231f) ?a cheaply bought car

\[ K[x, y, z, k \{x, y, z, v\}] \rightarrow C[x, \emptyset^n_y, c, C[x, \emptyset^n_y, c, d]] \]
\[ \rightarrow BUY[he, \emptyset^n_y, CAR, PAY[he, \emptyset^n_y, CAR, LITTLE]] \]
\[ \Rightarrow P(x) \rightarrow C(a) \rightarrow CHEAP(CAR) \]
Isomorphic reformulation:
He bought the car from someone and he paid them little for the car.
The car was cheap.

The non-isomorphism of the above configurations again resides in the lack of correspondence between the formal and the conceptual structure. There is a relation of formal connotation between the verbs and the adverbs, while at the plane of content the concepts formalized by these adverbs implicate the concepts whose correlates are second argument expressions. In the above examples syntax “willingly creates” configurations with participles, passives or causative have (229c). In such combinations the semantic tangency between the concept formalized by the adverb and the concept formalized by the object is more prominent because the main predication is in the background as expressed by an iconically non-isomorphic form while the predicated object is syntactically profiled – the exponent of the predicate is formalized as an adjunct which is grammatically subordinate to the object. This is of course not a general rule (I have examined only five cases and even here sentence-building predication is sometimes possible or even recommended) but in my opinion it is an interesting mechanism because it shows how syntax which non-isomorphically “wraps up” the message and at the same time “attempts” to profile the proper object of the predication formalized by the adverb.

It cannot go unnoticed that in English there is a grammatical difference between (229c), (231c) where clean and cheap are defined as adverbs and (225b) where young is defined as an adjective. This state of affairs may be explained as consequent upon the conceptual configuration which they formalize. It can be assumed that the verbs sweep and buy formalize concepts the predication of which is related to the concepts whose exponents are the adverbs under consideration. If we take a closer look at the implicational properties of BUY, we see that it opens slots for four arguments, the last one being a propositional argument PAY, which is an inherent component of the concepts CHEAP and EXPENSIVE. A cheap thing is a thing for which we pay little; thus, to buy a thing cheap is to pay little for it. This line of analysis proves that the concept CHEAP is integrally related to the concept BUY. If BUY is typically forma-
lized as a verb, the standard grammatical form with which the verb goes is an adverb. Thus the occurrence of a verb-cum-adverb collocation in this context may be attributed to the semantic tangency of concepts which they formalize (despite the fact that the formalization is non-isomorphic). Similarly, we can trace a clear relation between *sweep* and *clean*. In the case of *young* the situation is different: the concept YOUNG/YOUTH is not semantically connected with the concept DIE and the relation between the concepts is more obscure than in the case of CHEAP and BUY. The only tangency between the predication DIE and the predication YOUNG is that their first arguments are identical, which brings in the reference to norm. The concurrence of the first argument causes a sort of superimposition of the secondary predication on the sentence-building one and the latter absorbs the former without interfering with the grammatical form of the exponent:

$$\begin{array}{c}
\text{He} \\
\text{died}
\end{array}$$

$$\begin{array}{c}
\text{He} \\
\text{was young}
\end{array}$$

3.2.6.2. The question of *совсем* and other Russian adverbs which can occupy the adnominal position

The polyfunctional character of the adverb *совсем* was studied in depth by Komorowska (1992), who devoted an entire monograph to this lexeme. Her analysis inspired me to look at the adverb from the perspective of isomorphism. I have selected only six of the many uses of the adverb to show how it may structure conceptual relations, with special reference to the interactional level:

(232a) *Миша совсем слепой.* ['Misha is completely blind']
(232b) *Миша совсем перестал бриться.* ['Misha has given up shaving']
(232c) *Миша совсем онемел.* ['Misha was completely dumbstruck']
(232d) *Я совсем забыл о собрании.* ['I clean forgot about the meeting']
(232e) *совсем псих* ['(He is) an absolute nutcase/(He is) totally crazy']
(232f) *совсем лето* ['(It is) quite like summer']

In the first example the adverb *совсем* introduces a pleonastic (and therefore a non-isomorphic) configuration since the adjective *слепой* itself expresses an absolute value of the property. According to Komorowska (1992: 56) there is an implicit negation in this adjective, thus *слепой* can be interchanged with *не видит*. To me these expressions are not exactly equivalent.

since the verb connotes two argument expressions and so is configurationally different. Moreover, a more adequate interpretation should involve the modal component, which is revealed by the English definition of blind ⇒ cannot see/is not able to see (the English does not see refers to a concrete object of seeing, e.g. does not see the point). In my opinion the communicative role of the adverb совсем in (232a) is to shift the scope from the entity which possesses the modal frame with clearly defined impossibility to the state of affairs in which the concept is gradable (clear-sighted, partially-sighted).

What is more, совсем in such configurations may perform a strictly pragmatic function, being an emotive-evaluative operator which introduces a homogeneous intentionally definite speech act where the state of affairs is unfavourable to the interlocutor and at the same time caused by the interlocutor (Awdiejew 2004a: 126). In this case its non-isomorphic nature resides in the designation of the modal component superimposed on the basic structure – He is so blind that you can only pity him! Additionally, there is a shift in meaning – the property of blindness is not connected with his sense of sight but metaphorically with the ability to find or to notice the desired thing (person, information, etc.). The structure of the metaphor based on a semantic standard can be explicated as follows:

*Blind people cannot see. You are like blind people because you cannot see what I want you to see and what you should be able to see (but you are not blind in the generic sense!).*

If used as an interactional operator, совсем is undeniably non-isomorphic as it designates an additional modal configuration and causes a shift in the meaning of слепой, which is used in figurative sense only.

In (232b) совсем is redundant as well (causing the overcoding of the clausal structure) because the phase verb перестал cannot be discussed in terms of completeness of the action, as it designates its final stage. Again, its pragmatic function comes to the fore as совсем profiles the intermediate stages of the process before it is finished, the non-isomorphic character of the adverb manifested by its reference to a scenario, cf.:

\[
\text{перестал бриться} \\
t_1 \\
\text{[He shaved]} \\

\text{т_0} \\
\text{[he stopped shaving]}
\]

Fig. 21.
On adverbs and their isomorphism/non-isomorphism

совсем перестал бриться

[t_3] [t_2] [t_1] [t_0]

[He shaved rarely] [He shaved more rarely] [he shaved more and more rarely] [he stopped shaving]

Fig. 22.

Example (232c) contains a combination совсем and онеметь, a “verb of becoming” (in Polish czasownik ‘stawania się’; cf. Komorowska 1992: 122). The function of the adverb in this phrase is strictly pragmatic. It expresses a response to a particular situation/phenomenon by shifting the meaning of the verb. Онеметь no longer denotes the physical inability to speak but it expresses the inability to speak in a particular situation, which results from the fact that someone is extremely surprised, e.g. Я совсем онемел! На кухню вошла высокая, красивая, русоволосая женщина. Because the expression refers to the semantic standard of reaction to being surprised, additional configurations are hidden in it (predication about the reason of the “dumbness” and its transitory character) and thus the phrase is non-isomorphic.

In (232d) and (232e) совсем is an interactional operator but in each of them it has a different pragmatic function. (232d) is pleonastic due to the fact that забыть is another verb that cannot be discussed in terms of completeness – you either have forgotten something or you haven’t (and still remember it). The adverb quasi-intensifies the verbal meaning, being in fact an emotive-evaluative operator which converts the utterance into a homogeneous intentionally definite speech act where the state of affairs is unfavourable to the speaker and caused by the speaker (Awdiejew 2004a: 126). In turn, the speech act in (232e) predicates about the state of affairs whose target and intentionality are ambiguous. I say that somebody is completely crazy and this can have negative consequences for the speaker or/and the interlocutor or/and the person who is being evaluated – thus the target is indefinite. Intentionality is also indefinite since we do not know whether the person is aware of the fact that what he/she did can be categorized as crazy or not. In this phrase совсем is non-isomorphic in terms of configuration since the syntactic relation between the adverb and the noun does not correspond with the conceptual combination of elements. The noun нсих is itself a noun marked by emotion and evaluation, and it designates a crazy person. The concept formalized as an adverb is semantically related to the craziness of the person and not to the person as such: a completely crazy [person], which is not reflected in the phrase. Совсем intensifies the craziness of the person referred to as нсих and thus acts
as an intensifier which is at the same time an interactional operator (cf. 3.2.4.2).

Like the previous example, (232f) contains an adverb-cum-noun combination. The phrase is non-isomorphic since the concept of SUMMER can be neither intensified nor discussed in terms of completeness. There are only two lexical exponents in the phrase but they denote a complex conceptual relation, which can be isomorphically reformulated as Совсем так тепло как летом. This reveals that совсем singles out the prototypical feature of SUMMER, i.e. WARMNESS, which in (232f) is attributed to the described state of affairs

In the last two examples совсем is combined with nouns. The syntactic combination adverb + noun may be either isomorphic or non-isomorphic depending on the morphological properties of the noun. If the noun is a nomen actionis the relation between the adverb and the noun is the same as the relation between the adverb and the verb from which the noun is derived (cf. Cyran 1967: 12–13). If the verb + adverb configuration is isomorphic, so is the one between the nomen actions and the adverb. Here the question of isomorphism concerns first and foremost nomina actionis, which in communicative grammar are regarded as non-isomorphic themselves. Let us consider selected examples:

(233) разговор по-немецки
F [g (x, y)] → C [C (x, y)] → GERMAN [TALK (x,y,)]
(234) чтение вслух
F [g (x, y)] → C [C (x, y)] → ALOUD [READ (x,y,)]
(235) шаг в сторону
F [g (x)] → C [C (x)] → ASIDE [STEP (x)]
(236) прогулка пешком
f (x) → WALK (x)

In the first three examples the configuration noun plus adverb is isomorphic as it maps the configuration of concepts which they formalize – the adverbs are exponents of higher order predicates which implicate propositional arguments whose correlates are the nouns. The phrase in (17) differs from the others as it is overcoded: the concept WALK contains ON FOOT as its constituent and the syntactic combination results in an absolute pleonasm (cf. the “but” test in Chapter II):

*He walked but he didn’t walk on foot.

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209 Komorowska (1992: 182) observes that “the adverb совсем does not combine with all the properties of the noun but with the dominating one (translation mine, K.O.)” – SUMMER as a complex concept designates a whole constellation of semantic standards, of which only one is selected by совсем.
In (233–236) isomorphism is independent of the nominal exponent of activity but dependent on the semantic connection between specific concepts formalized by nouns and adverbs. In the following phrasings the situation is different since the nouns in the syntactic configurations are exponents of referential arguments, and not of propositional ones.

(237) цветы весной
  \( \text{Loc} > \text{P} (x) \rightarrow \text{Loc}_{\text{temp}} > \text{P} (a) \rightarrow \text{SPRING} > \emptyset_{\text{CON}} \) (FLOWERS)

(238) Москва ночью
  \( \text{Loc} > \text{P} (x) \rightarrow \text{Loc}_{\text{temp}} > \text{P} (a) \rightarrow \text{NIGHT} > \emptyset_{\text{CON}} \) (Moscow)

(239) яйцо смятку
  \( \text{F} [f (x)] \rightarrow \text{C} [C (x)] \rightarrow \text{SOFT} [\text{BOIL} (\text{EGG})] \)

(240) дом напротив²¹⁰
  \( \text{P} (x, \text{loc}) \rightarrow \text{C} (a, \text{loc}_{\text{spac}}) \rightarrow \text{BE SITUATED} (\text{HOUSE, OPPOSITE}), \)

(241) почти студент
  \( t_0: \text{G} [x, g (x, y)] \rightarrow \text{C} [x, C (x, a)] \rightarrow \text{ATTEMPT} [x, \text{BECOME} (x, \text{STUDENT})] \)
  \( t_{-1}: \text{P} (x) \rightarrow \text{C} (x) \rightarrow \text{BE STUDENT} (\text{he}) \)

All the above phrases are non-isomorphic. Examples (237–240) represent undercoded structuring where predicates are not formalized in the syntactic constructions²¹¹. In (239–240) the omitted elements can unambiguously be recovered according to the principle of compensation: BOIL, BE SITUATED; therefore the undercoding is categorized as compression. In (237–238) the elements cannot be unequivocally recovered from the structure: ?flowers which are in bloom in the spring, ?flowers which smell in the spring, ?Moscow seen at night, ?Moscow illuminated at night; thus, the undercoding can be classified as condensation.

Example (241) rounds off the discussion of Class 5 by taking us back to the issue of scenarios. The adverb почти cannot be an exponent of a predication about the student. It is an operator which sets the characterized person at some stage in his/her endeavours to become a student. This stage cannot be exactly specified but can to some extent be visualized through semantic standards (e.g. he/she has just finished high school, he/she is taking the entrance

²¹⁰ Cf. other examples and their English and Polish equivalents: поворот направо (right turn, skręt w prawo), дверь направо (the door on the right, drzwi na prawo/ro prawej), дружба навеки (a friendship forever, dozgona przyjaźń, przyjaźń na wieki), жизнь вдвоем (a life together, życie we dwoje), взгляд украдким (a frutive look, ukradkowe spojrzenie), шапка набекрень (to wear a cap askew, czapka na bakier), губы бантіком (heart-shaped mouth, usta w kształcie serca), нос гарбінкій (crooked nose, garbaty nos), глаза навыкате (bulging/protruding eyes, wylupiaste oczy), судак по-парижски (pikeperch in Parisian fashion, sandacz po parysku). The semantics of some of the examples is discussed by Wołodźko (1984: 96–97) with reference to Russian and Polish.

²¹¹ Cf. implicit predication (Chervinskiy and Nadeľ-Chervinskaya 2004: 43).
On Isomorphism and Non-Isomorphism in Language (exams). *Почти* works here also as an interactional operator expressing a positive evaluation of the person, which is often emphasized by adding the particle *уже*: *уже почти студент* (cf. Chudyk 2006: 155).

3.2.7. Class 6. Semi-isomorphic adverbs morphologically related to nouns introducing configurations based on stereotypes and adverbs functioning as exponents of arguments

Adverbs that are morphologically related to *nomina agentis* are formal exponents of additional conceptual configurations which can be interpreted by reference to semantic standards. Let us consider a few examples:

(242a) Разговаривали по-дружески [будто были век знакомы].
(242b) Rozmawiali po przyjacielsku [jak gdyby znali się od lat].
(242c) [He took to her immediately and they spent the rest of the evening] chatting amicably [by the fireplace]

\[
P(x, y) = P(x, y) \rightarrow C(x, y) = C(a, b) \rightarrow \text{TALK}(x, y) = \text{TALK} \text{(FRIEND, FRIEND)}
\]

Isomorphic reformulation:

*They talked to each other like friends talk to each other.*

(243a) Тусовались по-студенчески, [весело и громко.]
(243b) Imprezowali po studencku, [wesoło i głośno].
(243c) They enjoyed the party much, like students usually do.

\[
P(x) = P(x) \rightarrow C(x) = C(a) \rightarrow \text{PARTY}(x) = \text{PARTY} \text{(STUDENTS)}
\]

Isomorphic reformulation:

*They partied the way students usually party.*

(244a) Боролся героически [и был удостоен многих боевых наград].
(244b) Walczył bohatersko [o czym świadczą liczne odznaczenia i medale oraz awans do stopni].
(244c) *He fought heroically* [*and received the Medal of Honor].

\[
P(x, y) = P(x, y) \rightarrow C(x, \emptyset G) = C(a, b) \rightarrow \text{FIGHT}(x, \emptyset G) = \text{FIGHT} \text{(HERO, ENEMY)}
\]

Isomorphic reformulation:

*He fought with \emptyset G the way heroes fight with enemies.*

(245a) По-юношески влюбился, [жизнерадостно и беззаботно].
(245b) *Młodzież postrzegać świat, [być nim nieustannie zainteresowanym, ciągle nad sobą pracować i rozwijać się].*

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212 The parts in brackets are not analysed.
(245c) I saw her striding youthfully down the street [as if she was still a young girl].
\[ P(x, y) = P(x, y) \rightarrow C(x, O^f) = C(a, y) \rightarrow \text{FALL IN LOVE}(x, O^f) = \text{FALL IN LOVE}(\text{YOUTH}, y) \]
Isomorphic reformulation:
He fell in love with \( O^f \) the way young people usually fall in love with someone.

(246a) Плакал [жалостливо,] по-бабьи, [качая головой].
(246b) Płakał jak baba [kiedy złamie paznokieć, chlipał żałośnie, kwilił i łkał].
(246c) [I saw him breaking down uncontrollably and] crying like a woman.
\[ P(x) = P(x) \rightarrow C(x) = C(a) \rightarrow \text{CRY}(x) = \text{CRY}(\text{WOMEN}) \]
Isomorphic reformulation:
He cried the way women usually cry.

Adverbs in the above sentences indicate a concurrence of two conceptual structures (cf. Ozga 2006: 198). The difference between the constituent parts of those structures is based on the transition of arguments from an individual variable to an individual constant. The coincidence of the individual variable and the individual constant results in predicating about the variable via the constant. The implication of the additional structure produces the effect of proper non-isomorphism. It is noteworthy that the individual constant in these structures is always represented by an agent, which points to a constellation of semantic standards:

(247a) Heroes are very brave.
(247b) Heroes often risk their lives and are ready to die to save others.
(247c) Heroes are admired by people.
(247d) There are national heroes.
(247e) There are war heroes.
(247f) War heroes fight with their enemies.
(247g) War heroes can receive a Medal of Honor from the head of state.

On the basis of selected predications about the individual constant a specific element is chosen from the system of standards (247e, 247f), thanks to which we interpret a particular utterance. The standard character of such an expression can be directly verbalized:

(248) He fought as heroes typically (=standardly) fight.

Although the parts of the sentences in brackets are outside the analysed structures, they partially reveal the semantic standards on which the adverbs are founded and therefore I provide all the constellations. Also sentences
(243c, 246b, 246c), which reveal lack of equivalence between the three languages with respect to adverbs, directly profile the individual constant with stereotypical denotation and thus constitute a benchmark for the interpretation of the corresponding sentences with adverbs.

It is not only adverbs tangentially related to agents that may introduce configurations that have just been described. Other adverbial entities which carry stereotypical meanings may perform a similar function. Let us analyze two relatively new Russian derivations по-перестроечному (in a manner characteristic of perestroika) and по-застойному (in a manner characteristic of the stagnation period):

(249) Адмирал отмалчивался, не раздавая (по-застойному) обещаний, а сегодня решительно (по-перестроечному) устроил вечер “песенок”, [превратив неприкосновенный для посторонних кухонный костер в очаг культуры для трудящихся водоплавающих масс].

["The admiral was not effusive, not giving (in a manner characteristic of the stagnation period) promises, but today he decisively/briskly (in a manner characteristic of perestroika) organized a “singing evening”,..."]

Czapiga (2005: 96) defines по-перестроечному in the following way:

(250) По-перестроечному. Наречие. 'Как свойственно перестройке, обусловлено перестройкой'.

Looking at this simple definition we can infer that some additional predication must be contained in the syntactic configurations with this adverb, and similarly with по-застойному. Because these adverbs carry temporal meanings via reference to specific periods in Russian history, the relation between the elements of the conceptual configuration can be presented in terms of a scenario:

SC (t, t0); t, > t0

\( t_1 \): Promises were made during the period of stagnation.

\( t_0 \): The admiral does not make promises.

SC (t, t0); t, > t0

\( t_1 \): The authorities were decisive/brisk during perestroika.

\( t_0 \): The admiral decisively/briskly organized a “singing evening”.

Although configuration-wise the adverbs do not exhibit isomorphism (they introduce additional predicative sequences into syntactic configurations), the communicative approach regards them as semi-isomorphic because

\(^{213}\) http://nrd.pnpi.spb.ru/social/water_holiday/Akselrod/Pededze_1988/index [08.03.2008].
they modify the meaning of the verb – the propositional argument implicated by the concepts which they formalize produces an ideational image different from the image evoked by the predicative concepts formalized by the same verbs when unaccompanied by the adverbs. In other words, being configurationally non-isomorphic and iconically isomorphic they are labelled semi-isomorphic in communicative grammar terminology (cf. Ozga 2005a). It is worth noting that they are parenthetically placed in the sentence (cf. Komorowska 2001); thus, configurations they formalize are in a way isolated and through it sort of foregrounded against the remaining predications.

Let us look at two other examples in which the role of the adverb is slightly different from the point of view of conceptual configuration:

(251a) Обошлись с пленными по-человечески [– Воду и еду они получали регулярно]
(251b) Obchodzili się z jeńcami po ludzku [– karmili ich regularnie]
(251c) They treated the prisoners humanely [– they were regularly given food and water]
(252a) Potraktowała to zagadnienie po macoszemu [upraszczając je i pomijając inne aspekty definicji].

The adverbs in (251) are semantically related to the concept PEOPLE. The constellation of standards evoked by PEOPLE (251) is very complex. The derivational process by which humanely, po ludzku and по-человечески are created conventionalizes the standard of positive qualities of human beings: humanely in dictionaries is defined as “having or showing compassion or benevolence” (Soanes and Stevenson 2003: 845). The concept WAR PRISONER, whose correlate is the adjacent noun, evokes completely opposite semantic standards of WAR, HATE, and MALEVOLENCE. The contradiction between these standards results in deontic modality formalized by the adverbial component:

(253) They treated prisoners the way people ought not to treat other people214.

The deontic character of the expression results from the contradiction between semantic standards, which have to be amalgamated.

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214 The interpretation of such utterances is done through localization in the constellation of semantic standards. Here are a couple of trivial configurations of meaning which can be helpful in the process of interpretation: People are capable of love, people are capable of hate, people fight in wars and such people are enemies. Soldiers are people who fight in wars, during wars people take prisoners, people hate their enemies and prisoners are enemies, people treat enemies badly and thus people treat prisoners badly, war is bad, hatred is bad, treating prisoners badly is bad, people should not treat prisoners badly.
Example (252) is even more illuminating with respect to the selection of semantic standards via conventionalization. The extent to which the Polish adverb po macoszemu is grounded in language use allows us to treat it as an idiomatic expression. In communicative grammar STEPMOTHER is regarded as a hyperterm as it denotes a whole scenario, thus being itself non-isomorphic (Habrajska 2004b: 104):

$$\begin{align*}
SC (t_2, t_1, t_0) \\
t_3: & \ P (x, y) \rightarrow C (a, b) \rightarrow \text{HAVE} (\text{CHILD, MOTHER}) \\
& \ P (x, y) \rightarrow C (a, b) \rightarrow \text{HAVE} (\text{CHILD, FATHER}) \\
t_2: & \ P (x) \rightarrow C (a) \rightarrow \text{DIE} (\text{MOTHER}) \\
t_1: & \ P (x, y) \rightarrow C (a, b) \rightarrow \text{MARRY} (\text{FATHER, WOMAN}) \\
t_0: & \ P (x, y) \rightarrow C (a, b) \rightarrow \text{BE MARRIED} (\text{WOMAN, FATHER}) \\
& \wedge \sim P (x, y) \rightarrow \sim C (a, b) \sim \text{BE MOTHER} (\text{WOMAN, CHILD})
\end{align*}$$

This hyperterm evokes strongly negative standard connotations:

(254a) Stepmothers are wicked.
(254b) Stepmothers hate their stepchildren.
(254c) Stepmothers favour their own children.
(254d) Stepmothers neglect their stepchildren.

In (252) only the last of the mentioned standards has been conventionalized within the adverb, additionally devoid of the object of neglect. Traktować po macoszemu can predicate about practically anything that can “be treated” by people. Translations of this adverb in Polish-English and Polish-Russian dictionaries are often erroneous since they do not take into account the fact that only selected stereotypical features of the concept STEPMOTHER are grounded, cf. the English: harshly, unfairly, with neglect (the meaning of the last one being the closest to the original), and the Russian относиться как к пасынку, which profile different aspects of the stereotype and thus cannot be used in broader context\(^{215}\), e.g.

(252b) She treated the issue harshly [simplifying it and omitting other aspects of the definition].
(252c) *Она подошла к вопросу как к пасынку, [упрощая его и опуская другие аспекты дефиниции].

Summing up, in sentences (251a–c, 252a) adverbs are not correlates of higher order predicates which implicate propositional arguments formalized as verbs as was the case in the previous examples in this section. Here they are

\(^{215}\) There is a possibility for the adverb po macoszemu to carry other stereotypical connotations, but such uses are quite rare, e.g. Nienawidziła jej szczerze, po macoszemu.
formal exponents of obligatory arguments, due to the properties of verbs which connote them (cf. *potraktowała je vs. potraktowała je po macoszemu or they treated him vs. they treated him humanely, where treated without the adverb has a different meaning). Still, in these configurations the adverbs are non-isomorphic owing to their stereotypical values – they evoke specific configurations of world knowledge, which are often restricted in comparison with their derivational bases [cf. human(being) vs. humanely, macocha vs. po macoszemu).

Let us consider some more examples in which adverbs are regarded as exponents of arguments according to the present approach (the examples are grouped according to the number of arguments which are implicated):

\[(255a)\] относится к ним плохо
\[(255b)\] обращаются с нами вежливо
\[(255c)\] обходится с ними плохо
\[(255d)\] относится к ним хорошо
\[(255e)\] traktuje ich źle
\[(255f)\] treats them badly

\[(256a)\] длится долго
\[(256b)\] ? длится коротко
\[(256c)\] ведет себя хорошо
\[(256d)\] выглядит молодо
\[(256e)\] дело обстоит скверно
\[(256f)\] trwa krótko
\[(256g)\] ciągnie się długo
\[(256h)\] zachowuje się grzecznie
\[(256i)\] wygląda młodo
\[(256j)\] sprawa przedstawia się kiepsko
\[(256k)\] lasts long
\[(256l)\] acts carefully
\[(256m)\] behaves well
\[(256n)\] looks young (adj)
\[(256o)\] conducts himself properly
\[(256p)\] performed badly

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216 This pattern of notation is suitable for all examples (16a–16p).
217 Meaning: ‘perform before an audience’.
On Isomorphism and Non-Isomorphism in Language

\[ G \{x, y, G [x, h (x, y)]\} \rightarrow C \{x, y, C [x, y, C (x, y)]\} \rightarrow \neg \text{CAN} \{l, y, \text{REPROACH} [l, y, \text{BEHAVE} (x, y)]\} \]

In the phrases (255–257) adverbs are treated as exponents of arguments owing to the nature of the verbs with which they syntactically combine. These verbs are correlates of concepts which require complementation by concepts which can be formalized only as adverbs. This fact was observed by McConnell-Ginet (1982: 164), who discussed the following phrases:

(258a) Joan behaved.
(258b) Joan behaved well.
(258c) Joan didn’t behave badly.
(258d) Joan behaved rudely.

McConnell-Ginet notes that the meaning of (258a) is restricted, being similar to (258b) or (258c), while incompatible with (258d). I consider (258a) to be a non-isomorphic undercoded structure with a contextless definite ellipsis (\(\emptyset\)) which indicates a specified value of the zero position. The zero position is that of an argument which was aptly described by McConnell-Ginet (1982: 164):

(...) it seems quite plausible to suppose that behave (...) requires combination with an adverb to make a (complete) predicate. The fundamental behave, (i.e. the one translated into a constant in the intensional logic) is thus a two-place relation, the second argument of which is whatever kind of entity adverbs designate.

A similar analysis can be applied to describe the Polish imperative Zachowuj się! where the zero position also indicates a specified value, which can be reformulated into the isomorphic Zachowuj się grzecznie.

Like behave, the verbs in (255–257) belong to the category of exponents of two-argument predicates where the second argument position is occupied by a concept formalized as an adverb. Since for these examples the conceptual configuration consists of a predicate implicating two arguments and the syntactic configuration consists of a predicate expression connoting two arguments (adverbs being an obligatory component of the syntactic structure as second argument expressions), the structures are isomorphic. It is noteworthy that only evaluative adverbs can occupy the position in question.
The only adverbs from the above examples which can be described as non-isomorphic are *irreproachably, nienagannie, безупречно* (257а–с). Like other adverbs in this group of examples, they are exponents of arguments, but these arguments are propositional (cf. the symbolic notation) and thus they introduce a grounded configuration to the basic proposition, which is not fully formalized at the syntactic level. The configuration involves modality (concerned with possibility) and has a quantifying value:

\[ \sim \exists x \, H \, [x, \, p] \, ; \, p \rightarrow g \, (x, \, y) \]

The formula reads as follows:

*There is nothing in his behaviour that I could criticize.*

The Russian verb *длиться* in (256 а–b) is particularly interesting. It is not an exact equivalent of the English *last*, or the Polish *trwać*, since the concept of LENGTH in time is incorporated in it: therefore collocations like (256b) are awkward in Russian. What is important for our approach is the fact that the combination of this verb with adverbs denoting LENGTH may be suspected of redundancy (256a) and thus be non-isomorphic on account of the overcoded structuring. However, this matter is controversial since the verb requires the adverb obligatorily and when it is on its own, the designation of LENGTH seems incomplete.

As for the combinations (256d, 256l, 256n) there is an additional implication that the person described is older than he/she looks. However, these are not sufficient grounds for treating the structure as non-isomorphic (the more so as the point of reference resides in a semantic constituent of the concept formalized by this verb).

In English the lexeme *young* is classified exclusively as an adjective. Therefore the combination of *look* and *young* resembles that of a copula and a predicative and is similar in meaning to *seems young* (*wydaje się młody*). The question of this lexeme was more extensively discussed in Class 5 (cf. *he died young*).
Final Remarks

In this study I have analyzed adverbs in limited syntactic configurations, only occasionally providing a broader discursive context, e.g. in the discussion of stereotypes denoted by adverbs. My aim was to show how adverbs formalize concepts and to find out whether the formalizations reveal corresponding combinatorial properties as the correlates.

The analysis shows that, being a heterogeneous category, adverbs serve as formal exponents of concepts of various kinds and with various functions. With respect to isomorphism their capacities are manifold. They can be isomorphic when they are exponents of one-argument higher order predicates (e.g. domain adverbs) or when they are correlates of arguments implicated by predicates formalized as verbs (e.g. localizers, adverbs connoted by such verbs as *behave, treat*); they can be semi-isomorphic when their syntactic properties do not reflect conceptual structure but when, at the same time, configurations of content which they formalize modify the ideational image of the predicate whose exponent is a contiguous verb (to which phenomenon I refer as *iconic isomorphism*). However, most often in the discussed syntactic contexts adverbs are non-isomorphic correlates of concepts (exhibiting *proper non-isomorphism*).

According to communicative grammar their non-isomorphism is attributed to the many functions that they perform. They can be ideational operators which function as temporal, spatial and durative localizers revealing external non-isomorphism as exponents of concepts that reside outside propositional structures\textsuperscript{218}. They can be interactional operators which superimpose additional modal configurations onto basic propositional structures and which turn utterances into particular speech acts (most often emotive-evaluative). They can be discourse organizing operators whose function is to arrange information in the process of communication. They can point to scenarios and they can serve as a means of quantification or qualification of arguments implicated by the sentence-building predicate in the utterance. Last but not least, at the ideational level they can introduce additional predication into the syntactic structure by being exponents of predicates constituting separate propositional structures with their own implicational capacity – the capacity is not fully formalized, which produces the effect of undercoded structuring. Such structuring is also noticeable in the case of adverbs in adnominal positions, the noun being other than *nomen actionis* (which I illustrated with selected Russian examples); phrases with those adverbs are either compressed or condensed structures. With respect to Szumska’s (2006) idea of non-isomorphism I also found

\textsuperscript{218} Temporal localizers cannot be equalized with the temporal component contained within the finite verb although they cannot contradict this component, e.g. *Tomorrow I did not eat breakfast.*
adverbs which appear in syntactic contexts that reveal overcoded (pleonastic) structuring.

It is noteworthy that non-isomorphic structuring usually has its specific communicative function. For instance expressions which, when isolated, are pleonastic from the point of view of the relation between propositional and syntactic structures, in real communicative situations actually cease to be redundant. Szumska (2006: 157) in her comment on AdjNG observes that in particular uses in texts “systemic pleonasticity finds its communicative validation and thus at the plane of parole it is not pleonasticity any more (translation mine, K. O.)”\(^{219}\). In this context the description of adverbs in broader, precisely specified communicative situations of the parole plane opens inspiring research perspectives especially with regard to communicative grammar, where message interpretation is based on discursive and indexical knowledge (Awdiejew 2001: 26). Studying non-isomorphic adverbs with reference to a broad communicative context and juxtaposing them with isomorphic configurations may make it possible to specify the role of their undercoding and overcoding character in the search for non-systemic assumptions (cf. Sperber and Wilson 1986: 2, 39).

In the analysis of particular utterances, I occasionally provided examples which contained an adverb in two of the discussed languages, but did not have an equivalent adverbial rendition in the third one, or conversely, only one language possessed an adverb while the other two had different syntactic structures functioning as the adverb’s counterpart. Sometimes the lack of equivalence revealed the non-isomorphicity of adverbs, e.g. the Polish na czczo and the Russian натощак are expressed in English as a whole clause [You need to do the test] before you’ve eaten, which vividly shows the scenario hidden in the Polish and the Russian adverb. In my research I did not focus on the issue of equivalence but I referred to it in cases which required clarification. In my opinion this question is worth a separate study in the context of isomorphism, especially with regard to translation. A meticulous analysis of non-isomorphic adverbs in translations of particular texts may disclose the translator’s skill in unraveling the covert meaning (i.e. the meaning hidden in the non-isomorphic

\(^{219}\) Cf. Szumska’s (2006: 165) analysis of the Polish pleonastic expression młoda dziewczyna where she shows six contexts in which the expression is quasi-pleonastic, the function of the adjective being as follows: 1. young girl – some girl or typical girl (the means of indicating the rhematizing referential value of AdjNG, 2. a young girl – and not a mature woman vs. a girl – and not a boy (the means of indicating the dominant semantic feature of the constitutive noun), 3. a young girl – an attractive girl (actualization of evaluative connotations), 4. a young girl – a very young girl (exponent of intensity similar to the combination of adverb + adjective), 5. a simple girl vs. young but simple girl (structural basis for evaluating constructions by means of contrast – the girl’s simplicity being intensified by the contrast), 6. mature decisions of the young girl (the means of structuring coherent relations in the description).
configuration) and rendering it in the target language. Let us consider an extract from Terry Pratchett’s novel *Guards! Guards!* and its Polish translation:

The Patrician nodded.

‘I shall deal with the matter momentarily,’ he said. It was a good word. It always made people hesitate. They were never quite sure whether he meant he’d deal with it *now*, or just deal with it *briefly*. And no-one ever dared ask.

(Pratchett 1990: 56)

Patrycjusz kiwnął głową.

– Załatwię tę sprawę jak najszybciej – obiecał.

To było dobre określenie. Zmuszało ludzi do zastanowienia. Nie byli pewni, czy załatwi sprawę natychmiast, czy załatwi ją krótko. I nikt nie śmiał zapytać.


The problem with the translation of this passage lies in the bifunctionality of the English adverb *momentarily*. Its functions are similar to those which I found in the use of *quickly*, *szybko*, *быстро* in the discussion of class 1. It can be either a formal exponent of the notion indicating pace or a discourse organizing operator meaning *immediately*/*now*/*at once*, and in that case being an externally non-isomorphic unit indicating text coherence. Pratchett’s play on this word is difficult to render in Polish since only the latter meaning can be aptly translated as a single word in the combination with the verb *załatwić*. The acceptability of the expression *załatwić coś natychmiast* does not raise objections while *załatwić coś krótko* is dubious. The translator retained the English structure with an adverb, which makes the translation slightly awkward. Let us contrast it with an alternative rendition: *Nie byli pewni, czy zabiernie się za sprawę natychmiast, czy też poświęci jej niewiele czasu* (translation mine, K. O.). This translation is more transparent with regard to the configuration of concepts which does not mean that it is better. Very often the value of literary translation can be measured not by its transparency but in terms of the extent to which the coherence of the original is preserved (cf. Szumska 1994: 77), so it is not unrealistic to envisage an assessment of a translation which would include an appraisal of whether a translator preserved or “explicated” a non-isomorphic structure and whether he/she endeavoured to introduce other non-isomorphic structure specific for the target language in order to avoid a simplification of the original. Incidentally, Pratchett’s novel is peppered with adverbs, so what the translator does with them is not without consequences for the quality/style of the translation, which might be assessed by reference to the problems discussed in this study. An attempt at such an analysis was made in Ozga (2010), where five translations (one Polish and four
English) of Bulgakhov’s *The Master and Margarita* were considered from the point of view of (non-)isomorphism.

Another issue which I did not address and which I regard worth investigating is the question of how position may influence isomorphism of adverbs. McConnell-Ginet (1982: 159–161) illustrates the difference in the relation between the predications formalized by verbs and adverbs with the following English sentences:

*Louisa answered Patricia rudely.*
*Louisa rudely answered Patricia.*

McConnell-Ginet (1982: 159) observes that the first sentence “can be construed as saying that Louisa’s rudeness consisted in her having answered Patricia (who perhaps is of such a high position that etiquette dictates she should not be addressed at all), whereas [the second sentence] locates the flaw in the manner of answering”. Her explication of the difference clearly shows that in the first sentence the adverb is non-isomorphic (although it syntactically combines with the verb, it is an exponent of a concept which predicates about the event and not about the sentence-building predication) while the second one is isomorphic because its configuration with the verb is a mapping of the configuration of concepts which they formalize.

A study of this issue would require taking into account the notion of thematic-rhematic structure and discovering whether the adverb is a rhematic component of the basic thematic-rhematic dismemberment [*Louisa answered Patricia* < T] (R > *rudely*) or whether it is a part of a complex rhematic component [*Louisa* < T] (R > *rudely answered Patricia*), cf. Topolińska (1990: 234) Szumska (1996; 26–29)\(^2\).

In this study I mostly analyzed standard configurations of lexical entities. I did not investigate changes in the use of the adverb as a part of speech. However, this issue is also relevant to the study of isomorphism of adverbs: Norman (1997) argues that a certain shift in the functioning of adverbs can be observed in contemporary Russian. For instance, they can be placed in an obligatory position in a sentence as argument expressions which compress conceptual structures. Let us illustrate this with two examples discussed by Norman (1997: 11, 14):

...Фамилия их была Розенцвейг, у одной большое родимое пятно на щеке, а вторая рисовала светящимися красками абстрактно, недурно пела.

\(^2\) The question of rhematic function of Polish and Russian adverbs was studied by Czapiga (2004a); however, she does not follow Bogusławski’s (1977) idea of semantic approach to theme and rheme (cf. Szumska 1996: 26) and thus her observations are not relevant to the study of isomorphism in the context of thematic-rhematic structure.
'Their name was Rosenzweig, one had a mole on her cheek and the other drew [could draw] with fluorescent paints abstractly, not-badly sang'.

Малооблачно и сухо ожидается в большинстве дней второй декады. 'Little-cloudily and drily is expected in most days of the second decade'

In the first sentence the adverb абстрактно is a non-isomorphic exponent of two concepts which can be isomorphically reformulated as рисовала абстрактные картины/рисовала в абстрактном стиле, while in the second one the adverbs малооблачно и сухо formalize a compressed structure – малооблачная и сухая погода. Norman himself calls this phenomenon “a way upward” (Russian “путь наверх”) since the adverbs occupy a position closer to the constitutive elements of the sentence i.e. verbs – being obligatorily connoted by them.

In sum, I have studied only selected classes of adverbs but even so brief an account has revealed their predisposition to enter into non-isomorphic syntactic configurations. Naturally, the isomorphism and non-isomorphism of adverbs depend on the semantic tangency of concepts which they formalize in relation to concepts formalized by contiguous lexical entities. For instance, there is a different relation between the units in Бессонно вертелся на кровати (concurrence of the first arguments of both predicates – formalized by verb and formalized by adverb; cf. class 4) and Бессонно тикают часы (the predicates implicate different arguments), although both configurations are non-ismorphic. This shows the importance of the specification of the non-isomorphic relation between the conceptual plane and the formal plane for the interpretation of messages.
Index of abbreviations and symbols

Adj – adjective
AdjNG – a nominal phrase with an adjective
a, b, c, d – individual constants
C – predicate constant
Corr\textsuperscript{COH} – correlate of cohesion
def – definite
indef – indefinite
f – first order predicate variable implicating one argument
g – first order predicate variable implicating two arguments
h – first order predicate variable implicating three arguments
k – first order predicate variable implicating four arguments
F – higher order predicate variable implicating one argument
G – higher order predicate variable implicating two arguments
H – higher order predicate variable implicating three arguments
K – higher order predicate variable implicating four arguments
intens – intensification
loc – internal localizer (argument localizer)
loc\textsubscript{dir} – internal direction localizer
loc\textsubscript{dur} – internal durative localizer
loc\textsubscript{temp} – internal temporal localizer
Loc – external localizer
Loc\textsubscript{dur} – external durative localizer
Loc\textsubscript{spac} – external spatial localizer
Loc\textsubscript{temp} – external temporal localizer
Emod – epistemic modality
Mod – modality
Oper\textsuperscript{INTERACT} – interactional operator
P – a global symbol of predicate variables
PAE – predicate-argument expression
PAS – predicate-argument structure
p – propositional variable
QUEST – question
SC – scenario
t\textsubscript{1}, t\textsubscript{0}, t\textsubscript{1} – stages of the scenario
U – complementation
V\textdagger – negative value
x, y, z, v – referential arguments
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<thead>
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<th>Symbol</th>
<th>Meaning</th>
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<tr>
<td>$X_{\text{ind}}$</td>
<td>argument position occupied by an indexical expression</td>
</tr>
<tr>
<td>$X_{\text{prop}}$</td>
<td>argument position occupied by proper name</td>
</tr>
<tr>
<td>$\emptyset, \emptyset_x, \emptyset_y$</td>
<td>argument ellipsis</td>
</tr>
<tr>
<td>$\emptyset_{\text{COMP}}$</td>
<td>compression</td>
</tr>
<tr>
<td>$\emptyset_{\text{CON}}$</td>
<td>condensation</td>
</tr>
<tr>
<td>$O^E$</td>
<td>endophoric zero</td>
</tr>
<tr>
<td>$\emptyset^G$</td>
<td>contextless definite zero/ellipsis indicating a generic value of the zero position</td>
</tr>
<tr>
<td>$\emptyset^N$</td>
<td>contextless indefinite zero/ellipsis with a specified value of the zero position</td>
</tr>
<tr>
<td>$\emptyset^S$</td>
<td>contextless definite zero/ellipsis indicating a specified value of the zero position</td>
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<tr>
<td>$O^F$</td>
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