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**Apperception in Compounding as Manifestation of
Iconicity. Selected Remarks on Jan Michał
Rozwadowski's Theory of Apperception**

This paper is an attempt to show that compound formation in languages such as English or Polish may be included on the long list of linguistic phenomena that reveal the presence and operation of diagrammatic iconicity. Not only do I try to demonstrate the tenability of this assumption, but I also postulate reasons for why compound structure may be iconic, or, in other words, I try to determine what function iconicity plays in the process of compound formation. To meet these objectives I decided to rely upon a linguistic theory developed in the early 20th century by a Polish linguist Jan Michał Rozwadowski. Rozwadowski's (1904)¹ approach to word formation, strongly grounded in the latest advancements of philosophical and psychological sciences of his time, focuses on the relations between cognition and word formation. The key concept introduced by

¹ The note Rozwadowski (1904) refers to the German original of Rozwadowski's work. However, when quoting, I use the later Polish edition, and refer to it as Rozwadowski (1960). All the passages from Rozwadowski (1960) in this text are my own translations.

Rozwadowski (1904) in order to explain how the way in which we perceive reality influences the way in which we formulate concepts is *apperception*. If Rozwadowski's (1904) assumptions are correct, apperception may be seen as the functional factor behind the iconic structure of compounds. I begin with a definition and explanation of apperception. Then, I verify its explanatory force for compound formation against a selection of English and Polish data. Finally, I offer conclusions about the findings, pointing to future research directions. It must be stated at the very beginning of this paper that the research I report upon is in its initial stages, and thus the arguments, statements, and conclusions made here are definitely left open for further elaboration, discussion, and criticism.

The concept of apperception in philosophy and psychology

As the role of the notion of apperception in modern linguistics is rather marginal, the concept is not very well known among linguists. This is why in this section I want to shed more light upon the history of the term, before I am ready to test its practicability for data analysis. Encyclopaedic sources or dictionaries feature two general definitions of apperception: one stemming from the development of the term in philosophy, and the other, related directly to psychology. Most sources suggest that the concept of apperception was introduced (or rediscovered) in modern philosophy by Gottfried Wilhelm Leibniz (1646-1716), and defined as (Leibniz 1714:§4.): "reflexive knowledge of the (internal) state of consciousness". We perceive reality in a conscious way, and our reflection on this state is what Leibniz calls apperception. Leibniz considers apperception an intermediate state between perception and thinking (act of reason, *reflexio in actu signato*). The major cognitive function of apperceptive reflection is to allow a perceiving subject to differentiate the particular signals/data from within the whole field of her/his perception.

The notion of apperception was further developed by Christian Wolff (1679-1754) in his two major works: *Psychologia empirica* and *Psychologia rationalis*. For Wolff, apperception meant (Wolff 1732:234) "an act of the soul by which the soul is conscious of itself

and of things beyond itself.”² This seems a more comprehensive idea of apperception, covering (Wolff 1734:23) “the whole of perception.” For Wolff (1732:26) “every thought is a merger of perception and apperception.” Wolff’s approach to apperception is marked with an evident psychological inclination: he puts more emphasis than Leibniz on the process of apperceiving. He states that apperception increases the degree of clarity in human perception, and adds that the source of apperception (*facultas*) lies in attention. This attentive apperception allows humans to compare “perceived things among themselves,” and constitutes the basis of reflection, since in Wolff’s view, reflection is (Wolff 1732:257) “the successive directing of attention to [the data] which are contained among the components of the perceived thing.”³

The third philosopher who contributed greatly to the development of the notion of apperception was Immanuel Kant (1724-1804). In his philosophy, apperception is not only a distinctive feature of human perception, but also the source of and prerequisite condition for human cognitive abilities. In Kant’s theory apperception is understood in two ways: on the one hand, apperception is a mental function, similar to that described by the philosophical and psychological assumptions mentioned above – defined as empirical apperception (Kant 1781:A 107) “the consciousness of ourselves with regard to the state in which we find ourselves.” On the other hand, there is the pure, original, transcendental (unity of) apperception, which (Kant 1781:A 107) “is the unity of consciousness preceding all the data of evidence.” It manifests itself in (Kant 1781:A 106) “a synthesis of the variety of all evident data,” and it (Kant 1781:B 132) “must be able to accompany all my representations.”

The above-mentioned thinkers developed the definition of apperception as a philosophical notion. Wilhelm Wundt (1832-1920)⁴

² All English quotations from Leibniz (1714), Wolff (1732, 1734) and Kant (1781) are after Paź (2000).

³ An interesting overview of Wolff’s idea of apperception is presented by Banaszkiwicz (2002).

⁴ Most details about Wundt’s philosophy are taken from Paź (2000) and Watson (1995).

applied this concept in his own research work, expanding its definition to match his experimental psychological studies of human thought and emotions. Wundt regarded apperception as an operational mechanism that governs human cognition. He assumed that the capacity of the human mind to create new ideas depends on two mental processes: associations – which are formed in a passive, involuntary way, and apperceptions – which involve attentive effort and rational activity. The relation between the two is that while associations provide the bulk of data to the mind, apperceptions may be used to focus human attention on one or more aspects of the perceived reality.

This historical sketch concerning the notion of apperception leads us to the conclusion that from the philosophical point of view apperception may be defined as the general ability of the human mind to process perceived reality. As such, apperception is a prerequisite condition for cognitive processes (Kant, Wolff), and allows systematization of these processes (Leibniz, Wolff, Kant, Wundt).

Rozwadowski's (1904) theory of apperception

In his studies, Wundt also touched upon the relation between perception and word formation.⁵ For Wundt (1900) apperception manifests itself in the process of creating nominal lexemes in that each lexeme contains a single semantically and formally dominant element. The other elements in the complex form are neglected in terms of their apperceptive saliency. Rozwadowski's (1904) idea of linguistic apperception is, on the one hand, based on Wundt's apperceptive mechanism. On the other, Rozwadowski's proposals depart considerably from those of Wundt.

First of all, Rozwadowski (1904) refutes the idea of 'monolithic' linguistic expressions, where the operation of apperception is inferred from the presence of a single dominating element in the complex

⁵ It must be stated here that both Wundt (1900) and Rozwadowski (1904) mostly concentrated on nominal word formation. This is because both scholars were mostly interested in the relation between psychologically understood concept formation and its linguistic manifestation in the formation of names of objects. Rozwadowski's (1904) discussion on syntactic constructs is limited to nominal phrases.

lexical structure. Instead, he proposes that each complex linguistic unit (complex word or phrase) be seen as structurally dualistic, with one central and the other ‘auxiliary’ component. Rozwadowski (1960:24) points out that:

[I]anguage facts make it clear to us that in each object name we can find not only the dominating element, but also something else. The dominating feature is realized by the base of a complex word, but there is yet this other part in it. [...] If an object name contains two clearly definable elements, even though they make one lexical unit, this formal relation between the two elements must be mirrored by an analogical psychological relation.

Later on one can read that (ibid.: 28):

Each object name is a unitary lexical formation which comprises two components. The first component is relatively dominating. The second part is also apperceived but with delay. [...] Creation of each complex object name mirrors both the analytical rule of dual structure and the synthetic rule of unity. The first manifests itself in the dual structural organization of the object name, the latter in its unitary lexical character.

According to Rozwadowski, apperception manifests itself exactly in this dual structure, since it reflects a two-stage cognitive process (complex apperception): one stage consists in defining the newly perceived object in relation to other objects known to us, while the other in determining the points distinguishing what we see for the first time and what we already know. Rozwadowski (1960:39) observes that “[a]long with identification, we simultaneously and inseparably make distinctions.” Thus, apperception is imprinted in each complex utterance in that such an utterance must necessarily contain two functional and formal components. Rozwadowski’s names for these components are: *człon utożsamiający* (the identifying element, henceforth in my text the Identifier or ID) and *człon rozróżniający* (the distinguishing element, henceforth in my text the Diversifier or DV). The Identifier corresponds to (ibid.) “those elements of a new perception which are apperceived as identical with some of the already acquired elements (earlier perceptions)”, while the Diversifier represents “those elements, which are not memorized perceptions or are different from what is remembered[...].”

Apart from the dual relation between the Identifier and the Diversifier, Rozwadowski (1960:40) introduces the concept of the domination of one component over the other: “It is necessary to ask which of the elements dominates in the creation process? [...] It is evidently the identifying element. Otherwise the relation described above could not take place at all.” Thus, according to Rozwadowski, the ID is always the dominating element in the sense that its apperception is stronger than that of the DV.

Apperception against data

To better illustrate Rozwadowski’s (1904) conception of apperception in word formation, I present and discuss an English (Figure 1) and a Polish (Figure 2) example of compound formation.

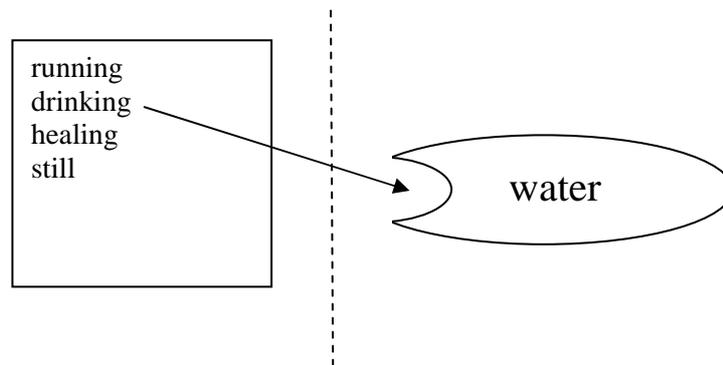


Figure 1. Examples of English nominal compounding

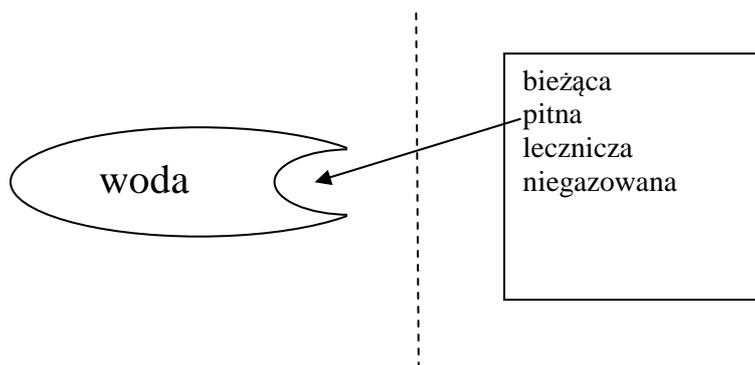


Figure 2. Examples of Polish nominal compounding

Thus to create a compound like *drinking water* we first need to discern the similarities that the object we want to name bears to other objects we know – we classify it as a kind of water by means of the Identifier *water*. But we also need to preserve the distinction between the object known so far, and the new one. Hence, we add the Diversifier *drinking*, to keep the new concept distinct from such related items as *running water*, *healing water*, *still water*, etc. In terms of domination, both Identifiers, English *water* and Polish *woda* ‘water’, are to be regarded as apperceived in a more salient way than their Diversifiers.

The fact that cannot escape the attention of the reader is that the ordering of elements in English and Polish differs. Although this observation seems simple at first sight, it has serious consequences for the whole theory of apperception. However, for the sake of clarity I will postpone dealing with this problem until the latter part of the paper. Here I confine myself to the statement that although functionally *drinking water* and *woda pitna* ‘drinking water’ seem identical, they differ considerably in terms of structure. While the English expression is unquestionably classified among compound lexemes, the Polish counterpart is rather defined as “word group”

(grupa wyrazowa).⁶ These Polish formations display the following distinctive features:

- a. word groups in Polish undergo regular inflection,
- b. at the same time, their syntactic behaviour differs from that of regular noun phrases,
- c. word order in word groups is in most cases reversed in comparison with regular noun phrases.

Polish expressions like *woda pitna* 'drinking water', or *pan młody* 'groom' are inflected in a regular fashion, as shown below:

Table 1. Singular and plural paradigm for the expressions *woda pitna* 'drinking water' and *pan młody* 'groom'

Nom. Sg.	<i>woda pitna</i>	<i>pan młody</i>
Gen.	<i>wody pitnej</i>	<i>pana młodego</i>
Dat.	<i>wodzie pitnej</i>	<i>panu młodemu</i>
Acc.	<i>wodę pitną</i>	<i>pana młodego</i>
Instr.	<i>wodą pitną</i>	<i>panem młodym</i>
Loc.	<i>wodzie pitnej</i>	<i>panu młodym</i>
Voc.	<i>wodo pitna</i>	<i>panie młody</i>
Nom. Pl.	<i>wody pitne</i>	<i>panowie młodzi</i>
Gen.	<i>wód pitnych</i>	<i>panów młodych</i>
Dat.	<i>wodom pitnym</i>	<i>panom młodym</i>
Acc.	<i>wody pitne</i>	<i>panów młodych</i>
Instr.	<i>wodami pitnymi</i>	<i>panami młodymi</i>
Loc.	<i>wodach pitnych</i>	<i>panach młodych</i>
Voc.	<i>wody pitne</i>	<i>panowie młodzi</i>

In both cases one can observe the regularity of inflectional processes operating on the exemplary Polish word groups: both *woda pitna* 'drinking water' and *pan młody* 'groom' illustrate regular grammatical agreement between adjectives and nouns in Polish. The main

⁶ In reference to these forms Kurzowa (1966), Grzegorzczkova, *et al.* (1998), Skarżyński (1999) and Nagórko (1998) use the term *zestawienia*. It is used in contrast to the term *złożenia* or *kompozita*, which are used in reference to regular compounding.

difference between them is the gender: *woda pitna* takes a feminine, and *pan młody* a masculine declension.

At the same time, one can easily observe certain irregularities in the syntactic behaviour of such word groups. Consider the examples in Table 2 below.

Table 2. Syntactic versus lexical reading of certain Polish nominal groups

SYNTACTIC EXPRESSION		LEXICAL EXPRESSION	
<i>młoda panna</i> 'young lady'	<i>bardzo młoda panna</i> 'very young lady'	<i>panna młoda</i> 'bride'	* <i>panna bardzo młoda</i>
<i>młody pan</i> 'young man'	<i>niezbyt młody pan</i> 'hardly a young man'	<i>pan młody</i> 'groom'	* <i>pan niezbyt młody</i>
<i>biały orzeł</i> 'white eagle'	<i>łśniący biały orzeł</i> 'crispy white eagle'	<i>orzeł biały</i> 'white eagle' (symbol)	* <i>orzeł łśniący biały</i>
<i>logiczna koncepcja</i> 'sensible conception'	<i>bardzo logiczna koncepcja</i> 'very sensible conception'	<i>koncepcja logiczna</i> 'a conception in logic'	* <i>koncepcja bardzo logiczna</i>
<i>wolny rzut</i> 'slow throw'	<i>bardzo wolny rzut</i> 'very slow throw'	<i>rzut wolny</i> 'foul' (in football)	* <i>rzut bardzo wolny</i>

The examples in Table 2 demonstrate that Polish nominal word groups behave differently than regular compositional noun phrases with regard to their premodification. While syntactic phrases such as *młody pan* 'a young man' or *biały orzeł* 'white eagle' easily accept premodifying adverbs *bardzo* 'very' or *łśniący* 'crispy', word groups like *pan młody* 'groom' or *orzeł biały* 'white eagle (as a historical symbol of the Polish statehood)' refuse to accept any form of modification. Hence, forms such as **pan bardzo młody* or **orzeł łśniący biały* are not possible in Polish.⁷

⁷ The combinations *pan bardzo młody* and *orzeł łśniący biały* are possible in Polish, but only in a rather poetic postposition of compositional elements. Thus, the meaning

There are also lexicalized word groups in Polish which only occur in the Adj.+N combinations, having no compositional N+Adj. counterparts. A handful of such forms is provided in Table 3.

Table 3. Examples of nominal groups with fixed combination of components

N+Adj.	Adj.+N
<i>pociąg osobowy</i> 'ordinary train'	* <i>osobowy pociąg</i>
<i>czynnik ludzki</i> 'human factor'	* <i>ludzki czynnik</i>
<i>dziura budżetowa</i> 'budget deficit (hole)'	* <i>budżetowa dziura</i>
<i>tapeta ścienna</i> 'wall paper'	* <i>ścienna tapeta</i>
<i>pokój dzienny</i> 'living room'	* <i>dzienny pokój</i>

There are also cases of phrase lexicalization in Polish which reveal no changes in word order. Although I cannot refer to any detailed study of the issue, I am of the opinion that the number of such formations is rather limited when compared with the types in Tables 2 and 3. These forms are not of utmost import to our argument in this paper, and so I confine myself to providing a handful of relevant examples in Table 4.

Table 4. Exceptions to the N+Adj. combination pattern

<i>stara panna</i> 'spinster'	* <i>panna stara</i>
<i>czarna jagoda</i> 'blackberry'	* <i>jagoda czarna</i>
<i>czarna owca</i> 'black sheep'	* <i>owca czarna</i>
<i>niebieski ptak</i> 'lazybone'	* <i>ptak niebieski</i>

of *pan bardzo młody* is in this case identical with *bardzo młody pan* 'very young man', and bears no relation to the meaning of *pan młody* 'groom'.

<i>suchy beton</i> ⁸ 'dry concrete'	* <i>beton suchy</i>
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Crucial to our discussion are those forms which involve word order change. The reason for my discussing these examples is that Rozwadowski's (1904) theory of apperception in word formation may shed more light on this change, providing a functional explanation of this linguistic fact.

When discussing the relation between phrases and compounds, Rozwadowski (1960:30) observes the diachronic linguistic regularity by virtue of which phrases become compounds. This diachronic shift is accompanied with word order changes similar to those presented for the Polish data in Table 3. This argument is illustrated by the observation that a phrase like *water for drinking (purposes)* is likely to give rise to the compound *drinking water*.⁹ Aware this state of affairs, Rozwadowski (ibid.) concludes that "[i]n phrases [...] the modified element follows the modifiers, while in a compound [...] the order is reversed." This structural reordering is, according to Rozwadowski (ibid.), caused by the change in the way we apperceive the new form: "[s]hifting the former subordinate element to the dominating function must be the core of compound formation."

Taking into account Rozwadowski's views, I suggest that the manner in which Polish phrases change into lexicalized word groups be considered functionally tantamount to root compounding in languages like English. Despite the syntactic dependencies they reveal, their function is predominantly lexical. In the process of their creation there takes place linear reordering, which may be interpreted as a manifestation of changes in apperception. This is how Rozwadowski's (1904) theory may become instrumental for our better

⁸ The term *suchy beton* 'dry concrete' refers to a type of concrete, and not directly to the attribute of being dry.

⁹ Rozwadowski's (1904, 1960) examples are German expressions *Wasser zum Trinken* and *Trinkwasser*.

understanding and classification of a large set of Polish lexicalized nominal word groups.

Another compound category that attracts a lot attention of linguists is that of synthetic compounds. The reason for this increased interest is quite obvious: if it is true that synthetic compounds show the ability of a grammatical process to project syntactically relevant information onto the lexical structures, such formations are of interest not only to morphologists, but also to syntacticians and language theorists in general. Although the term synthetic compounding has been proposed by the Structuralists,¹⁰ the debate over the process became topical in the Generative school. For Generative linguists, the main problem with the assumption that lexical structures are able to mirror syntactic structures is what grammatical tool can be used for such an operation. Some scholars proposed a specific type of transformation to handle the problem (Roeper, Siegel 1978). Others rejected the transformational solution (e.g. Selkirk 1982), as an open violation of the hypothesis that processes of word formation and syntax are separate from one another (Lexicalist Hypothesis). Yet another approach meant to incorporate the whole of word and compound formation within syntax (e.g. Lieber 1992), in which case the transformational solution seemed in place. Without going into a debate with the authors mentioned above,¹¹ I adopt a perspective on synthetic compound formation which acknowledges the relationship between the syntactic structures and synthetic compounds, but rejects the postulate of a formal derivational relationship between the two. Instead, I propose seeing synthetic compound formation as a lexical process which is formally completely independent of any direct syntactic influences (derivation), and whose major task consists in projecting the semantic contents of certain phrases onto the lexical plane. One of the main conditions under which phrases could serve as matrices for synthetic compound formation is that in terms of their

¹⁰ See e.g. Marchand (1969).

¹¹ A more detailed discussion of these issues is available in e.g. Spencer (1991), Ruskiewicz (1997) or Klimkowski (2003).

structural and semantic make-up they must represent “a functional overlap”. The notion of functional overlap suggests that the typical function of a phrase (compositional combination of lexical meanings into a proposition) may under certain circumstances change into a lexical function (e.g. broadly understood object naming for compound nouns). Let me illustrate this point with the English phrases *to drive trucks* and *one who drives trucks*. Although these phrases are completely regular syntactic constructs in English, one could ask if in some contexts of language use their semantics may fall closer to the lexical rather than purely syntactic reading. This is particularly noticeable in the latter phrase, which, despite its undeniably phrasal character, may be understood in a purely lexical way: *truckdriver*.

One also needs to observe a peculiar feature of the nominal object of the verb *drive*, appearing in both examples: there seems no structural reason for having the noun *truck* in plural there, and in fact, the phrase *one who drives trucks* does not usually mean *one who drives many trucks*. I interpret the plural of *trucks* as a specific marker of lexicalization of the noun *truck*, when the noun is put together with the verb *drive*. This lexicalization is perhaps necessary to distinguish such expressions like *he drives a bus* from *he drives buses*, where the latter seems denote an action performed as a job (driving a bus or a truck by trade), rather than being a contextually-free statement of someone’s driving a bus. If the above is true, the phrase *to drive trucks* may be classified within the domain of “functional overlap”, as it is possible to read it in a lexical, rather than syntactically compositional manner.

The approach to synthetic compound formation I propose offers at least three significant advantages. Firstly, it calls for no syntactic solution to the problem of synthetic compound formation (e.g. the problematic transformation). Secondly, under my functional approach there is no longer a need to determine beyond a doubt which phrase is precisely the matrix phrase of the related synthetic compound. As illustrated by the case of *truck-driver*, it is likely that one synthetic compound may be semantically related to more than one existing syntactic phrase. Thirdly, when I analyze the solutions to the problem

of synthetic compounding developed in the Generative literature, I notice that most of them seek answers on the formal plane exclusively. They completely ignore the possibility that the process is motivated semantically, and only then it adopts some formal manifestation. My view of synthetic compounding reverses this perspective. My claim is that synthetic compounds are related to syntactic phrases but the ties are semantic in nature, as is the main motivation for the creation of synthetic compounds.¹²

I am of the opinion that Rozwadowski's observations concerning compound formation and its relation to apperception may give support to the approach I have presented in brief above. Notice that the formation of synthetic compounds also triggers linear reordering of elements as illustrated below:

to drive trucks > truck-driver
ID DV DV ID

pisać bajki > bajkopisarz
ID DV DV ID

'write children's stories' > 'writer of children's stories'

As the examples show, it is possible to use the ID and DV parameters to explain what happens in terms of apperception when a phrase turns into a compound. If this is a possible extrapolation of Rozwadowski's (1904) theory of linguistic apperception, it gives support to my claim that the process of creating synthetic compounds in English and Polish is functionally rather than formally motivated. One way in which the functional need for a new lexical item manifests itself is the word order change from that of a phrase to that of a resultant synthetic compound. Among potential reasons for the word order change, we may cite the change in apperception from that of a phrase to that of a lexical item, as suggested by Rozwadowski (1960:30).

¹² This approach to synthetic compounding is presented in a more detailed way in Klimkowski (2003).

Italian *asciuga-capelli* ‘hair-dryer’, or *terga-cristalli* ‘[windscreen] wiper’). Therefore, I choose to reject the viewpoint developed by Rozwadowski (1904) that linguistic apperception is always maximal at the beginning of the linguistic string, and dwindles as the string is extended. In this way I am able save the general idea of the dual structural organization of a larger set of complex linguistic utterances and the interplay of the ID/DV parameters involved.

The other problem I would like to discuss in this section is that apperception and the related concepts of Identification and Diversification seem rather relative when applied to some utterances mentioned above. On the one hand, Rozwadowski himself was aware of the fact that apperception is a relative feature. He admitted, for instance, that the contrast between the apperception of the two elements of a complex affixed word is stronger than that between the two compound components (Rozwadowski 1960:28):

Although in a structurally transparent compound form both elements are apperceived in sequential order, they are apperceived with the same clarity. [...] Thus, the domination of the first element over the other is only relative [...]. In a suffixed form, the other element [...] has lost its clarity of apperception to a large extent. It is not apperceived in its primary meaning, but only as an exponent of a category or relation.”

But the relativity of how apperception works may be even greater than Rozwadowski (1904) assumed. Let me recall the English synthetic compound *truck-driver*. If I analyze this form in relation to the phrase to which it corresponds, it seems obvious that the distribution of ID/DV parameters in it is DV-ID. This is once again presented graphically below in Figure 3.

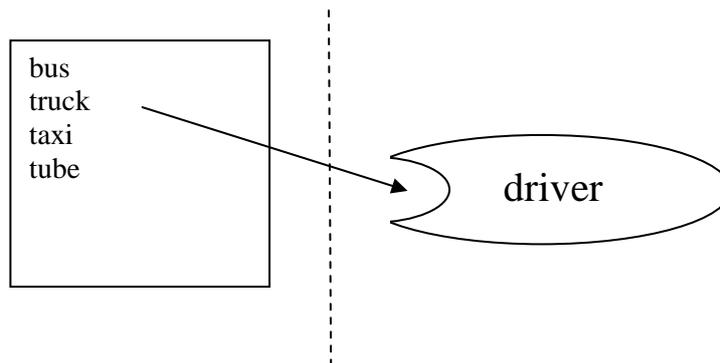


Figure 3. The distribution of ID/DV parameters: the DV-ID interpretation

At the same time, nothing seems to prevent an analysis where the distribution of ID/DV parameters would be ID-DV, as illustrated in Figure 4.

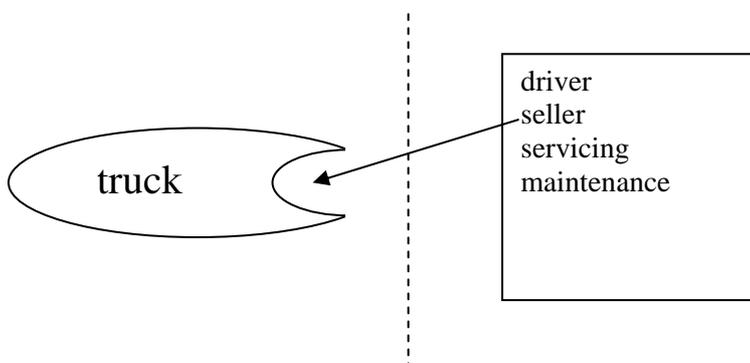


Figure 4. The distribution of ID/DV parameters: the ID-DV interpretation

This is an intriguing feature of English synthetic compounding, and the theory of linguistic apperception should probably be modified so

that it can handle such cases. It is also worth observing that the above linguistic facts further disprove the assumption about the linearity of apperception.

Conclusions

My studies thus far of Rozwadowski's (1904) theory of linguistic apperception as a functional explanation of iconicity in compound lexemes allow me to set up the following assumptions in order to sum up the most significant advantages that this theory offers:

- a. each linguistic structure is dual in nature; each sentence, phrase or complex lexeme is always reducible to (sets of) two parameters: the Identifier and the Diversifier.
- b. the dual structural organization mirrors the dual cognitive act of apperception.
- c. the duality of the cognitive act of apperception explains (at least partly) the iconic character of utterances.

Other solutions and arguments presented in this paper need further elaboration. In some cases Rozwadowski's (1904) proposals are problematic and difficult to uphold, or need reconsideration. It may also be the case that my interpretation of these proposals will change over time. On the whole, seen from the perspective of studies on iconicity in language, the direction in which Rozwadowski oriented his research a century ago seems promising and tempting.

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