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Nominal Periphrasis Accompanying Trajector and Landmark Nominalizations Predicated by English De-verbal Nouns in *-tion*

1. Introduction

This article focuses on an additional piece of evidence supporting the cognitive grammar account of nominalization and nominal periphrasis proposed by Langacker (1991b: 41–42, 1993, 1999: 171–202) and supplemented by Taylor (1991, 1994, 1996). It constitutes a thematic extension of this author's corpus-based study of English de-verbal nouns in *-tion* (Szawerna 2007b[1]). This study presents a cognitive grammar characterization of the internal structure of the category comprising English de-verbal nouns in *-tion* in terms of an elaborate schematic network model – a characterization based on an analysis of a large sample of data retrieved from the British National Corpus (BNC).[2] In this study, however, the issue of nominal periphrasis, so closely bound up with the phenomenon of de-verbal nominalization, is not touched upon directly. This article, which discusses the conceptual motivation behind the distributional facts concerning the co-occurrence of expressions headed by the periphrastic variants of the possessive *'s* as well as the prepositions *of* and *by* with English de-verbal nouns in *-tion*, has therefore been written principally with a view to filling in this gap.[3] As the gist of this article ties in closely with the cognitive grammar account of de-verbal nomi-

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[1] Reference to this study has also been made in several of this author's articles (cf. Szawerna 2002, 2003, 2004, 2006, and 2007a).

[2] The sample in question was made up of 75,000 concordances featuring 1,100 de-verbal nouns in *-tion*, retrieved from the BNC subject field domain pertaining to natural and pure sciences, which comprises four million words (cf. Aston and Burnard 1998).

[3] This article constitutes an extension of Szawerna (2007b) also in the sense that this author's observations concerning nominal periphrasis are supported by an analysis of the same sample of corpus data.

nalization and nominal periphrasis, the presentation begins with a general outline of the issues pertinent to this topic: the cognitive grammar characterization of lexico-grammatical categories, the cognitive grammar approach to the phenomenon of nominalization, and the cognitive grammar account of nominal periphrasis. The following section of this article spells out the advantages of the cognitive grammar approach to nominal periphrasis – an approach which offers a semantic explanation of a number of restrictions on the distribution of periphrastic expressions accompanying de-verbal nominalizations. This part provides a necessary background for the closing section: a discussion of additional evidence supporting the cognitive grammar account of nominalization and nominal periphrasis.

2. The characterization of lexico-grammatical categories (cf. e.g. Langacker [1987b, 1991a: 59–100])

Traditional lexico-grammatical categories, such as noun, verb, adjective, adverb, or preposition, are defined semantically. Importantly, these categories are said to differ not so much in terms of the conceptual content they invoke but rather in terms of the way this content is profiled. As for the categories this presentation concentrates on, i.e. nouns and verbs, a noun is said to profile a region, defined as a set of interconnected entities viewed holistically, whereas a verb is said to profile a process, defined as a set of constitutive relations viewed sequentially, as occurring one after another.

3. The cognitive grammar approach to nominalization (cf. Langacker [1991b: 22–50] as well as Langacker [1987a, 1987b, 1991a, 1992, and 1999])

The cognitive grammar approach to lexico-grammatical categories, sketchily outlined above, provides a basis for a semantic treatment of de-verbal nominalization. In cognitive grammar, the mechanism of de-verbal nominalization consists in a conceptual reification resulting in a shift of profile: from processual in the case of the basic verb (e.g. *destroy*) to nominal in the case of its nominalized counterpart (e.g. *destruction*). As a consequence of this treatment of nominalization, pairs like *destroy-destruction* cannot be treated as semantically equivalent even though the conceptual content they invoke is largely the same. What makes them different is the nature of their profile: processual in the case of *destroy* and nominal in the case of *destruction*. What is more, even though the shift of profile pertains to all de-verbal nominalizations, they still differ in terms of which facets of the source

process becomes reified and profiled as a region. Szawerna (2007b) discusses the whole range of nominalization kinds predicated by English de-verbal nouns in *-tion* found in a selected component of the BNC. Some of these nominalizations profile a region comprising a number of stages making up the underlying process. The process may be perfective, as in the case of *digestion* in example (1a) or *eruption* in (1b), or imperfective, as in the case of *admiration* in (1c). In turn, others profile only a single participant of the source process: its trajector, as in the case of *immigration* in example (1d), its landmark, as in the case of *invention* in (1e), or its secondary landmark, as in the case of *division* in (1f).

(1)   a.   *This conclusion directly contradicts many assertions in the literature [...] that there is no loss of bone during digestion of prey by barn owls.*

       b.   *For instance, the 1980 eruption of Mount St. Helens was equivalent to about 30 one megaton hydrogen bombs, while the cataclysmic eruption of Laki in Iceland in 1783 had an estimated energy of 10^{20} J [...].*

       c.   *Not since the hey-day of Bette Davis has there been an actress who's attracted so much loathing – and so much admiration.*

       d.   *A far vaster immigration [...] began pouring through the city portals.*

       e.   *The owner of a patent does not have the unfettered right to make an invention available only on onerous terms.*

       f.   *Silicon Graphics Inc. is getting into the fun-and-games end of the business in a big way and has formed a joint venture with Industrial Light & Magic, a division of George Lucas's Lucas Digital Ltd. special effects production company [...].*

4. The cognitive grammar account of nominal periphrasis (cf. Langacker [1982; 1991a: 139–140; 1991b: 37–42; 1992; 1993; 1999: 73–90, 88–89, 171–202] and Taylor [1991, 1994, 1996])

Cognitive grammar characterizes the periphrastic variants of the prepositions *of* and *by* as well as the periphrastic variant of the possessive adposition *'s* as profiling simple atemporal relations whose purport resides in the fact that they allow for an indirect specification of the processual participants which cannot be specified directly once the process in which they are engaged has undergone nominalization. Despite their similarity of function, the periphrastic variants of the preposition *of*, the preposition *by*, and the possessive *'s* are said to remain semantically distinct. The periphrastic variant of the preposition *of*, whose various uses instantiate the

schematic conception of an intrinsic relationship between its trajector and land-mark, is characterized as profiling a relation in which the trajector represents the schematic conception of a nominalized process and the landmark represents a participant of this process. In other words, the periphrastic *of* profiles an intrinsic relationship between a nominalized process and one of its central participants, either the trajector or the (primary) landmark (cf. example 2a). In contrast, the periphrastic *by*, which resembles the variant used in passives as well as the one used to identify the creator of an artistic work, is considered to be more content-ful than the periphrastic *of* for the reason that *by*, unlike *of*, specifically identifies its object as the trajector of the nominalized process and suggests that its role is active to a degree (cf. example 2b). In turn, the periphrastic variant of the posses-sive *'s* is said to share with its remaining variants the schematic conception of a reference-point relation. The relation consists in the construal of the morpheme's landmark (the possessor) as a reference point with respect to which another en-tity – the trajector (the possessee) – is identified. Being specially adapted for the purposes of nominal periphrasis, the periphrastic variant of the possessive *'s* takes a nominalized process as its trajector and one of the processual participants, typi-cally the trajector, as its landmark (cf. example 2c).

(2)   a. *the destruction of the Iraqi army*[4]
      b. *The property is currently under active exploration by Anglesey Min-ing plc.*
      c. *my admiration*

5. The advantages of the cognitive grammar approach to nominal periphrasis

5.1. The explanation of the ergative pattern of *of*-periphrasis (cf. Langacker [1999: 73–90])

It has been pointed out that *of*-periphrasis follows an ergative pattern: it is used to specify trajectors of intransitive processes underlying de-verbal nominaliza-tions as well as landmarks of transitive processes underlying such nominaliza-tions. Examples 3a–c indicate that if only one processual participant is specified periphrastically, *of* can introduce it regardless of whether it corresponds to the trajector or the landmark of the process underlying a nominalization. In example 3a the semantic pole of the nominal *the demonstrators* corresponds to the trajector of the intransitive variant of the process [CHANT],[5] which underlies the semantic

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    [4] Example 2a is Langacker's (1999: 76) example in 8a.
    [5] In cognitive grammar, the semantic poles of linguistic expressions – referred to as predicates or predications, depending on their degree of complexity – are conventionally symbolized by capi-tals enclosed in brackets.

pole of the de-verbal noun *chanting*, whereas in example 3b the semantic pole of
the nominal *the slogans* corresponds to the landmark of the transitive variant of
the same process. In contrast, when both the processual trajector and landmark are
specified periphrastically, *of* can only introduce the participant corresponding to
the landmark, as in example 3c.

(3)   a. *the chanting {of/by} the demonstrators*
      b. *the chanting of the slogans*
      c. *the chanting of the slogans by the demonstrators*[6]

To a cognitive grammarian, the ergative pattern of *of*-periphrasis reflects an aspect
of the structure of event conceptions whereby the landmark of a transitive pro-
cess and the trajector of an intransitive process have a greater degree of intrinsic-
ness than do other processual participants. This is because landmarks of transitive
processes and trajectors of intransitive processes encode the theme, a processual
participant functioning as the conceptually autonomous core of an event concep-
tion. In the case of intransitive processes, the thematic participant is said to be
construed in an absolute fashion, i.e. independently of the initiative force that
brings about the change undergone by this participant. In contrast, in the case of
transitive processes, the thematic participant is said to be construed energetically,
i.e. as the endpoint of an action chain whose starting point (a causation trigger of
some sort) brings about the change undergone by this participant. The thematic
participant's function of the conceptually autonomous core of an event conception
has linguistic ramifications: it has been pointed out that only a thematic partici-
pant, or a higher-order autonomous structure formed by augmenting a thematic
participant with one or more layers of energy input, is in general codable by a
well-formed sentence. Most importantly, the theme can be regarded as the con-
ceptually autonomous core – and therefore the most intrinsic component – of an
event conception, which is why the preposition profiling an intrinsic relationship,
i.e. *of*, is conventionally utilized to specify themes periphrastically.

5.2. The exposition of the motivation for the affectedness constraint and the experiencer constraint (cf. Taylor [1994, 1996])

The cognitive grammar analysis of the periphrastic variant of the possessive *'s*
has provided a basis for the exposition of the semantic motivation for the well-
known constraints pertaining to the interpretation of the nominal elaborating the
landmark of the possessive *'s*, i.e. the possessor nominal: the so-called affect-
edness constraint (cf. Anderson 1978) and the so-called experiencer constraint
(cf. Rappaport 1983). In essence, the affectedness constraint specifies that only a
nominal which designates an entity in some way affected in the course of the pro-
cess underlying a given deverbal noun can function as the prenominal possessor;

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[6] Examples 3a–c are Langacker's (1999: 84) examples 11a–c.

a nominal designating an unaffected entity is banned from the prenominal position (cf. the examples in 4a, b). In turn, the experiencer constraint specifies that only a nominal which designates an entity approximating the conception of the archetypal experiencer engaged in the mental process underlying a given cognitive deverbal noun can function as the prenominal possessor, regardless of whether this entity corresponds to the trajector or to the (primary) landmark of the underlying mental process (cf. the examples in 4c, d).

(4)   a.   *the city's destruction*, *Kennedy's assassination*, *the ambassador's dismissal*[7]

        b.   **the fact's knowledge*, **the cliff's avoidance*, **the bird's scrutiny*[8]

        c.   *Amy's fear of the scarecrow*, *Amy's fright at the scarecrow*

        c.   **the scarecrow's fear by Amy*,[9] **the scarecrow's fright of Amy*[10]

It has been argued that a possessor nominal needs to name an entity that is cognitively accessible because the possessive construction grammaticalizes a special strategy for anchoring the possessee. It has also been suggested that the factors likely to render this entity cognitively accessible are its discourse-conditioned topicality[11] and its inherent topicality.[12] Granted the reference-point analysis of the periphrastic possessives, the experiencer constraint finds its motivation in the fact that a participant approximating the conception of the archetypal experiencer is more topical than any other participant of a mental process. Similarly, the affectedness constraint finds its motivation in the fact that an affected participant is more topical than an unaffected participant. Furthermore, it has been argued that in addition to a high degree of topicality, the possessor must exhibit a high degree of the so-called cue validity with respect to the possessee; in other words, the entity designated by the possessor must be such that it can provide reliable cues for a successful identification of the process underlying the nominalization profiled by the possessee.[13] Granted the reference-point analysis of the periphrastic posses-

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[7]   Anderson's (1978) examples on p. 15.

[8]   Anderson's (1978) examples on p. 19.

[9]   Rappaport's (1983: 132) example 56b.

[10]   Rappaport's (1983: 132) example 57a.

[11]   The high degree of discourse-conditioned topicality characteristic of possessor nominals is reflected in their tendency to refer to entities mentioned in recently preceding text, their typical definiteness, and their proclivity towards taking a pronominal form (cf. Taylor 1996: 212).

[12]   Taylor's (1991) text-based statistical study demonstrates that possessors, which nearly always designate entities characterized by a high degree of inherent topicality, such as humans or animals, must be inherently more topical than the possessees (cf. Hawkins 1981). For a detailed discussion of the factors contributing to inherent topicality, such as egocentricity, basic-level position in a taxonomic hierarchy, and earliness of acquisition, cf. Deane (1992).

[13]   According to Taylor (1994, 1996: 245–255), the possessor's degree of cue validity with respect to the nominalized process depends on two factors: the informativity of the entity designated by the possessor nominal with respect to this process as well as the intrinsic status of this entity in the said process. As for the first factor, it pertains to the number and specificity of inferences that may be

sives, the affectedness constraint falls out as a natural consequence of the fact that a process can be more reliably cued by a participant affected in the course of this process than by a participant unaffected in its course. Similarly, the experience constraint falls out as a natural consequence of the fact that a mental process can be more reliably cued by a participant approximating the conception of the archetypal experiencer than by a participant approximating any other role archetype.

6. Nominal periphrasis accompanying de-verbal nouns in *-tion* which designate trajector and landmark nominalizations

It seems that the cognitive grammar characterization of lexico-grammatical categories, the phenomenon of nominalization, and the functioning of nominal periphrasis constitutes a highly coherent account, whose individual parts fit together very well indeed. This account can be referred to as both austere and unified: it is formulated with the use of relatively few theoretical concepts and constructs – such as cognitive domains, base-profile organization, trajector-landmark organization, constructional schemas, etc. – which are characterized by their broad descriptive applicability. Last, but by no means least, this account is psychologically well-motivated inasmuch as the theoretical concepts and constructs it employs derive from the basic cognitive abilities of the human mind, such as the ability to create structured conceptualizations, the ability to categorize and construe a given situation at different levels of abstraction (i.e. schematization), the ability to establish correspondences between different facets of semantic structures, the ability to construe a given situation in terms of the figure-ground distinction, etc.[14]

It does not come as a surprise, then, that this unified account of lexico-grammatical categories, the phenomenon of nominalization, and the functioning of nominal periphrasis should enable a cognitive grammarian to account for the following regularity observable in corpus data concerning the co-occurrence of de-verbal nouns and periphrastic expressions. While the BNC subject field domain of natural and pure sciences abounds in examples like the ones in 5a, in which periphrastic expressions are used to indirectly specify the trajectors and landmarks of the processes underlying the nominalizations with which they co-

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drawn with respect to the entity designated by the possessor, given a characterization of the process in which this entity is engaged; as for the second factor, it is a function of the conceptual autonomy of the entity designated by the possessor relative to other entities engaged in the same process.

[14]   This is true of cognitive grammar in general: Langacker's strategy for formulating the tenets of cognitive grammar and applying them to language description has always been to appeal to "common-sense psychology" (Taylor 1996: 22) by taking certain aspects of mental experience – in particular numerous uncontroversial cognitive abilities of the human conceptual system – as both guidelines and constraints for the articulation of his framework (cf. Langacker 1995: 14–15).

occur, it contains no examples in which a nominalization profiling the trajector of its underlying process is accompanied by a periphrastic expression specifying this trajector and, similarly, no examples in which a nominalization profiling the landmark of its underlying process is accompanied by a periphrastic expression specifying this landmark. What we find instead are examples like the ones in 5b, in which trajector nominalizations are accompanied by periphrastic expressions specifying the landmarks of their underlying processes, and examples like the ones in 5c, in which landmark nominalizations are accompanied by periphrastic expressions specifying the trajectors of their underlying processes.

(5)   a. *the car's motion, the ball's rotation, subsidization of private health care, amalgamation of institutions, erosion of sand dunes, production of matchbox grips by small businesses, Mr. Hrawi's election, the committee's deliberations, UNESCO's celebration of the double helix's fortieth anniversary, Galileo's construction of the origins of mechanics, the older dog's actions, the prince's intervention, the company's formation, an injection of short-acting insulin, the destruction of the bone marrow, the invasion of the body by pathogenic micro-organisms, Mozart's admiration, the veneration of the Sun*, etc.

   b. *Murdoch's motivation, the city's population, the conclusion of this section, Each of the above is a contradiction of God's Word, The following items are exemplifications of the criterion*

   c. *Mr. Overbeck's inventions, the vase makers' creations, the glands' secretions, Hoffert and Covey's conclusion, Darwin's suggestion, the second proposition of this book, The suggestion of Trotter, a suggestion by Lord Donaldson, an invention by a craftsman, the conclusion by Clayden*

In view of this data, we can formulate the following generalization: periphrastic expressions employing the possessive *'s* as well as the prepositions *of* and *by* can be used to specify the participants – either the trajector or the landmark – of a process underlying a nominalization as long as these participants are not selected for reification and recognized as the region profiled by the nominalization. Taking into account the cognitive grammar account of nominalization and nominal periphrasis, it is easy to see why it should be so. The function of periphrastic expressions involving the possessive *'s* as well as the prepositions *of* and *by* amounts to the indirect specification of the participants engaged in the processes underlying the nominalizations designated by de-verbal nouns. Once a participant of this kind becomes recognized as a region and put in profile in the course of nominalization, there is little point in specifying it periphrastically – a composite expression involving a specification of this kind would be inherently repetitive due to the identity relation obtaining between the trajector and the landmark of a periphrastic morpheme, be it the possessive*'s*, the preposition *of*, or the preposition *by*. Putting

it differently, a de-verbal noun designating a participant of its underlying process cannot co-occur with a periphrastic expression headed by the possessive'*s* which specifies this participant because a process participant cannot be regarded as a good reference point for its own identification. Similarly, a de-verbal noun designating a participant of its underlying process cannot co-occur with a periphrastic *of*-phrase specifying this participant because a process participant can hardly be considered intrinsic to itself. Intrinsicness rules out identity inasmuch as it presupposes a part-whole relationship obtaining between two entities: if one entity is intrinsic to another, it belongs to the essential nature or constitution of that entity. Finally, a de-verbal noun designating a trajector nominalization cannot be integrated with a periphrastic *by*-phrase because a processual trajector cannot in any way be considered as an active participant of itself.

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