A PROPOSAL FOR A UNIFIED THEORY OF NOMINAL AND VERBAL FACTORS CONDITIONING THE DIFFERENTIAL OBJECT MARKING

UMA PROPOSTA DE TEORIA UNIFICADA DE FATORES NOMINAIS E VERBAIS NA MARCAÇÃO DIFERENCIAL DO OBJETO

UNA PROPUESTA DE TEORÍA UNIFICADA DE FACTORES NOMINALES Y VERBALES EN LA MARCACIÓN DIFERENCIAL DEL OBJETO

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ABSTRACT: My main question is: from a typological point of view, what is the most significant semantic generalization associated with the differential marking of the object (DOM)? My proposal is that DOM is motivated by the presence of highly individuated portions of matter and of time in transitive sentences. It is used here a larger concept of *individuated portions*, encompassing both the notion of complete events and the individuation of referents. Just as in the domain of matter there are bounded objects, in the domain of time we find bounded events (PINKER, 2008). This larger concept of *individuated portions* allows a better explanation of DOM. There is no alternative trying to unify the different semantic motivations for the use of DOM. The relation between the semantics of the verbs and the semantics of the nouns remains unknown. My proposal is that these different factors can be unified in a single theory.
KEYWORDS: Typology. Differential object marking. Defineteness. Telicity.

RESUMO: A questão principal deste artigo é a seguinte: de um ponto de vista tipológico, qual é generalização semântica mais significativa subjacente à marcação diferencial do objeto (DOM)? Minha proposta é que o DOM é motivado pela presença, em sentenças transitivas, de porções altamente individuadas de matéria e de tempo. Faço uso de um conceito mais amplo de *porções individuadas*, abrangendo tanto a noção de eventos completos quanto a individuação de referentes. Tal como no domínio da matéria existem objetos delimitados, no domínio do tempo existem eventos delimitados (PINKER, 2008). Este conceito mais amplo de *porções individuadas* possibilita uma explicação mais satisfatória do DOM. Não existe uma teoria que tente unificar as diferentes

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motivações do DOM. Não há uma explicação para a relação entre a semântica do verbo e a semântica do sintagma nominal no DOM. Nossa proposta é que estes diferentes fatores podem ser unificados em uma única teoria.

PALAVRAS-CHAVE: Tipologia. Marcação diferencial do oObjeto. Definitude. Telicidade.

RESUMEN: La pregunta principal de este artículo es la siguiente: desde un punto de vista tipológico, ¿cuál es la generalización semántica más significativa subyacente a la marcación diferencial del objeto (DOM)? Nuestra propuesta es que el DOM se motiva por la presencia, en frases transitivas, de porciones bastante individuadas de materia y de tiempo. Utilizamos un concepto más amplio de *porciones individuadas*, abarcando tanto la noción de eventos completos como la individuación de referentes. Tal como existen objetos delimitados en el dominio de la materia, existen eventos delimitados en el dominio del tiempo (PINKER, 2007). Este concepto más amplio de *porciones individuadas* permite una explicación más satisfactoria del DOM. No hay una teoria que busque unificar las distintas motivaciones del DOM. Tampoco hay una explicación para la relación entre la semántica del verbo y la semántica del sintagma nominal en el DOM. Nuestra propuesta es que estos diferentes factores se pueden unificar en una sola teoria.

PALABRAS CLAVE: Tipología; Marcación diferencial del Objeto; Definitud; Telicidad

1 INTRODUCTION

In this article, I intend to propose a theory that provides a unified semantic treatment for both nominal and verbal factors, which motivate the differentiated marking of the direct object. The direct object differential marking is a syntactic phenomenon known as the acronym DOM[1], which I will use in this article. DOM is a structure that appears in non-related languages as diverse as Russian, Finish, Persian, Hindi, Bantu languages, Spanish, Sardinian language and many others (COMRIE, 1981; BOSSONG,1983; CROFT, 1990; AIKHENVALD *et al.*, 2001; WITZLACK-MAKAREVICH; SERŽANT; 2018).

In the literature about the topic, there are two types of different non-related semantic factors that lead to DOM. This first is of nominal nature, and includes traits such as definiteness and animacy, attributed to the argument that occupies the position of direct object. In several languages, these nominal properties lead to the use of DOM (COMRIE, 1981; BOSSONG,1983; HASPELMATH, to be published).

The second factor is verb-related properties that define the nature of the event. Among these properties, I highlight telicity and affectedness (HOPPER; THOMPSON, 1980; NæSS, 2004; WITZLACK-MAKAREVICH; SERŽANT, 2018).

Such nominal and verbal factors are typically treated as independent and not interconnected. Hence, DOM seems to be the effect of discrepant and disconnected factors. I will try to show that these two types of factors (nominal and verbal) are in fact interconnected in one single semantic content: individuated portions of matter and time (BACH, 1986; PINKER, 2008). Individuated portions of matter are entities with a high degree of definiteness and individuated portions of time are telic events.

The presence of these individuated portions in a given predication is the semantic element that motivates DOM. These individuated portions compose the element that unifies the apparently independent traits of definiteness (of nominal nature) and telicity (of verbal nature).

My hypothesis is that DOM serves to mark the presence of these individuated portions of matter and time in a given predication. This marking happens because such individuated portions are relevant from the cognitive and pragmatic point of views, implying a high degree of transitivity of the predications in which they appear.

This hypothesis is independent from the frequency of use of the traits of definiteness and telicity in transitive sentences in general. It only establishes that the factor that triggers the use of DOM is the presence of individuated portions of matter and time in a

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[1] *Differential Object Marking.*

predication. DOM is not necessarily linked to the frequency of use of arguments with high referential prominence, as assumed by some authors (COMRIE, 1981; HASPELMAT, to be published). The marking of DOM has the function of highlighting the presence, in the predication, of relevant individuated portions from a cognitive and pragmatic point of view.

This hypothesis is compatible and serves as the theoretical foundation for the idea that there is a prototypical transitive sentence, with a high degree of transitivity (HOPPER; THOMPSON, 1980). The presence of individuated portions indicates that a sentence is strongly transitive, becoming a candidate for DOM marking.

The article is organized as follows: in section 2, I introduce what I call the DOM referential theory. According to this theory, DOM is strictly conditioned by referential properties of the argument that occupies the position of direct object. This theory does not look so much at the semantic nature of the transitive verb, but rather to the semantic/pragmatic traits of the direct object (COMRIE, 1981; CROFT, 1990; AISSEN, 2003; HASPELMATH, to be published). In section 3, I discuss different concepts of prototype and try to show that the most appropriate notion of a prototype of a transitive sentence is the one adopted by HOPPER; THOMPSON (1980) and that DOM serves to mark the degrees of transitivity. In section 4, I quote studies in Spanish and Finnish that show that the verbal factors (especially telicity) will determine the use of DOM. In section 5, I introduce the concept of individuated portions of matter and time and show how this concept will apply to both nominal and verbal factors that condition DOM. In section 6, I present some final considerations.

2 THE DOM REFERENTIAL THEORY

I call 'referential theory' the theoretical perspective according to which referential properties of the direct object will determine the use of DOM. The relevant referential properties are animacy and definiteness. Animacy may be considered an inherent trait, in the sense that the nominal root establishes, if the referent is more or less animated: *woman, man, dog, demon* x *house, rock, wood, ear*. On the other hand, the trait of definiteness depends on syntagmatic elements (*the dog* x *a dog*) (BOSSONG, 1983, p. 8). According to the referential theory, the inheriting and non-inheriting traits condition DOM, in an independent or joint fashion, in different languages (BOSSONG, 1983).

Another important point is that animacy and definiteness are traits distributed in two different scales, according to a hierarchy. First, there is the Animacy Hierarchy (CROFT, 1990, p. 112):

> Animacy Hierarchy: *first/second person pronouns < third person pronoun < proper names < human common noun < nonhuman animate common noun < inanimate common noun*

The trait of definiteness, in turn, is distributed according to the following hierarchy (CROFT, 1990, p. 115):

> Definiteness Hierarchy: *definite < indefinite referential noun[2] < indefinite non-referential*

The referential theory, therefore, uses a scale approach to establish DOM usage conditions. The proposal is that the higher the direct object is in this scale, the more likely it will be marked. To be more accurate, the element that is measured in these scales is the noun phrase (for example, *the man, a man)*, with its specific referential properties. The theory predicts that, if a noun phrase that ranks high in the scales occupies the syntactic position of direct object, this direct object should be marked.

To account for this regularity, Croft (1990, p. 138) formulates the following typological rule, of implicative nature: "If a language has a non-zero case marking for a P argument on the animacy/definiteness hierarchies, then it uses a non-zero case marking for P arguments higher on the hierarchies". This rule predicts, for example, that if a given *x* language presents the differential marking of

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[2] An indefinite referential is a specific, individual referent whose identity is not defined (for example, "He saw *a student*"). Non-specific referents are linked to types and not to specific beings (for example, "*Elephants are intelligent*").

the object whenever the noun phrase refers to a *nonhuman animate common noun,* so the differential marking should also occur, in this *x* language, with the noun phrase that is a *human common noun".*

The DOM referential theory is based on a correlation between grammatical marking and frequency of use (COMRIE, 1981; BOSSONG, 1983; HASPELMATH, to be published). The idea is that DOM occurs to mark less frequent types of noun phrase in the direct object position. The most frequent type of direct object, according to this perspective, would be a noun phrase with a low level of individuation, that is, with low animacy/definiteness.

Comrie (1981, p. 121) expresses this correlation between markedness and low frequency, in the case of DOM, as follows: "The most natural kind of transitive construction is one where the A is high in animacy and definiteness, and the P is lower in animacy and definiteness; and any deviation from this pattern leads to a more marked construction"[3].

Therefore, the referential theory presupposes an informative flow, from a more animate and more definite *A* referent (the subject of transitive sentences) to a less animate and less definite *P* referent (the direct object of transitive sentences). Therefore, the prototypical transitive sentence, from this perspective, would be the one where *P* is occupied by a referent that ranks low in the definiteness and animacy scales.

Haspelmath (to be published) calls *referential prominence* the semantic-pragmatic characteristic of noun phrases that present a high degree of individuation, that is, that are more definite and more animate. In addition to the animacy and definiteness scales, Haspelmath (to be published) incorporates in the concept of *referential prominence* the opposition between given referent x new referent. Given referents have more *referential prominence* than new referents (HASPELMATH, to be published, p. 5).
A high degree of referential prominence is associated to determined thematic roles, such
as *A* (for agent) and *R* (for recipient/beneficiary) while, according to Comrie (1981), it is assumed that the role of *P* (for patient) has low referential prominence.

Haspelmath (to be published, p. 4) uses the concept of higher thematic roles (such as *A* and *R*) and lower thematic roles (such as *P* and *T*[4]). This ranking of thematic roles is not clearly explained in Haspelmath's theory (to be published), and the author himself recognizes that he does not present a clear foundation for such ranking.

A possibility that has not been addressed by Haspelmath (to be published) would be to consider that the ranking of thematic roles is linked to the structure of the event in which the roles take place. This is the solution presented by Croft (2012), to whom the highest-ranking of *A* over *P* has to do with the causal chain that organizes a transitive event. According to Croft (2012, p. 205), a transitive sentence "[…] represents the construal of participants in an event as constituting a causal chain defined by the force-dynamics relationship among their participants. Our hypothesis is that the ranking of roles in events is determined by their order in the causal chain.".

This hypothesis has the advantage to be based on an iconic principle (the syntactic order mirrors the semantic causal chain). However, Haspelmath (to be published) does not establish any connection between his referential theory and the structure of events. It all happens as if DOM was only linked to the referential properties of thematic roles, and not to the structure of the event as a whole. Once again, the referential theory presupposes that the governing fact behind the use of DOM is the frequency of use. It is based on the frequency that Haspelmath (to be published, p. 4) proposes the following rule: "Arguments with higher-ranked roles tend to be more referentially prominent, and vice versa".

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[3] *A* is for Agent (the subject of transitive sentences) and *P* for Patient (the direct object of transitive sentences).
[4] T is for theme.

Consequently, according to this theory, the use of DOM emerges whenever there is a deviation from the norm (based on frequency of use) that rules the relation between thematic roles and referential prominence. If a lower-ranked thematic role such as *P* appears as more referentially prominent (a first-person pronoun or a human common noun, for example), then this unusual occurrence should be marked. The most common marking is the use of morpho-syntactic segments longer than usual. This additional segment may be indicative of a grammatical case or of an additional verbal encoding (HASPELMATH, to be published, p. 1).

According to this logic, both the passive voice and DOM would be cases of marking the less frequent relation between thematic role and referential prominence. Below, there are some examples of passive voice and DOM. First, an example of passive voice in Brazilian Portuguese:

(1)　　　O livro foi escrito pelo professor.
　　　　[The book was written by the professor].

 Sentence (1) above, in the passive voice, was built with the use of a structure that is more complex than the correspondent transitive sentence, illustrating the marking of a highly referential *P*. This high degree is due to the characterization of the noun phrase *o livro (the book)* as old information. As we saw, old information is one of the factors to increment the referential prominence. On the other hand, the noun phrase *o professor (the professor)*, in spite of its inherent human trait, presents a lower referential prominence because it is new information.

In summary, the marked encoding of the passive voice points out both to the demotion of A (*o professor, the professor*) to a lower position in the sentence and the promotion of *P (o livro, the book)* to a higher position.[5]

The same principle behind this marking, according to Haspelmath (to be published), would also be present in the uses of DOM. These are examples from the Sardinian language[6]:

(2)　　　 a mortu a Serbadore
　　　　　has　killed ACC[7] Salvatore
　　　　　'He killed Salvatore.'

(3)　　　 a mortu su lupu
　　　　　 has　killed　the wolf
　　　　　 'He killed the wolf.'[8]

In the Sardinian language, the human trait of *P* leads to DOM, that is, to the occurrence of the preposition *a* in front of the direct object. This preposition does not happen when *P* is animate but not human, as in *lupu* (*wolf*). This difference in the marking pattern (some direct objects are marked, others are not) is exactly what characterizes DOM.

In Haspelmath's theory (to be published), the higher referential prominence of *Serbadore* (a proper name), in comparison to the animate common noun *lupu*, is what causes DOM, as a *P* should present, as we have seen, a lower referential prominence. In

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[5] Haspelmath (to be published) does not fully define what would be a higher syntactic position. I am using the terms *promotion* and *demotion* from Palmer (1994, p.16), who proposes a hierarchy of syntactic relations.

[6] DOM occurs is several Romance languages (BOSSONG, 1998).

[7] ACC means accusative case, marked by the preposition.

[8] Examples from Haspelmath (to be published, p.10).

summary, it is assumed that the occurrence of proper names with high referential prominence is not very common in the position of *P* arguments. In this case, some languages, as the Sardinian language, mark such occurrences through DOM.

The Brazilian Portuguese language also presents DOM, although in a less systematic way (CYRINO, 2017; SCHWENTER; NUNES, 2018):

(4)   Perdoa, Senhor, a este pecador![9]
             [Forgive, o Lord, this sinner!]

In sentence (4), the preposition *a* marks the human and definite trait of *P* (*este pecador, this sinner*), that possesses high referential prominence.

An example of DOM not associated to the human animate, but rather to definiteness is found in the Punjabi language, spoken in India and Pakistan:

(5)   K*ataab vekho.*
             livro   olhar.IMP.2PL
             [See a book].

(6)   *Kataab nūū vekho.*
             livro ACC olhar.IMP.2PL[10]
             [See the book].

In this pair of examples from Punjabi, it can be seen the contrast between a sentence where the direct object is not marked (sentence 5) and a sentence (6) where there is such marking (the presence of the morpheme *nūū,* indicating the accusative case). The referential theory would explain this contrast by the higher degree of referential prominence of the object direct in (6).

Now, I would like to point out two difficulties of the referential theory. First of all, the theory depends strongly on data providing the frequency of use, as the only justification given to the association between *P* and low referential prominence is of statistical nature: the thematic role *P* would tend to be inanimate, indefinite and to constitute new information.

 However, the data offered is not very robust. About the animacy of *A* and *P*, for example, Haspelmath (to be published) mentions only two studies, in Swedish and Movima – a language spoken in Bolivia. Even these data sets, restricted to only two languages, are not very consistent. It would be necessary to obtain much more data to confirm the hypothesis that *P* tends to be inanimate/indefinite in the dozens of languages that present DOM. If the statistical differences are not significant, the very idea that DOM marks what occurs less becomes irrelevant.

A second problem of the referential theory involves the concept of what would be a prototypical transitive sentence. In the referential theory, DOM would serve to mark a statistically less significant occurrence in the transitive sentence. From the point of view of this theory, the prototypical transitive sentence would be the one in which *A* has high referential prominence and *P* has low referential prominence. However, it is necessary to have a better understanding of what a prototype is. The next section aims at that.

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[9] Example found in the Brazilian Portuguese translation *A dama do cachorrinho*, by A. P. Tchekhov, São Paulo, Ed. 34, p. 19. Translation by Boris Schnaiderman.

[10] ACC indicates accusative case. The accusative case is used differentially to mark definiteness.

3 PROTOTYPES AND TRANSITIVITY

A prototypical case could be interpreted as something that has a greater frequency. However, as we have just seen, there is no robust data to safely confirm which would be the most frequent transitive sentence in different languages.

Another possibility is to define a prototype as the central example of a category, that is, the example most accessible to memory and perception (ROSCH; MERVIS, 1975). The central example of a category is the one that presents the most relevant traits of this category, therefore becoming more accessible. When this concept of prototype is transposed to grammar, the result is that the prototype of a given linguistic category is then interpreted as the one that presents a combination of the most relevant traits of this category. Hence, the prototype is no longer interpreted in terms of frequency, but in terms of traits or properties.

A good example of the application of this concept of prototype in grammar is the proto-role theory (DOWTY, 1991). A PROTO-PATIENT (DOWTY, 1991) is a central example of *P* defined by a set of *P* relevant traits. The occurrence of a specific thematic role in a given predication may be more or less close to this PROTO-PATIENT, depending on the traits presented by the occurrence[11]. It is worth noting that this concept of trait-dependent prototype does not anticipate the frequency of prototypical examples; not necessarily will the central examples of a category occur more frequently. It is only required that such examples present a high number of traits typical of the category.

If we interpret the transitive sentence prototype along these lines, we need to define which would be the most relevant traits for the definition of transitivity. This was Hopper's and Thompson's (1980) goal when they proposed a set of ten properties that would define transitivity. Specific examples of predications are more or less close to this transitivity prototype (cf. CROFT, 1990). Notice that, according to this approach, all predications are transitive at some degree, but only a subset of predications may be considered a prototypical transitive sentence. Hopper's and Thompson's (1980) approach does not predict the frequency of predications with high transitivity. This approach only implies that there is a set of predications with a higher degree of transitivity and another one with a lower degree of transitivity.

Hopper's and Thompson's (1980) prototypical transitive sentence is defined by a set of ten traits: a. two or more participants; b. action; c. telic aspect; d. punctual aspect; e. volitionality; f. affirmative mode; g. realis mode; h. agency; i. totally affected patient; j. highly individuated patient.

This list encompasses traits that have to do both with the event (action and affectedness, telic and punctual aspects, affirmative and realis mode) and with the referential properties of the thematic roles (volitionality, agency and individuation). Hence, this is a proposal that combines nominal and verbal properties.

It is also interesting to observe that the referential properties of *P* in Hopper's and Thompson's (1980) prototypical transitive sentence are opposed to the referential properties of Haspelmath's (to be published) *P*. In Hopper and Thompson (1980), the *P* of a prototypical transitive sentence is highly individuated. In Haspelmath (to be published), as we have seen, the prototypical *P* has low referential prominence or is less individuated. This distinction leads to very different considerations about the nature of DOM. In the referential theory, DOM has the essential function of calling attention to what is considered less typically transitive. Hence, it serves to mark the unexpected predications and avoid ambiguities (COMRIE, 1981; NÆSS, 2004).

On the other hand, according to Hopper and Thompson (1980), DOM marks not what is less transitive, but rather what is more. This can be seen more clearly in the case of a specific language.

The Russian language offers two cases (accusative and genitive) to represent the direct object. This differential marking of the direct object is defined by the degree of transitivity: high transitivity (with highly individuated *P*) is differentially marked with the accusative case and low transitivity (with less individuated *P*) receives the genitive case (HOPPER; THOMPSON, 1980, p. 279).

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[11] Dowty (1991) argues that the traits are entailments from the sentences.

In conclusion, it is assumed here that DOM marks a determined point in the transitivity scale. DOM is a form of distinguishing different degrees of transitivity (WITZLACK-MAKAREVICH; SERŽANT, 2018, p. 14). One of the semantic traits to characterize high transitivity is the highly individuated *P*, because "an action can be more effectively transferred to a patient which is individuated" (HOPPER; THOMPSON, 1980, p. 253).

4 TELICITY AS A DOM DETERMINANT FACTOR: EXAMPLES FROM FINNISH AND SPANISH

One of the problems of the referential theory is that there are cases where a DOM determinant factor is not connected to the referential properties of the direct object, but rather to the aspectual structure of the event. In this section, I will examine studies in Spanish and Finnish, which illustrate this point.

The sentences below show how telicity triggers the use of DOM in Spanish (the examples and the analysis are by Torrego Salcedo (1999):

    (7a)   Encarcelaron a un narcotraficante.
                  [They arrested a drug dealer].

    (7b)   *Encarcelaron un narcotraficante.
                  [They arrested a drug dealer].

In (7a), DOM makes mandatory the use of the preposition *a*; in (7b), the absence of the preposition makes the sentence ungrammatical. In Spanish, the conditions for DOM are: i. when the subject is not an agent, DOM is ungrammatical; ii. When the direct object is human and indefinite, DOM is optional; iii. When the direct object is inanimate and indefinite, DOM is ungrammatical (cf. TORREGO SALCEDO, 1999).

Notice that these three conditions are linked to referential properties of noun phrases: condition i. is linked to the grammatical subject; conditions ii. and iii. are linked to the direct object.

However, as Torrego Salcedo (1999) observes, these nominal conditions cannot explain the ungrammatical nature of (7b), above. In (7b), conditions i. and ii. are satisfied, that is, the (implicit) subject is agentive and the direct object is an indefinite human common noun. According to the above-mentioned conditions, DOM should be optional in (7b), but in reality, it is not.

The reason for that is that there is another condition, independent of referential properties, which turns the DOM mandatory: telicity. Sentence (7a) indicates a telic event, a well-defined culmination, and this aspectual factor triggers DOM.

Torrego Salcedo (1999, p. 1788) shows that DOM is associated to the telic character of the event so that the mark of DOM (the preposition *a*) leads to a change in the aspectual class of the verb:

(8a) Besaron un niño.
[They kissed a boy].

(8b) Besaron a un niño.
[They kissed a boy].

In (8a), the event is atelic, and the direct object refers to an unspecified boy (*niño*). In (8b), with the presence of DOM, the event is telic, and the boy is identifiable in a specific situation, although implicit.

The difference of aspectual class in the two sentences above is corroborated by the examples below:

(9a)　　　　*Besaron un niño en un segundo.
　　　　　　[They kissed a boy in a second].

(9b)　　　　 Besaron a un niño en un segundo.
　　　　　　[They kissed a boy in a second].

The adverb clause "*en un segundo*" bounds the event and is compatible with telic events and not with atelic events. Therefore, (9a) is an atelic event and (9b) is a telic event. The conclusion is that DOM, in Spanish, may lead to the indication of telicity, regardless of the referential properties of the noun phrases.

Now, let us move to Finnish. Several studies show that, in Finnish, DOM is sensitive to aspectual differences, especially the opposition between telic and atelic aspects (COMRIE, 1976; HOPPER; THOMPSON, 1980; WITZLACK-MAKAREVICH; SERŽANT; 2018).

Comrie (1976, p. 8) observes that the distinction between a telic and an atelic event can be marked, in Finnish, through the differential marking of the direct object, using different cases for the two types of events. The accusative case marks telic events while the partitive case is used when the event is atelic (the examples below are from Comrie, 1976, p. 8):

(10a)　　　　 Hän luki kirjaa.
　　　　　　 [He was reading the book].

(10b)　　　　 Hän luki kirjan.
　　　　　　 [He read the book].

The partitive case (example 10a) indicates that the action is incomplete and the accusative case (example 10b) marks a complete action with a higher degree of transitivity (HOPPER; THOMPSON, 1980).

According to Comrie (1976), the differential marking of the object, with the opposition between accusative and partitive cases, does not serve only to represent aspectual differences. The main function of this opposition, according to Comrie (1976), would be to distinguish the holistic effect (total affectation of the direct object) from the partial affectation of the object.

Therefore, the main function of the partitive case, in Finnish, would be to mark that only part of the direct object is affected by the action; the accusative case, in turn, indicates that the direct object is fully affected by the action. As such, the partitive case may occur in a telic predication, as long as the object is partially affected, as we can see in the example below (COMRIE, 1976, p. 8, footnote):

(11a)　　　　 Hän otti ruokaa
　　　　　　 [He got a part of the food].

Sentence (11a) contrasts with sentence (11b), which appears in the accusative, indicating the full affectedness of the object, although there is no aspectual difference in the two sentences:

(11b)　　　　 Hän otti ruoan
　　　　　　 [He got all the food].

In summary, the use of an atelic aspect is necessarily linked to the incomplete affectedness, while the telic aspect may or may not be linked to the incomplete affectedness.

Anyway, the partitive case, in Finnish, has the ability to lead to an aspectual change, giving an atelic interpretation to a telic verb, as we can see in the examples below (the examples and different interpretations are from Witzlack-Makarevich; Seržant, 2018, p. 16):

(12a)　　　*Hän avasi ikkunan*

He　open.3sg.pas.　window.acc.sg

[He opened the window].

(12b)　　　*Hän avasi ikkunaa*

He open.3sg.pas　window.part.sg

i. [He was opening the window].

ii. [He opened part of the window].

iii. [He opened the window for a moment].

iv. [He opened the window several times].

All four interpretations of (12b) imply an event structure without defined culmination.

Even if the use of the partitive case may be associated to telic events (cf. ex. 11ᵃ), factors linked to the event structure (such as telicity and affectedness) seem to condition the use of DOM in Finnish sentences, excluding the possibility of an explanation based solely on referential properties.

Iemmolo (2013) analyzes a series of languages (Finnish, ancient Greek, Hungarian, Russian, Georgian and others) that feature DOM conditioned by factors connected to event structure (such as telicity, affectedness, negative polarity) and not by factors connected to referential properties.

Therefore, there is robust typological evidence that the referential theory does not cover all DOM cases. In this context, two theoretical alternatives to deal with DOM remain. The first is to consider nominal and verbal factors independently of each other; the second is to consider that these two types of factors are linked to a common subjacent content. In the following section, I advocate for the second alternative.

5 INDIVIDUATED PORTIONS OF MATTER AND TIME: THE DOM CONDITIONING FACTOR

Different authors (BACH, 1981; 1986; JACKENDOFF, 1991; KRIFKA, 1998; PINKER, 2008) have observed that the aspectual classes work in the same way as the noun classes. More specifically, the division between telic and atelic events correspond to the division between count and mass nouns. About this relation, Pinker (2008, p. 238) states the following: "[…] just as in the realm of matter we beheld bounded objects (*cup*) and unbounded substances (*plastic*), in the realm of time we see bounded accomplishments (*draw a circle*]) and unbounded activities (*jog*).".

Bach (1986) finds the same symmetry in the conceptual division that speakers apply to time and matter. To Bach (1986, p. 64) the bounded portions of time (telic events) are analogous to the bounded portions of matter that compose count nouns.

Bach (1981, 1986) presents two tests (indivisibility and additivity) to identify the opposition between individuated and non-individuated portions. Indivisibility defines that no p-part[12] of an individuated portion corresponds to this portion.

Indivisibility applies both to count nouns and telic events. For example, no p-part of a horse is a horse (a horse's tail, obviously, does not constitute the whole horse). The same is true for a telic event: no p-part of the event *killing an enemy* is a *killing an enemy* (killing an enemy represents a complete event with a clear culmination; no part that does not correspond to the whole event may satisfy this completeness). Therefore, an imperfective, atelic event such as *John was killing an enemy* does not constitute the perfective, telic event, *John killed the enemy.* In other words, a telic event may not be divided into a part that does not correspond to the whole event.

Now let us apply the indivisibility test to a mass noun. In this case, any p-part of the noun corresponds to this noun. For example, any p-part of water is water. That is, mass nouns are not indivisible. The same happens to atelic events. Any p-part of walking is walking. Walking is an unbounded temporal portion, just like water is an unbounded portion of matter. Any time interval of walking still means walking.

The second test indicated by Bach (1981, 1986) is additivity. Additivity occurs when the sum of two portions of a determined substance results in the same substance. Therefore, a portion of water added to another portion of water results in the same substance (water). But when you add a bounded portion of matter (such as a horse) to other bounded portion of matter (another horse), the result is not the same type of portion, but two distinct individuals. As such, mass nouns present additivity and count nouns do not present this property.

The same conceptual distinction applies to events. A time interval of the atelic event of *being tense* added to another time interval of *being tense* results in the same unbounded event of *being tense.* But when we add up two telic events, such as *dying*, we have two distinct events of *dying*, and not the same one.

These two tests indicate that individuated portions of matter and time work in the same way, from the conceptual point of view. Count nouns and telic events are indivisible and non-additive. On the other hand, mass nouns and atelic events are divisible and additive.

From a conceptual point of view, time and matter are divided into two major ontological types: individuated portions x non-individuated portions. Individuated portions are indivisible and non-additive. Non-individuated portions are divisible and additive.

Now, I go back to DOM conditioning factors. First, in terms of nominal factors, it can be observed that the highest degrees in the animacy and definiteness hierarchies are first/second person-pronouns, proper names and definite nouns. That is, the highest terms in these hierarchies are expressions such as *I, you, Maria* and *the boy.* All of these terms are highly individuated. Therefore, DOM tends to mark portions of matter that are perceived as highly individuated.

In terms of the verbal factors that condition DOM, telic events are also highly individuated. I repeat below the Finnish examples:

(12a).   *Hän avasi ikkunan*
             He open.3sg.pas. window.acc.sg
             [He opened the window].

(12b).   *Hän avasi   ikkunaa*
             He open.3sg.pas window.part.sg
             i. [He was opening the window].
             ii. [He opened part of the window].

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[12] A p-part (proper part) of an object cannot be equal to the whole object.

iii. [He opened the window for a moment].
iv. [He opened the window several times].

The event described in (12ª) corresponds to an individuated portion of time and is presented as a discreet, complete and unique event, with a well-defined temporal interval. This case is differentially marked as an accusative case.

But the event in (12b) has no completeness and no well-defined time interval. That is why it is marked as a partitive case.

6 CONCLUSION

In summary, my hypothesis is that DOM marks material or temporal individuated portions. These individuated portions characterize highly transitive predications.

This proposal sheds new light on the question: what is the semantic generalization associated with transitivity? A consequence of my proposal is that prototypical transitivity is, to a great extent, coextensive with individuated portions of time and matter. If the hypothesis is correct, it implies an enormous simplification of the theory of transitivity. The conclusion is that just one property is necessary to characterize prototypical transitivity, instead of ten properties (HOPPER; THOMPSON, 1980).

The use of DOM is only part of the story: it appears when a grammar marks different degrees of transitivity. But the governing factor behind transitivity and DOM is the same: the presence of individuated portions of matter and time. Unfortunately, my proposal does not predict why or when DOM emerges in a grammar. It only establishes that the factor behind the use of DOM is the presence of individuated portions of matter and time in a predication.

Individuated portions are relevant from a pragmatic and cognitive point of view. The formal completeness of individuated portions is clear from the perceptual point of view (LISSNER, 2007, p. 35) and it is natural that it is linguistically marked.

Naess (2004) argues that affectedness is the fundamental property of DOM and that there is a correlation between affectedness and individuation. According to my hypothesis, even if affectedness may be a relevant property of prototypical transitivity, it is not the most fundamental one. Consider, for instance, the Punjabi sentences, cited above and repeated here:

(5)   *Kataab vekho.*
           livro olhar.IMP.2PL
           [See a book].

(6)   *Kataab nūū vekho.*
           livro ACC olhar.IMP.2PL[13]
           [See the book].

In those sentences, the most relevant property of DOM is individuation, not affectedness. It is not clear at all that a definite book is more affected by the act of seeing. The markedness of (6) is based solely on individuation. Affectedness is a hazy concept.

Entities with clear contours and defined forms are necessary to trigger DOM. Individuals, especially humans, and bounded events are the strongest candidates to be such entities.

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[13] ACC indicates accusative case. The accusative case is used differentially to mark definiteness.

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