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Naming strategies in the Spanish language of economics on the example of *agricultura* ('agriculture')

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Abstract. This paper concentrates on the naming strategies employed in the Spanish language of economics, particularly on two productive patterns: N+Adj. / N+P+N, which lead to formation of competing morpho-syntactic term variants that are supposed to be interchangeable in many contexts. We claim that to investigate this kind of term variation, which is scarcely represented in specialized dictionaries, to question the supposed equivalence between these two patterns and to find the principles that underlie the choice of one specific form are of a great importance. The discussion will be grounded on a case study of approx. 100 complex terms whose modifier is constituted by the concept AGRICULTURA ('agriculture'). This concept can be realized in Spanish either by an adjective (*producto agrícola* / *producto agrario*: 'agricultural product') or a prepositional phrase (*reforma de la agricultura*: 'agricultural reform'). After investigating the collected multi-word units and simultaneously the possible concept realizations, four identified possible factors that can influence this variation are going to be presented: geographic variation, lexical factors, domain of use and syntactic factors. On the basis of given examples, the assumed interchangeability of these term variants is questioned and the importance of further investigation of this issue is shown.

Keywords. Languages for special purposes, morpho-syntactic term variation, multi-word nominal units, Spanish language of economics, term variation.

1. Introduction

Among many naming strategies offered by the Spanish language for the formation of multi-word nominal units, two of them seem to be especially productive, namely: N+Adj. and N+P+N. In this paper the use of these two patterns in the language for special purposes will be investigated on the example of the domain of agricultural economics.

1.1. Research focus

This investigation focuses on two patterns that produce multi-word nominal units of type: N+Adj. (example 1) and N+P+N (example 2), where the preposition is most frequently *de* ('of'). These two structures are very productive, both in the general language and in the language for special purposes, and are typical not only for Spanish but for many other romance languages (Cabré; Feliu 2001: 75). The formation of these two patterns is well illustrated by the examples below:

- (1) *compañía automovilística* 'automotive company'
- (2) *compañía de automóviles* lit. 'company of cars'

The existence of these two structures is well known in linguistics and terminology. There seems however to be less interest in the investigation of the use of the variants produced on this way in the special communication. Mostly they are seen as term variants which can be used interchangeably and with no semantic or cognitive consequences for the receiver in a given context, like in the example from the press below (http://elpais.com/diario/1980/08/06/internacional/334360812_850215.html, access date: 03.10.2013):

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Es la sede de importantes empresas mecánicas, en particular los astilleros de Mitsubishi y la *compañía de automóviles* Toyo Kogyo, ésta, célebre por sus automóviles marca Mazda, se ha convertido en la segunda *compañía automovilística* del mundo, con una producción de más de un millón de vehículos por año.

In the course of this investigation we will try to show that this supposition is not always and in not all the contexts true and clear-cut. On the basis of the used materials, several factors will be presented which can influence this type of variation, also in the special communication, and which can guide the choice or preference of one form over the other.

1.2. Case of AGRICULTURE

For the purpose of this investigation only one concept in the position of the modifier in a nominal phrase was chosen: AGRICULTURA ('agriculture'). The research materials were taken from the area of agricultural economics, as this domain is broad enough to deliver sufficient and varied texts with rich and originally Spanish terminology.

In the position of the modifier in a nominal phrase this concept can be realized in the Spanish language mostly only in two ways: as an adjective (examples 3 and 4) or as a noun (example 5). In the first case the chosen concept can appear under two different relational adjectives: *agrario* ('agrarian') and *agrícola* ('agricultural'), which follow directly the head noun, as in the examples below:

- | | | | |
|-----|--------|--------------------------|-----------------------|
| (3) | N+Adj. | <i>insumos agrarios</i> | 'agrarian inputs' |
| (4) | N+Adj. | <i>insumos agrícolas</i> | 'agricultural inputs' |

The other mentioned option consists in using the noun *agricultura* in the position of the modifier, preceded by a preposition (mostly the preposition *de*) and optionally a definite article (the use of definite article in a nominal phrase in the structure of this kind is a topic of a different discussion and will not be considered in this paper), as shown below and illustrated by an example:

- | | | | |
|-----|-----------------------------------|----------------------------------|-------------------------|
| | preposition + (determiner) + noun | <i>de (la) agricultura</i> | 'of (the) agriculture' |
| (5) | N+P+N | <i>insumos de la agricultura</i> | 'inputs of agriculture' |

In the course of the investigation, another interesting possibility of realization of the concept AGRICULTURE was found, which is not very typical or productive in the romance languages, namely the combining form *agro-*, as shown in the example 6 below:

- | | | | |
|-----|--------------|--------------------|--------------|
| (6) | agro- + noun | <i>agroinsumos</i> | 'agroinputs' |
|-----|--------------|--------------------|--------------|

Although it is an interesting point in the research of the naming strategies used in Spanish, we will not focus on this form in this paper and leave it for another investigation.

2. Data and methodology

Although the chosen concept of AGRICULTURE is very common and productive and the field of agricultural economics itself is a very broad area of research, the search for appropriate data –multi-word nominal terms with this concept in the modifier– in dictionaries or glossaries remained as good as fruitless. The consulted general and specialized lexicographical sources deliver only a small amount of such terms and, if they do, they normally present little or no morpho-syntactic variation.

For this reason and in order to obtain enough representative data, a small corpus on the basis of real texts was created, using one professional Spanish journal: *Economía agraria y recursos naturales*, published online by the *Spanish Association of Agricultural Economics* (http://aeaa.webs.upv.es/aeaa/es/004_consultaarticulos.php, 03.10.2013). For this investigation 66 scientific articles of the domain of agricultural economics, written originally in Spanish and published in this journal between 2009 and 2012 were revised. In this way, approximately 100 noun phrases

containing the concept of AGRICULTURE in their modifier were extracted. Not all of the extracted phrases are terms *sensu stricto* but as the goal of this investigation is to look for patterns in the formation and use of complex units in the specialized communication and not their terminological character, they were taken into consideration in the same way as the common terms.

The collected data was a good starting point for the planned research. It did not though deliver all the possible variation. To make this information complete, other online sources had to be consulted and revised. We based this additional investigation on two Internet sources: the *Contemporary Spanish Corpus* managed by the *Royal Spanish Academy* (<http://corpus.rae.es/creanet.html>, access date: 03.10.2013) and *Google Books*. For some specific questions, newspaper resources available online were also consulted, for example the data available online from the Spanish newspapers *El Mundo* (<http://www.elmundo.es/>, access date: 03.10.2013) and *El País* (<http://elpais.com/>, access date: 03.10.2013).

3. Theoretical background

Before presenting the results of this investigation and discussing the identified reasons for the term variation in question, a short overview of the theoretical background concerning this issue will be presented in this section, taking into consideration both the traditional linguistic and grammatical perspective as well as the terminological one.

3.1. Traditional views

As the terminological units are specialized values of the lexical units, the same linguistic description should be used for the term investigation (Cabré 2006: 141). In order to revise traditional views concerning the morpho-syntactic variation of type N+Adj. / N+P+N in Spanish, two reference grammars for this language compiled and published by the *Royal Spanish Academy* were consulted: the *Gramática descriptiva de la lengua española* from 1999 and the *Nueva gramática de la lengua española* from 2009.

The authors of these detailed grammatical compilations describe these specific structures as a syntactic group with a head and its modifier, which can be a relational adjective (mostly of a qualifying character) or a prepositional complement. The relation between these two possible modifiers is explained as follows (RAE 2009: 982):

Se obtiene en muchos casos la equivalencia del adjetivo relacional con un grupo preposicional encabezado por la preposición *de*, como en los pares siguientes: *castigo* {divino ~ *de Dios*}; *conflicto* {estudiantil ~ *de los estudiantes*}, *deterioro* {ambiental ~ *del ambiente*}; *empleado* {estatal ~ *del Estado*}; *problemas* {cardíacos ~ *del corazón*}; *tarjetas* {navideñas ~ *de Navidad*}.

As seen here, these two morpho-syntactic variants can be used as synonyms. The grammar mentions that this equivalence is possible in many contexts, it does not however explain in detail on what factors does this interchangeability exactly depend on. Only some differences in use of these two structures are mentioned, for example it is said that the prepositional phrase of type *de* + N does not always express the exact same sense as the respective relational adjective, so these two phrases are not semantically equivalent (RAE 2009: 983):

Los grupos preposicionales encabezados por *de* admiten una amplia variedad de significados [...]. Las paráfrasis de los adjetivos de relación con «*de* + sustantivo o grupo nominal» son muy comunes (*el viaje presidencial* ~ *el viaje del presidente*), pero no extienden a todos los casos. Por ejemplo, la expresión *salida laboral* designa la relativa a un posible trabajo futuro (y no, en cambio, la de los trabajadores al final de una jornada) [...]. Existen otros muchos casos parecidos que requieren también paráfrasis particulares, en su mayor parte más específicas que las que pueden construirse con «*de* + sustantivo o grupo nominal».

It is shortly mentioned as well that the use of the relational adjective or the prepositional phrase with *de* as the modifier can be dependent on the context (RAE 2009: 983) or on some lexical restrictions of the derivational base of the adjective (RAE 2009: 984).

To sum up, the consulted grammars do mention the issue of equivalence between the structures of type N+Adj. and N+P+N. You can find information that their interchangeability is possible in many contexts without meaning change. It is also mentioned that there are some semantic, pragmatic and lexical restrictions which may influence the equivalence of these forms, it is however not explained in detail what factors can have influence on this process.

3.2. Term variation

As the source of our investigation is the language for special proposes used in the field of agricultural economics, it is also interesting to look at the morpho-syntactic variation of type N+Adj. / N+P+N from the terminological perspective.

It is a well known fact that after the initial rejection of the existence of variation in the terminology, it is now mostly accepted that this initial biunivocity of terms can no longer be defended (Freixa; Montané 2006: 190). What now is an important issue for the terminologists is the description and distinction of the identified variation.

For this paper two investigations concerning term variants were taken as reference: the distinction made by Montiel-Ponsoda, Aguado-de-Cea and McCrae (2011) for the purpose of the *lemon* project, as it compiles various theories, and the distinction made by Cabré (2008), as it refers mainly to Spanish.

Montiel-Ponsoda, Aguado-de-Cea and McCrae (2011: 48) distinguish between two types of term variants: term variants that are semantically coincident but formally different and term variants that are semantically and formally different. To the first group belong the following types of variants:

1. graphical and orthographical variants (*localization* vs. *localisation*)
2. inflectional variants (*cat* vs. *cats*)
3. morpho-syntactic variants (*nitrogen fixation* vs. *fixation of nitrogen*)

This first group is described by Cabré as term synonymy without cognitive consequences (Cabré 2008: 27). The use of one form or another does not change the way in which the concept is being represented. The denominative variation takes place in the form but does not produce meaning distortion (Cabré 2008: 32).

The second group of term variants according to Montiel-Ponsoda, Aguado-de-Cea and McCrae -term variants which are semantically and formally different- is described in the following words (2011: 48):

[...] terms that correspond to one and the same concept, but whose usage reflects a different aspect of the concept or a different intention on the side of the user. [...] It means that the use of one term or the other is conditioned by a certain cognitive intention and highlights certain dimensions or features of the concept that will make its use more appropriate in certain situations.

The authors give the following list of possible terms variants belonging to this group:

1. stylistic or connotative variants (*man* vs. *bloke*)
2. dialectal variants (*gasoline* vs. *petrol*)
3. pragmatic or register variants (*headache* vs. *cephalalgia*)
4. diachronic variants (*tuberculosis* vs. *phthisis*)

5. domain or concept dimension variants (*swine flu* vs. *pig flu* vs. *H1N1* vs. *Mexic pandemic flu*)
6. explicative variants (*immigration law* vs. *law for regulating and controlling immigration*)

Cabré describes this second group of term variants as term synonymy with cognitive consequences, where the choice to use one term variant to name the same object could depend on the cognitive intention of the user and, obviously, it has cognitive consequences for the receiver (Cabré 2008: 29).

Having presented this term variants distinction, the variation of type N+Adj. / N+P+N, which is the topic of our investigation, can be found in the first group under the point “morpho-syntactic variation”. As it was said, in this kind of term variation there is no cognitive intention on part of the user and, consequently, no cognitive consequences for the receiver are given. This supposition seems to be true in most cases, just like it was mentioned by the grammars consulted in the previous subsection. Nevertheless, the use of the morpho-syntactic term variants is not always so clear-cut and, as we will show it in the next part of this paper, there are some factors which can influence and distort their expected semantic and cognitive equivalence.

4. Factors which can influence the variation

It would be probably impossible to enumerate all the possible factors which can influence the term variation of type N+Adj. / N+P+N in Spanish and distort the expected interchangeability of these two structures. The main reason for this is that these factors are in most cases unpredictable and depend on such items like the special lexical background of each term (in this case it is the linguistic realization of the concept AGRICULTURE), on the domain in which the special communication takes place (in this cases it is the domain of agricultural economics) and many other unforeseeable elements.

In this section only four such factors, which could be identified on the basis of the small corpus created for this purpose, will be presented: geographic variation, lexical factors, domain of use and syntactic factors.

4.1. Geographic variation

In the case of the concept AGRICULTURE, Spanish offers two possible adjectives: *agrícola* and *agrario*. Although the linguistic origin of these two adjectives is different (Latin *agricōla* in the case of *agrícola* and *agrarius* in the case of *agrario*) and their lexicographical description stresses distinct perspectives (relation to agriculture in the case of *agrícola* and relation to field in the case of *agrario*), no difference in their use can be observed. They seem to be applied as synonyms that are interchangeable in almost every context.

For this reason, it was interesting to observe some preference in use of these two adjectives in the data collected in the course of this investigation as far as the geographic variation is concerned. At first glance, the frequency of use of *agrícola* and *agrario* seemed to be different in texts written in Spain and other Spanish speaking countries.

To confirm this supposition, the head nouns of the twelve most frequent multi-word terms of the collected data (*actividades, desarrollo, explotación, maquinaria, política, prácticas, producción, productores, productos, sector, trabajadores, uso*) were taken and their occurrence with these two adjectives in the *Contemporary Spanish Corpus* of the *Royal Spanish Academy*, which allows the search not only in Spanish but also in many Latin-American sources, was compared. The results are presented graphically in the Fig. 1 and Fig. 2 below.

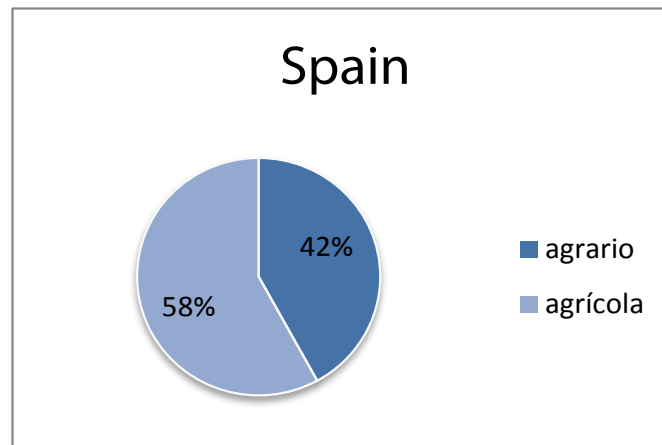


Figure 1: Frequency of use of *agrario* and *agrícola* in Spain

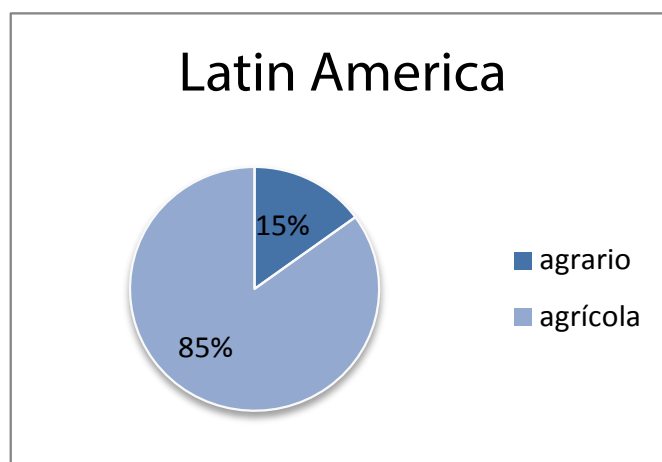


Figure 2: Frequency of use of *agrario* and *agrícola* in Latin America

These graphics, which base only on a small amount of data, show some tendency to use the adjective *agrícola* frequently than *agrario* in the position of the modifier in a nominal phrase in Latin America, whereas the use of the competing adjectives *agrícola* and *agrario* in the same position in the peninsular Spanish seems to be more balanced. Of course, in order to confirm this tendency a greater amount of data should be investigated in a more systematic way. However, on the basis of this limited search you can observe a certain preference which is absolute possible taking into consideration the existing geographic variation of Spanish and which can influence the language for special purposes as well. In this way, the geographic variation can affect the use of one specific adjective as the modifier in a nominal phrase and distort the previously supposed interchangeability of these two adjectives.

4.2. Lexical factors

In the last subsection possible differences in the use of multi-word terms were mentioned that do not depend on the head noun of the phrase but are due to the geographic language variation of the adjective used in the modifier. In this subsection we would like to discuss some lexical factors which can also influence the variation in question and which are directly related with the head noun in this kind of nominal phrases.

The supposition that we would like to discuss here is whether the user prefers to use in a specific context one of the variants (with adjectival or nominal modifier) in order to avoid confusion or homonymy in the communication. This could take place in the case of polysemous head nouns, like in the example below:

- (7) *área*: sense 1: 'land, field'
 sense 2: 'sector'

As you see, the Spanish noun *área* has two different meanings. The question is whether this head noun combines either with the adjectival modifier or with the nominal modifier in multi-word phrases in order to stress one of these meanings. To look at this question with more detail, 32 newspaper articles available online on the website of the Spanish newspaper *El Mundo* containing this phrase with both types of modifier were consulted and their meaning was determined. The results are presented in the Tab. 1 below:

	<i>área agraria</i> <i>área agrícola</i>	<i>área de (la) agricultura</i>
'land, field'	18/20	0/12
'sector'	2/20	12/12

Table 1: Use of *área* as the head noun

In this case, the preference to use one type of modifier with one meaning of the head noun is clear: the adjectival modifier combines more frequently with the meaning of 'land, field' and the nominal one with the meaning of 'sector'. There are of course many such examples (an interesting case in our corpus was the separation of the terms: *campaña agraria* / *campaña agrícola* with the meaning 'agricultural season' and *campaña de agricultura* with the meaning 'campaign concerning agriculture'.) and each head noun should be always considered separately. It seems that there is no regularity in this process and each case depends on the specific head noun and its use. It should be however always taken into consideration that this tendency to avoid homonymy among the users can take place, also in the specialized communication, and it can have influence on the term variation. In the case of the morpho-syntactic variation of type N+Adj. / N+P+N, this fact affects the modifier and the expected equivalence between the adjectival and nominal phrase in this position.

4.3. Domain of use

Other interesting factor which can influence the term variation in question and the assumed equivalence of term variants is the domain of use, understood as some established linguistic tradition existing in a specific domain. In the case of the investigated corpus of agricultural economics one such recurrent pattern could be identified: the one regarding names of official institutions, like ministries and similar bodies. It seems that for these names only one specific model is used: N+de+N, leaving the other variant with adjectival modifier aside. Consider the following example:

- (8) *Ministerio de Agricultura, Alimentación y Medio Ambiente*
 'Ministry of Agriculture, Food and Environment'

The same pattern can be found in the names of all present Spanish ministries as the only existing form (the term variant with relational adjective as the modifier is not used). This model is applied not only to the names of ministries but also to other similar state institutions, for example to the names of the Spanish regional ministries called *Consejerías*, like in the example below.

- (9) *Consejería de Agricultura y Pesca* 'Regional Ministry of Agriculture and Fishery'

The tradition to use this variant affects not only the names of institutions but also the people holding positions in them:

- (10) *Ministro de Agricultura* 'Minister of Agriculture'

As this domain of use crosses now the national borders, the pattern N+de+N can also be found in the names of new international and European institutions:

- (11) *Consejo de Agricultura y Pesca* 'Agriculture and Fisheries Council'

Of course, in the case of some names it is also possible to form the variant with the adjectival modifier (*ministerio agrario; ministro agrícola*). It is however rarely used and sounds much more colloquially. In many cases there is no respective adjective existing (*Ministerio de Fomento, Ministerio de Asuntos Exteriores*, etc.), so the variant containing prepositional phrase in the modifier dominates even more the naming tradition in this domain of use.

The tradition presented above to use the variant N+de+N for the names of state and similar institutions is well known and typical for the investigated domain of agricultural economics. It is to expect that each domain has its own established linguistic traditions which are obvious and well known for the experts or people familiar with the domain in question. The issue of such domains of use is very important in the investigated term variation because these established traditions influence the use of term variants, making one form the only accepted one in this specific context and questioning in this way the absolute synonymy between term variants of type N+Adj. / N+P+N.

4.4. Syntactic factors

The last point which we would like to discuss among the factors that can influence the term variation in question refers to syntactic factors, that means to some grammatical or lexical restrictions of the phrase constituents or the whole phrase, making the use of one variant impossible or restricted. This issue will be discussed on two examples: the case of negation and complex modifier.

4.4.1. Negation

In the investigated texts a few terms with negated adjectival modifier were found. In this case it is impossible to form the potential variant with negated prepositional phrase as equivalent, as it is shown in the example below:

- (12) *ingresos no agrarios / ingresos no agrícolas*
'non-agrarian incomes' / 'non-agricultural incomes'
**ingresos de no agricultura / *ingresos no de agricultura*

The same applies to other examples found in the corpus, where the formation of the equivalent modifier with a prepositional phrase containing negation is also restricted:

- (13) *bienes no agrarios / bienes no agrícolas*
'non-agrarian goods' / 'non-agricultural goods'
- (14) *actividades no agrarias / actividades no agrícolas*
'non-agrarian activities' / 'non-agricultural activities'

These restrictions are not always predictable but, as seen on the examples above, they are significant in the investigation of the term variation in question, as they make the use of one of the term variants impossible and distort their expected equivalence in every context.

4.4.2. Complex modifier

Other interesting case to be discussed here is the case of multi-word terms with a complex modifier in form of a prepositional phrase containing a noun and an adjective or of an adjectival phrase containing two adjectives. On the basis of the examined corpus, a preference for the first of the above presented options could be assumed. In order to confirm this supposition, Google Books frequencies were consulted (numbers in brackets next to the examples below). Consider the following examples:

- (15) *sistema de agricultura orgánica* (130)
'system of organic agriculture'
sistema agrario orgánico / sistema agrícola orgánico (15)
'organic agrarian system' / 'organic agricultural system'
- (16) *modelo de agricultura familiar* (547)
'model of family agriculture'
modelo agrario familiar / modelo agrícola familiar (3)
'family agrarian model' / 'family agricultural model'
- (17) *región de agricultura intensiva* (52)
'region of intensive agriculture'
región agraria intensiva / región agrícola intensiva (7)
'agrarian intensive region' / 'agricultural intensive region'

On the basis of these examples, in the case of such complex modifier, the preference to use prepositional phrase rather than the adjectival one seems to be clear. One of the possible explanations for this fact could be to avoid misunderstanding – when using two adjectives, the relation between the phrase constituents is not always so clear like in the case of the prepositional structure.

The given examples represent a very specific structure, where we can only talk about a certain preference to use one form more likely than the other. It is however important to take such preference into consideration when investigating the term variants in question as it shows how dependent their equivalence can be on different factors.

5. Conclusions

The naming strategies of type N+Adj. / N+P+N, so typical for the romance languages, are an important factor in the term formation and term variation in the Spanish language for special purposes. The morpho-syntactic term variants formed according to these two patterns seem to be equivalent in many contexts and their exchange in the text seems to have no cognitive or semantic consequences.

The discussion whether this supposition is always true was based on multi-word nominal terms belonging to the field of agricultural economics having the concept of AGRICULTURE in the position of their modifier (*sistema agrario – sistema agrícola – sistema de (la) agricultura*). On the basis of the elaborated corpus a few factors which can distort this expected equivalence between the nominal phrases of type N+Adj. and N+P+N could be identified – factors which represent only a small sample of possible reasons that can influence the variation in question.

The presented examples and cases show that the variation of type N+Adj. / N+P+N is not free and it cannot always be assumed that these two morpho-syntactic variants are interchangeable without cognitive consequences in every context. Each case should be considered separately and in reference to the domain in question. This statement has significant consequences not only for terminologists and terminographers but also for experts and translators and other groups interested in the correct use of terms in context.

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