

From epistemic neurolinguistics to metaphor in discourse

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Abstract

In Maurice Toussaint's epistemic neurosemantics, metaphor is explained in terms of a process that moves from a general state to a specific one, rather than distinguishing between literal meanings and figurative meanings in a static approach. Metaphor is thus defined in dynamic-topological terms, as an initial position in this process. Words are "deformable", so that they can undergo this process "in context" cyclically. Besides offering insights for cognitive operations in real time in the brain, key properties in this explanation are compatible with a dynamic approach to discourse construction, where units including metaphorical constituents are built into larger ones in a general connection process resulting in a constituent structure for discourse. In this way, Toussaint's pioneering insights are validated within the framework of a dynamic approach to discourse construction, which has implications for the role of discourse structure in solving the reader's paradox, the existence of different interpretations of the same text.

Keywords: discourse construction, epistemic neurosemantics, Maurice Toussaint, metaphor, reader's paradox.

Resumen

En la neurosemántica epistémica de Maurice Toussaint, la metáfora se explica como proceso que va de un estado general a uno específico, en lugar de significados literales y figurados estáticos, definiéndose en términos dinámico-topológicos, como posición inicial en este proceso. Las palabras son "deformables", ya que experimentan este proceso "en contexto" cíclicamente. Además de ofrecer hipótesis sobre las operaciones cognitivas en tiempo real del cerebro, las propiedades claves de esta explicación son compatibles con un enfoque dinámico de la construcción del discurso. Las unidades, incluidas las metafóricas, se construyen en unidades mayores en un proceso general de conexión que da lugar a una estructura de constituyentes del discurso. Las ideas pioneras de Toussaint resultan validadas en el marco de un enfoque dinámico de la construcción del discurso, que tiene implicaciones sobre el papel de la estructura de discurso en la solución de la paradoja del lector, la existencia de diferentes interpretaciones de un mismo texto.

Palabras clave: construcción del discurso, neurosemántica epistémica, Maurice Toussaint, metáfora, paradoja del lector.

Every word must be deformable [...] sense makes no sense out of a context.

Maurice Toussaint (2007: 416)¹.

1. Introduction

Maurice Toussaint's (2007) approach to metaphor is yet another extension of his epistemic neurosemantics. Here I will try to reinterpret his explanation of metaphor in section 2 in order to show how some of his insights are basic components of a dynamic approach to discourse. It is applied to a newspaper column in section 3 and specifically to metaphor in discourse in section 4. I conclude in section 5 that Toussaint was a pioneer whose work on language offers valuable insights for a discourse construction approach.

2. Reinterpreting metaphor in epistemic neurolinguistics

2.1. Epistemic neurolinguistics

Maurice Toussaint was both a pioneer and a dissenter. Even if he was most loyal to Guillaume's theory in developing his own, at least to Guillaume's "esprit" (Valette, 2006: 239), he was considered a dissenter (Tollis, 2011: 255; see also Tollis, 2013: 20, and Tollis, 1991: chapter 2). He was a pioneer in dissenting not only from his departing point, Guillaume's theory, but also from the accepted tenets of structuralism, mostly the lack of motivation or iconicity of the language sign, and the static nature of linguistic structure. To this Toussaint opposed the foundations of a highly creative approach to language, ranging from sound to syntax and semantics

¹ «Es preciso que cada palabra sea deformable [...] el sentido no tiene sentido fuera de un contexto». These pages are dedicated to Maurice Toussaint, colleague and friend since our Cáceres times at the Universidad de Extremadura, in remembrance of our conversations that started there and were taken up in Louvain and Paris as well as in Madrid, first in French and then in Maurice's clear and distinct Spanish and always back to his elegant French. His was a *foisonnement de l'esprit*, a splendor of the mind. The first time I saw him, I remember he was saying that word, *foisonnement*, abundance, opening his arms wide in conversation with colleagues in his Cáceres office. Those were the years of Toussaint's 1978 and 1979 articles, and my ever first ones, inspired by our warm and interesting conversations, «las conversaciones cálidas y llenas de interés mantenidas con él» (Garrido, 1979: 30). The title of this text follows the pattern of Toussaint's (1996) one. This text is part of the research project FFI2010-20862 "Grammar and discourse" of the Spanish Ministry of Science and Innovation, within the UCM 930485 Research Group "Dime: Discourse in the Media", <http://www.ucm.es/info/dime/>; it has been improved by the useful comments of two anonymous reviewers.

and, in the later stages, to writing, where he would find facts at all levels that could both explain his approach and be explained by it in an enlightening way². Here I will try to show some of the pioneering aspects of his theory as they apply to metaphor.

Regarding metaphor, the epistemological component in Toussaint's theory has to do with his claim that lexical units do not represent a given object in themselves, just as the speaker is not there when the process of speaking starts: in his view, the subject is the result of a construction, not a source, as Tollis (1991: 93) reminds us. In this very first step of performance (his is a dynamic model), a vague or undefined piece of information, a "motif" in Cadiot and Visetti's (2006) term quoted by Toussaint, is related or gives access to several different words. For example, darkness relates to sin, damnation, misfortune, and so on: through this connection, the word 'shadow' is the starting point for a metaphor related to any or to several of the corresponding words. This is why metaphor is a starting point, not an end point in the meaning construction process. 'Shadow', in this first stage of usage, is deprived of much of its information, since only the darkness component is being used. So, 'shadow' does not refer to a specific situation having to do with light and its absence, unless the process continues, an object in a given situation is aimed at, and the information about the speaker in that situation is involved.

In this way, Toussaint's approach is dynamic-topological: results are obtained according to the path described in the process. In Cameron's (2009: 66) terms, "The trajectory or path represents the actual states that the system moves through and remains as a trace of the system activity after the event". Toussaint's process starts in the most general and least differentiated stage of meaning construction and can be stopped at any stage including the final one, where meaning is the most specific ("particularized"). In this way, metaphor does not consist for Toussaint in eliminating features of lexical meaning, but rather in not adding them.

2.2. Reinterpreting epistemic neurolinguistics

This process of going from something general to something particular can be also taken to be the process by which the speaker situates the object by quantifying the frame connected to 'shadow' and by relating it if necessary to the speaker's coordinates: 'a shadow',

² In his lecture on March 2, 2009, at the Complutense University of Madrid «La neurolingüística epistemológica y la forma de la comunicación», Maurice Toussaint included Chinese writing data from Daria Toussaint (2005). Students in the course were ravished by his explanations. One of the students wrote: "Toussaint's lecture was most interesting. [...] To me, it was enlightening [...], most clarifying of many phenomena not only grammatical but also literary" («la conferencia de Toussaint fue de lo más interesante. [...] Para mí, fue iluminadora [...], muy clarificadora de infinidad de fenómenos no solo gramaticales sino también literarios»).

'those shadows', 'the shadow of violence'. This is my first reinterpretation of this basic operation in Toussaint's neurolinguistics: instead of a linear process that repeats itself in a cyclical way, its main properties are integrated in a different process of construction of a constituent in the structure, with its quantifying and deictical information, which may in turn be a component of a higher and larger constituent in the structure; for instance, a noun phrase built into a verb phrase to give out the higher unit, a clause; and so on.

Subject and object (of knowledge), in Toussaint's epistemological terms, are not involved in the first stage of meaning construction, since lexical units are not directly connected to specific objects, nor to specific speakers. In other words, subject and object are not present at first, and they become present when time and space information as well as noun phrase scope and verbal aspect are specified. I reinterpret here Toussaint's epistemological approach to subject and object as the cognitive activity of the speakers, including the presence of speakers and their surrounding world, in terms of entities and events, involved in the speakers' expressions. Lexical units are accessed by way of a given piece of information, like the information about darkness leading to the word 'shadow' in the example above. Lexical units are then bound by deictical information, both in terms of internal quantification (noun inflection and nominal scope, either generic or specific; verbal aspect, either imperfective or perfective) and in terms of the speaker's coordinates (person and place nominal deixis, time verbal deixis); and all this happens in an organized way according to the syntactic constituent structure of the unit.

Toussaint's model makes of this operation, and its reversal, the foundation of very different explanations of linguistic facts (see Tollis, 2011, 2013). He claims that this "oscillation" or vibration is going on in the brain, so that he calls his approach neurolinguistic, building from Gustave Guillaume's "chronogenesis" that inspired him (see Tollis, 2011 and Valette, 2003). Going from the very general to the very specific and then backwards can be represented, like the simple sound wave, by a sine curve, so that the model is "sinusoidal", that is, it works in cycles. In this respect Toussaint's is what Feldman (2006) calls a "bridging theory", because this hypothesis provides the basic linguistic operation that must take place in the brain as an operation.

There is a wide range of topics where he applies his model: time and aspect, nouns and verbs, anteposition and postposition in word order, indefinite and definite article. The same process is carried out when dealing with the meaning as it is with the sound: first the singular, with the singular sound marking, then the plural, with the plural sound marking. The classic version is, of course, Guillaume's operation within the verb: first the general, nonfinite forms, then the specific, finite forms; or the articles, first a movement from the general to the specific, from definite to indefinite article, and then on to the general, from a specific indefinite article to a non-specific one, and then to a generic definite article.

Since the process applies both to sound and meaning, it is only natural that Toussaint extends it to the difference between metaphor or figurative meaning and literal meaning. He goes into my direction when he writes: “When we think of the ‘literal meaning’ of a noun we think of its specific scope and not of its generic one; the specific value is to the generic one as the literal meaning to the figurative one” (Toussaint, 2007, n. 13: “cuando se piensa en el ‘sentido propio’ de un nombre se piensa en su valor específico y no en el genérico; el específico es al genérico como el propio es al figurado”).

2.3. Metaphor and frames

If we consider a lexical meaning in terms of a frame representation, with links to other meaning frames, then we can see Toussaint’s basic operation as the process of a frame being accessed through one of its components before it is fully activated (specified) by its connections with other units in the sentence. So, ‘shadow’ is darkness, in Toussaint’s terms, before it becomes a real shadow in a sentence like ‘The shadow of the building was long’. A search on the internet gives as first results in news occurrences that are “metaphorical”, that is, not dealing with the lack of light behind an illuminated object, but rather with problems (‘cast shadow’, ‘casts a dark shadow’, ‘the shadow of doping’, ‘in the shadow of violence’), people or institutions (Pope Francis’ shadow, shadow government, shadow bank) that are “dark”, that is, scandals and violence, or, like a shadow, accompany the other, “lighted” entity, like the Pope, the government, or the banking system, but hiding in a way (the Pope’s shadow turns out to be his secretary: “Pope Francis now counts on the discreet presence of his new, 49-year-old Argentinean secretary”).

- Filner Scandal Casts Shadow On San Diego Recovery
- Tour De France Racers Want To Leave Shadow Of Doping Behind
- Critics, like many of those here at Foreign Policy’s Shadow Government blog, noted that any hope for the future depended on Egypt truly...
- Pope Francis’ shadow: Monsignor Pedacchio Leaniz
- Weak rupee may cast dark shadow on IISJ [India International Jewellery Show]
- In the shadow of violence, the Bengal panchayat elections come close to Kolkata on Friday, with three neighbouring districts going to elect...
- In the third and final dev diary for the remake of Prince of Persia 2: The Shadow and the Flame, studio content manager Vincent Monnier...
- US Politicians Seduced by Iran’s Shadow Government
- Castlevania: Lords of Shadow 2 Gallery – Miserable Pile of Secrets [a computer game]
- Three Chinese bankers arrested for bribery in shadow bank case.

In a well-known change process, the abstract meaning takes over the concrete one, so that ‘shadow’ is more frequent with its “dark” component. In the examples above, the names of a movie (‘The Shadow and the Flame’) and of a computer game (‘Lords of Shadow’) of course play on the metaphorical.

A fundamental tenet of Toussaint's approach is iconicity. He was a pioneer in 1983 of later developments in linguistics, including the present embodiment theory (Bergen and Feldman, 2006) of metaphor and grammar. Iconicity is part and parcel of his basic operation generating anything in language. Let us remember one of Toussaint's favorite examples of iconicity, singular versus plural:

A subsequent neurosemantic element, the plural, is translated by a subsequent articulation, a previous signifier by a previous signifier [...]; the brain carries out an analysis of meanings and produces and dictates to language the gestures that mimic this analysis. (Author's translation of Toussaint, 1983: 54: Un élément neurosémantique ultérieur, le pluriel, est traduit par une articulation ultérieure, un signifié antérieur par un signifiant antérieur [...]; le cerveau élabore une analyse des signifiés et compose, et dicte à la langue, les gestes qui miment cette analyse.)

Iconicity in the 'shadow' example involves the resemblance between the lack of light because an object blocks it with either the negative, vague information of problems and crimes, or the fact that it accompanies the object blocking the light but is not visible like it. All these things, banks, secretaries, violence, governments, resemble shadows in either or both ways, their hiding in relation to another entity, and their relationship to evil, in the way shadows oppose and accompany lights.

2.4. Context adjustment as discourse grammar

The other important point in Toussaint's approach is actually the foundation to a discourse-grammar approach: the adjustment process taking place in metaphor:

There are no metaphorical words. There are metaphorical phenomena that raise a problem of context. But this is not exclusive of metaphor (Author's translation of Toussaint, 2007: 414: No hay palabras metafóricas. Hay fenómenos metafóricos que plantean un problema de contexto. Pero esto no es exclusivo de la metáfora.)

Summing up, Toussaint's model is dynamic (lexical meanings are not ready-made), performance oriented (there is a process of meaning construction), cognitive (iconicity, embodiment, culturally built lexical meanings), and contextual (they adjust to context). I replace his basic neurosemantic operation with a grammatical operation: the adjustment to context takes place through unit construction, from the lexical unit to the phrase through the clause and the sentence to discourse and up to text. This amounts to claiming that metaphor and discourse both belong to grammar.

Moreover, his epistemological approach to subject and object is replaced both with frame management, where one frame is reduced or extended with other frames as components, and with reference and quantification, that bind entities to the here and

now and involve the presence of the speakers and hearers, both representing entities and speech participants in the linguistic process and in its result, the processed linguistic units. I will now place both aspects, dynamic and epistemologic, in the specific framework of discourse construction.

We will find some of the above mentioned insights about language as well as metaphor in a discourse construction approach to language.

3. Dynamic discourse construction

3.1. Discourse constituent structure

The key to considering context as discourse is to use units wider than the sentence, so that context is the information required by a sentence in order to be adjusted to the larger unit where it fits (Garrido, 2003). A sentence fits into the conversational move or into the written paragraph where it appears; but, instead of these text type units, the dialogue move or the written paragraph, we need units that reflect the inner structure of discourse (Garrido, 1998), in terms of a discourse constituent structure (Garrido, 2013), where lexical units crucially contribute to the structure (Garrido, 1992). A discourse is an ordered set of sentences uttered or written by speech participants, packaged into a text type, such as a news item (Garrido, 2000, 2009). Sentences or elementary discourse units are built into discourse constituents or complex discourse units, in a similar way to what Grosz and Sidner call “discourse segments”: “Just as the words in a single sentence form constituent phrases, the utterances in a discourse are naturally aggregated into discourse segments” (Grosz and Sidner, 1986: 177). These elementary units are joined by means of relations, for instance about 60 different ones for Asher and Lascarides (2003), or 400 or more as reported by Grosz and Sidner (1986) for other researchers.

My approach here, applied to a newspaper column for an example, is to consider two basic relations that build, just as in sentence syntax, two kinds of constituents, hypotactic and paratactic, which are recursively included in larger constituents, thus rendering a discourse constituent structure for any given stretch of text. Rhetorical relations, such as narration or elaboration, result from the lexical items and the constituents in key positions in the structure.

3.2. Dynamic units and relations

Let us consider the first three sentences in Manuel Vicent’s column “Erotismo”, “Eroticism”, published in *El País* on 22.09.2012.

- (1) Independencia es una palabra muy cálida que enciende el corazón de los jóvenes. Independence is a very warm word that sets the hearts of the young on fire.
- (2) Más o menos eso dice John Wayne sentado con las piernas extendidas en lo alto de la muralla del fuerte del Álamo mientras fuma un cigarro ante una puesta de sol que dora su frente.
More or less so says John Wayne sitting with legs outstretched at the top of the fort wall of the Alamo, smoking a cigar while the sunset gilds his forehead.
- (3) Una vez pronunciada esa palabra fervientemente por la multitud ya es muy difícil detenerse.
Once that word is pronounced fervently by the crowd, it is very difficult to stop.

The nominal anaphor in (2) ‘more or less so’ refers to (1), so that we have what Wolf and Gibson (2005) define as an attribution relation between the two, characterized by the verb ‘dice’, ‘says’. In the attribution relation, the source is the satellite, the attributed is the nucleus, in Mann and Thompson’s (1988: 245) terms.

Let us define the relation of nucleus and satellite (subordination in sentence syntax, or hypotaxis in discourse syntax if we want to stress the difference) in terms of the information the units represent: the satellite’s information is included in the representation of the nucleus. In terms of frames, the satellite’s information is part of the frame represented by the nucleus. The fact that John Wayne says that is a piece of information included in the frame about the effect the word ‘independence’ has in young people.

A frame is “any kind of experience-based conceptual structure or relation that constitutes the experiential background for understanding particular lexical meanings” (Fillmore *et al.*, 2012: 284); frames are what Vicente and Groefsema (2013) call structured conceptual representation. When placed in certain positions, constructed according to their properties, lexical units select or force the way their meaning contribution is connected to the other components, in “a lexically driven operation of coercion” (Pustejovsky and Jezek, 2008: 186). They extract the extra information they require from the higher unit into which they are connected (Garrido, 2003), which often involves the lexical unit or the phrase that has scope over the item in question; for instance, ‘good’ in ‘a good knife’ extracts the information about good for cutting with it from ‘knife’, and the information about good for reading it or about well written from ‘novel’ in ‘a good novel’.

In terms of quantification and scope, the frame connected to ‘independence as a word’ is extended in (1) to include the information of its effect in young people, in generic terms and with a present verb time that represents a state, not constrained or limited in time. Then in (2) the information that John Wayne said that is added, a piece of information anchored in a given time and place, the sunset at The Alamo, with a proper noun phrase, ‘John Wayne’, and a verb in the narrative present, ‘dice’,

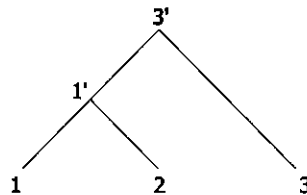
'says'. Notice that the meaning of 'independence' as well as the whole unit (1) is dynamic in the discourse, since adding unit (2) extends their frame. It now has the extra information that John Wayne said it. The fact that constituent (1) to (2) is endocentric and has (1) as its nucleus can be represented, in the Jackendoff x-bar tradition, with a prime, so that (1') stands for the constituent (1) to (2) where (1) is the nucleus.

The following unit, (3), is linked to unit (1), not to unit (2): in the left periphery of the sentence structure of (3), 'una vez pronunciada esa palabra', another nominal anaphor, 'esa palabra', 'that word', refers to 'independencia' in (1).

- (1) Independencia es una palabra muy cálida que enciende el corazón de los jóvenes.
Independence is a very warm word that sets the hearts of the young on fire.
- (3) Una vez pronunciada esa palabra fervientemente por la multitud ya es muy difícil detenerse.
Once that word is pronounced fervently by the crowd, it is very difficult to stop.

In (2) a new entity is introduced, John Wayne, and it is dropped in unit (3), which doesn't have anything to do with John Wayne, but picks up the topic of the word independence. Unit (3) is about the crowd saying that word, 'fervently', in a rising temperature, just like 'the hearts of the young' are set on fire in (1) by that 'very warm word'. If the stretch of discourse where (1) and (3) are located is about the crowd, then (3) is the frame where the information in (1) is inserted; if it is about young people, then the information in (3) about crowds not stopping is inserted in the frame of (1). The relation between (1) and (3) is dynamic, since it changes depending on what follows, that is, on the higher and larger unit where (1) and (3) belong. This is an "aboutness" property: it depends on the topic, the discourse topic, of the higher unit. The discourse, so far, is not about the young but about the crowd, so that (3) is the nucleus of the constituent (1) to (3), or (3'), as in figure 1.

Figure 1. Constituent structure in (1) to (3)



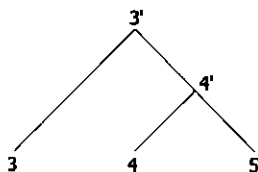
Later on this constituent structure will be replaced, so that it fits in the larger discourse structure.

3.3. Coordinated and subordinated constituents

The following units elaborate on the impossibility of stopping the crowd in terms of the word. The constituent structure of units (4) and (5) is shown in figure 2.

- (4) Ya no tiene propietarios.
It no longer has an owner.
- (5) Nadie podrá bajarla del aire o recogerla del suelo para devolverla a los libros.
Nobody can take it down from the air or pick it up from the ground to return it to books.

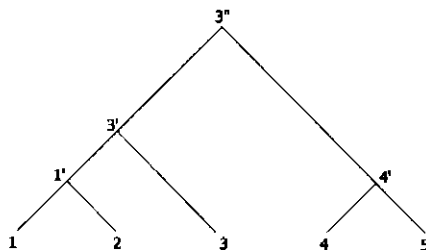
Figure 2. Constituent structure in (3) to (5)



Unit (4) is subordinated to (3), since it gives further information on how once pronounced the word 'independence' cannot be stopped; and so does (5), adding information to (4), resulting in constituent (4'). It could be argued that (5) is coordinated to (4), for instance applying Wolf and Gibson's (2005) and Gómez Txurruka's (2003) conjunction test: 'It no longer has an owner and nobody can take it down from the air or pick it up from the ground to return it to books'.

The constituent (4') is not just added to (3), since (3) has already two other units hanging from it, in (3') as in figure 3. The second-level constituent of units (1) to (5), with (3') as a nucleus, is represented as (3'').

Figure 3. Constituent structure in (1) to (5)



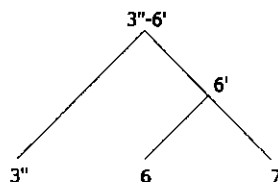
The following units make up a constituent, (6'), with (6) as the nucleus and (7) a satellite.

- (6) Sucede lo mismo con la pasión amorosa.
The same thing happens with the passion of love.
- (7) Si la mujer a la que has declarado abiertamente tu deseo de poseerla comienza a desabrocharte con estudiada lentitud la camisa mirándote a los ojos en silencio, ¿qué amante enamorado será capaz de pedirle que se detenga?
If the woman you have openly declared your desire begins to unbutton your shirt with studied slowness looking into your eyes in silence, what lover truly in love will be able to ask her to stop?

In (6) there is an anaphor, 'lo mismo', 'the same', to the whole constituent (3''); and a new entity is introduced, the passion of love. In (7) an example is given that shows how it cannot be stopped.

So far, the relation of (3'') to (6') is one of coordination: the passion for independence and the passion of love are the same in that they cannot be stopped once they are started. There are two frames, independence in (3'') and love in (6'), and they are related by the similarity in their property of not being stopped once started. The higher constituent resulting from this relation of coordination or parataxis is represented as (3''-6'), with both constituents present, joined by a hyphen, as shown in figure 4.

Figure 4. Constituent structure in (1) to (7)



3.4. A list structure

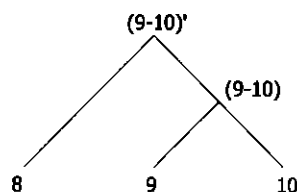
In (8) there is a change of topic, by means of the clause placed on its left-periphery 'Puesto que estoy hablando de sexo y política', 'Since I'm talking about sex and politics'. The main clause in (8) introduces a list structure (Afantenos *et al.*, 2012), which is a complex discourse unit, a multi-level top-down unit.

- (8) Puesto que estoy hablando de sexo y política, conviene tener clara la diferencia que existe entre erotismo y pornografía.
Since I'm talking about sex and politics, let's make clear the difference between eroticism and pornography.

- (9) Erotismo es todo lo que se hace antes de llegar a la cama.
 Eroticism is whatever happens before you get to bed.
- (10) Pornografía es aquello que se realiza ya sobre el colchón.
 Pornography is what you do on the mattress.

From a bottom-up viewpoint of elementary discourse units, (8) stands as a satellite in a subordinating relation of preparation or background to the pair (9-10), the nucleus, which is itself organized by a parallel coordinating relation between (9) and (10). The constituent structure of (8) to (10) is therefore (9-10)', as shown in figure 5.

Figure 5. Constituent structure in (8) to (10)



In the top-down list structure the items of the list are organized by nominal anaphors, here what Afantenos *et al.* (2012) call a concept, 'the difference'; other types of lists can be organized by categories applied to segments, like 'this problem', or by textual objects like 'in the first section'. Here there are two stages in the passion of love, the one before getting to the bed, and the one once on the mattress. The first is what 'eroticism' is about; the second is 'pornography'. The lexical meanings of these items are adjusted (or distorted) in this process of discourse construction, so that the reader has to understand them as defined here even if they don't agree with the meaning properties these items usually have, or if readers do not accept this way of understanding them.

In terms of frames and discourse topics, the segment (8) to (10) apparently stays within the frame of the passion of love, so that 'eroticism' and 'pornography' are subtopics whose frames are included in the love frame, and (9-10)' would be a constituent under (6'). We are going to see that the following discourse affects, dynamically, the structure and interpretation of (9-10)'.

4. Metaphor in discourse

4.1. An explicit metaphor organizing discourse construction

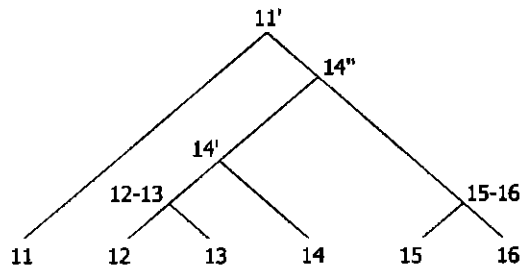
In (11), an explicit metaphor spells out both the similarity of sex and politics and the property they have in common. Then follow in a similar pattern as before the

arguments for that property of being difficult to control, for independence in units (12) to (14), and for passionate love in (15) to (16).

- (11) El deseo de independencia de un pueblo es un erotismo político muy difícil de controlar cuando se ha puesto en marcha.
The desire for independence of a people is a political eroticism very difficult to control when launched.
- (12) Ningún patriota encendido analiza con frialdad los peligros, las ventajas e inconvenientes.
No patriot weighs up coldly the dangers, advantages and disadvantages.
- (13) Hacer números y cuentas en una libreta de mercader va directamente contra el romanticismo.
Figuring out numbers and accounts in a merchant's book goes head-on against romanticism.
- (14) Cualquier análisis serio baja la libido.
Any serious analysis lowers the libido.
- (15) Ante una maravillosa puesta de sol en una tarde de domingo ningún amante, que no fuera un idiota, trataría de detener la desbocada pasión de su novia recordándole el dificultoso permiso de los padres para casarse, cuál de las dos familias va a pagar el banquete de boda, a qué banco pedirán la hipoteca del piso, a qué colegio llevarán a los niños.
Before a wonderful sunset on a Sunday afternoon no lover who is not an idiot will try to stop the unbridled passion of his girlfriend, reminding her of the difficult parents' permission to marry, which of the two families will pay for the wedding, which bank they will ask for the mortgage, which school they'll take their children to.
- (16) Nada, vamos a fundirnos sin pensar qué será de nosotros mañana.
Forget it, let's melt together without thinking what will become of us tomorrow.

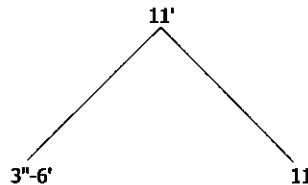
So we have (see Garrido, 2013, for a detailed analysis) as shown in figure 6 a complex unit (14'') where its nucleus, (14), again merges politics and passion, with the complex unit (14') about politics and (15-16) about sex, with items in each one stressing the analogies to the other ('libido' and 'romanticism' in politics, 'pay' and 'bank' in passion just as 'merchant's book' in politics, but also the sunset just like the one in *The Alamo*).

Figure 6. Constituent structure in (11) to (16)



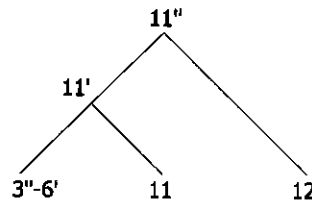
Now we know that this is about independence being like the passion of love, not about independence and the passion of love. In terms of frames and its corresponding discourse topics, complex unit (3''-6') is included in a larger unit subordinated to (11), giving out (11'), as in figure 7. But then, reading (and before that, writing) goes on, so that at the end of going through the segment (11) to (16) the whole structure in figure 6 is added, as in figure 7.

Figure 7. Constituent structure in (1) to (11)



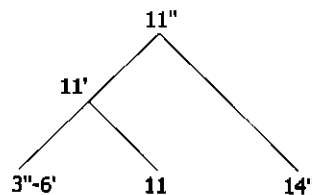
This is another instance of the dynamic nature of discourse construction: the segment (3''-6') is joined first to (11), then (12) is added, so that a constituent structure with only (12) subordinated to (11) and so to the complex unit it heads (11'), as shown in figure 8.

Figure 8. Constituent structure in (1) to (12)



Then other units are added, till the whole structure headed by (11) is produced, that is, the final (11'') in figure 9, where complex unit (14'') has the inner structure represented for (14'') in figure 6 above.

Figure 9. Constituent structure in (1) to (16)



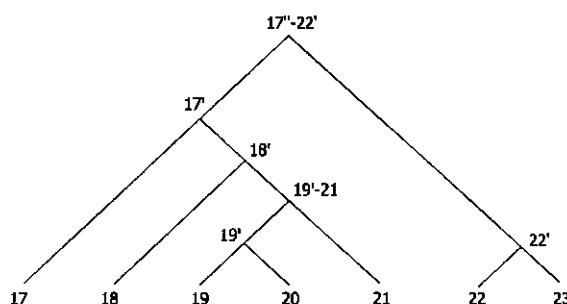
This central position of (11) gives its metaphor a key role in organizing discourse, so that it becomes a discourse metaphor (Garrido, 2011). It presents independence as political eroticism which cannot be stopped once started, making this frame “the organizing principle”, in Vergez-Couret *et al.*'s (2012: 4.1) terms, and promoting it as a discourse topic “guiding the overall discourse construction”.

4.2. Center and periphery in discourse

There is new topic in (17), ‘Catalonia’, kept as a discourse topic till (23). In this segment the present stage of Catalonia is the political eroticism of independence, in units (17) to (21), but it could be followed by the pornography of an army, bombs, and ‘nationalists’ becoming ‘nationals’, that is, alike to Franco’s ‘nationals’ in the Spanish Civil War, in units (22) to (23). The structure of the segment is represented in figure 10 (see Garrido, 2013, for a detailed analysis).

(17) Cataluña se halla ahora en esta fase de erotismo político. (18) Es excitante su deriva hacia la independencia. (19) Primero fue una corriente suave. (20) Solo tres botones desabrochados. (21) Hoy es una tormenta romántica.
 (17) Catalonia is now at this stage of political eroticism. (18) Its drift toward independence is exciting. (19) First came a gentle stream. (20) Only three buttons undone. (21) Today it is a romantic storm.
 (22) Pero si la independencia se produce y Cataluña se convierte en Estado, deberá subir a la cama y en ese momento comenzará la pornografía. (23) Deberá tener un ejército, comprar bombas, misiles y aviones, ya no habrá nacionalistas sino nacionales.
 (22) But if independence happens and Catalonia becomes a state, it will climb into bed and then pornography will start. (23) It will have to have an army, buy bombs, missiles and planes, and the nationalists will become nationals.

Figure 10. Constituent structure in (17) to (23)

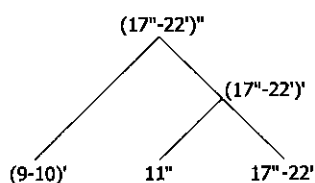


This complex discourse unit (17''-22') is the nucleus to the preceding unit

(11''): the subordinated constituent spells out the metaphor, and the crucial information is that the metaphor applies to Catalonia now and maybe in the future.

We now have what we could call the center of discourse, in analogy to sentence structure. There is an outer constituent, in what we could call the periphery of discourse structure. It is the constituent made up by units (8) to (10). It is not part of (6'), the constituent about passionate love, and so not part of (11''). It applies to it, the preceding discourse, but also to the following discourse, to the whole central constituent, and it organizes it: since politics is like sex, independence is now eroticism and it may later come to be pornography. The author's presence is out of the rest and it specifies 'I am talking about sex and politics'. The constituent structure is shown in figure 11, where (9-10)' occupies the periphery of the discourse and (17''-22') the center.

Figure 11. Constituent structure in (3) to (23)



The outside constituent (9-10)' organizes the two stages in (17''-22'), based on the explicit metaphor in (11'') about 'political eroticism'. A text type property, the column's title, 'erotismo', 'eroticism', leaves out the political component in the metaphor in order to draw the reader's attention, while providing a clue as to the organizing principle of the discourse constituent structure in the text.

4.3. An implicit metaphor and the reader's paradox

The final two units in the column are a good example of a classic in literature: the initial point is made again, and it is now full of significance because of what has been said in between.

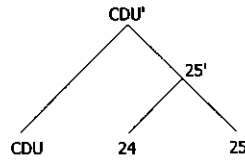
(24) Ya lo decía John Wayne en El Álamo. (25) Independencia es una palabra que enciende el corazón de los jóvenes.

(24) John Wayne said it in The Alamo. (25) Independence is a word that sets the hearts of the young on fire.

Readers may understand this as just a reminder of how independence was seen by Wayne in The Alamo picture, so that, as before (1) to (2), units (24) to (25) are understood as subordinated to what comes before them. In figure 12, the higher unit is

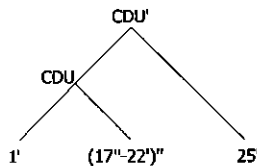
(17''-22''), and then the top unit is (17''-22'')''; they are labelled CDU, complex discourse unit, and CDU', respectively, for ease of reading.

Figure 12. Constituent structure in (1) to (25)



But there is a more enriching interpretation, and one that fits the text structure of an opening and a closing statement. It maximizes the information of its inner components. In it, John Wayne, the actor, not just the character in the movie, is reflecting on what independence does to young people: it leads them to disaster, just like in *The Alamo*. Then (1) to (2) together with (24) to (25) make up an external discourse constituent, a comment on the whole central discourse. The first lower constituent (1') has the same structure as in figure 1, and the last, (25'), has the repeated comment (25) as nucleus and (24) as satellite.

Figure 13. Constituent structure in (1) to (25)



This is an implicit metaphor: the drive for Catalanian independence is immature (typical of young people that don't take consequences into account), just as the one in *The Alamo*, says John Wayne, a sort of political philosopher in this column. And the discourse in the column has a repeated periphery, this one, in figure 13, and the inner one, of (8) to (10), shown in figure 11, with metaphors occupying the key outside positions to organize the central discourse constituent about Catalonia.

This possibility of two different constituent structures may contribute to solve the reader's or interpreter's paradox, "where different discourse relations and different weight to discourse units in the hierarchy are given by different readers" (Garrido, 2013: 443). Individual readers evaluate in a different way specific units and relations in the configuration, since they are not explicitly represented.

5. Conclusion

Approaching language from the viewpoint of discourse construction makes it possible to incorporate basic tenets of Maurice Toussaint's epistemic neurolinguistics, a bridging theory providing a hypothesis on the working of the brain, as they apply to metaphor. Discourse constituent structure has a dynamic nature and it accounts for context adjustment, two of Toussaint's basic hypotheses. As the constituent structure of a newspaper column shows, a dynamic process of unit construction for discourse may also provide a way out of the reader's paradox, the existence of different interpretations of the same text.

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