Cognitive operations in Spanish colloquial expressions

Operaciones cognitivas en expresiones coloquiales del español

Isabel Negro Alousque

Universidad Complutense de Madrid

inegro@ccee.ucm.es

Abstract: Recent developments within the cognitive linguistics framework have explored the notion of cognitive operation and proposed a set of operations underlying such linguistic phenomena as metaphor, metonymy and irony. One of such cognitive operations is strengthening, which grades scalar concepts up along their corresponding scales (Ruiz de Mendoza and Galera 2014). The present article seeks to shed some light on the way meaning is construed through the working of strengthening in a corpus of Spanish colloquial expressions where an attribute or a magnitude such as intensity, quality, quantity or speed are upscaled to the highest point. The expressions under scrutiny can be divided into two broad groups: (1) prototype-based expressions (*más feo que Picio, trabajar como un enano*), and (2) intensifying expressions (*mentira podrida, de campeonato*). The empirical analysis also reveals that strengthening is based on three further cognitive operations, comparison, domain reduction and domain expansion.

Keywords*:* cognitive operation, strengthening, comparison, domain reduction, domain expansion

Resumen: Las últimas propuestas en el marco de la lingüística cognitiva han examinado el concepto de operación cognitiva y definido una serie de operaciones que subyacen a fenómenos como la metáfora, la metonimia y la ironía. Una de dichas operaciones cognitivas es el potenciamiento, que sitúan conceptos cuantificables en un punto superior de la escala correspondiente (Ruiz de Mendoza y Galera 2014). El presente artículo pretende explicar el modo en que se construye el significado a través de la operación de potenciamiento en un corpus de expresiones coloquiales del español en las que una propiedad o una magnitud como la intensidad, la calidad, la cantidad o la velocidad se elevan al punto máximo de la escala. Las expresiones se dividen en dos grupos: (1) expresiones basadas en un prototipo (*más feo que Picio, trabajar como un enano*), y (2) expresiones de intensidad (*mentira podrida, de campeonato, hasta la médula*). El análisis revela asimismo que el potenciamiento se basa en tres operaciones cognitivas adicionales, comparación, reducción y expansión.

Palabras clave: operación cognitiva, potenciamiento, comparación, reducción, expansión

1. Introduction

Recent developments within the cognitive linguistics framework have explored the notion of cognitive operation (cf. Anderson, 2010; Ruiz de Mendoza and Díez, 2002; Ruiz de Mendoza and Otal, 2002). A cognitive

operation is a mental mechanism meant to build a semantic representation from linguistic input to make it meaningful in context. Ruiz de Mendoza and Galera (2014) claim that we use cognitive operations in order to store and retrieve information and to make mental representations. They have proposed a set of operations underlying such linguistic phenomena as metaphor, metonymy and irony. These operations can be classified into formal and content cognitive operations. The present article looks into the working of strengthening in combination with other cognitive operations, namely comparison, domain reduction and domain expansion, through the analysis of a corpus of Spanish colloquial comparative expressions. Comparative expressions have been explored from a phraseological perspective (e.g. García-Page, 2008, 2009; Luque, 2005; Mellado, 2012; Pamies, 2005; Pejovic, 2011). Starting from the assumption that strengthening may operate through different linguistic devices, we contend that instantiations of the functioning of this cognitive operation are found in Spanish in a high proportion of expressions denoting higher intensity.

The layout of this article is as follows. First, we introduce the cognitive operations. In the third section we analyze a set of Spanish expressions in order to illustrate the role of cognitive operations in construing their meaning. The last section presents some concluding remarks.

2. Cognitive operations

As earlier mentioned, cognitive operations fall within two categories: (i) formal operations, and (ii) content operations. The former (cueing, abstraction, selection and integration) underlie the latter. In Ruiz de Mendoza and Galera's (2014) terms, content cognitive operations develop two types of relations: (1) "identity" relations (A IS B), and (2) "stands for" relations (A FOR B). Figure 1 displays the range of content cognitive operations.

A IS B	A FOR B
Comparison	Expansion
Resemblance	
Contrast	
Strengthening	Reduction
Mitigation	Parametrization
Echoing	Saturation
Correlation	Correlation

Fig. 1: Content cognitive operations (Ruiz de Mendoza and Galera, 2014)

"Identity" relations underlie five content cognitive operations: comparison (either by resemblance or by contrast), strengthening, mitigation, echoing, and correlation. Comparison highlights similarities (comparison by resemblance) and differences (comparison by contrast) across concepts. Metaphor and simile are associated with comparison by resemblance. While

metaphor equates two conceptual domains, a simile creates a link between them.

Strengthening places a concept up a scale. On the contrary, mitigation places the concept down on the scale.

Echoing activates irony, whereas correlation establishes a connection between two independent domains of experience. Thus, we see quantity in terms of height. This cognitive operation is grounded on both physical and socio-cultural experience.

"Stands for" relations are triggered by three content cognitive operations: expansion, reduction, and parametrization. Saturation is a development of both types of relation.

Domain expansion and reduction are linked to the two types of metonymic relationship that can hold between a domain and its subdomains (Ruiz de Mendoza and Otal, 2002: 58). In source-in-target metonymies like SIGN FOR STATE (e.g. "to go red") the source domain is a subdomain of the target domain, thus involving domain expansion. In domain expansion a subdomain grants access to its matrix domain, thus broadening the amount of conceptual material. On the other hand, target-in-source metonymies are those in which the target is a subdomain of the source, thus involving domain reduction and the consequent highlighting of part of a domain.

Parametrization is a particular type of expansion activated by the metonymy GENERIC FOR SPECIFIC.

Several studies have explored the role of cognitive operations in various areas, such as branding (Pérez, 2011, 2016) and film translation (Negro Alousque, 2015; Peña, 2016). The present article seeks to provide a semantic account of Spanish expressions in terms of cognitive modelling.

3. Corpus analysis

In order to illustrate the working of cognitive operations in the Spanish lexicon, we analyzed a corpus of colloquial expressions drawn from the *Diccionario de frases y dichos* (Buitrago, 2012). We selected those intensifying expressions where strengthening is grounded on a further cognitive operation. The expressions can be divided into two broad categories that all involve strengthening:

1. Prototype-based expressions that upscale the meaning of gradable adjectives, thus highlighting a feature of a human or inanimate entity. They activate the cognitive operation of comparison by resemblance.

2. Intensifying expressions that highlight an attribute or a magnitude such as intensity, quality, quantity or speed.

The remainder of the paper is devoted to the detailed analysis of these expressions.

3.1. Prototype-based expressions

Prototype-based expressions generally follow the verbs *ser* or *estar* 'be' and are built on one of the following patterns:

a) *más* ('more') + adjective + *que* ('than') + NP;
b) adjective / verb + *como* + NP;
c) NP

The expressions in (1) are built on one or both of the first two patterns:

(1)   (a) Eres *más lenta que una tortuga* ('slower than a turtle'). 'be a slowcoach'.

(b) Este niño es *más terco que una mula*. 'as stubborn as a mule'.

(c) El mensaje era *más claro que el agua/claro como el agua*[1] ('as clear as water'). 'crystal clear'[2].

(d) El garaje estaba *más sucio que el palo de un gallinero* ('dirtier than the stick of a henhouse'). 'as dirty as a pig'.

(e) …donde todo el mundo es *más malo que el demonio* (more wicked than evil). 'as wicked as a witch' .

(f) También yo quiero mucho a mi hermano. Es *más bueno que el pan* ('better tan bread'). 'as good as gold'.

(g) un niño de pocos meses *más feo que Picio*. 'as ugly as sin'.

(h) Julia es *más lista que el hambre* ('cleverer tan hunger'). 'as clever as a fox'.

(i) Ese chiste es *más viejo que Matusalén/Cascorro*. 'as old as the hills'.

(j) Deja de molestarme, eres *más pesado que el plomo* ('heavier than lead'). 'as boring as watching paint dry'.

(k) ¡Soy *más tonto que Abundio!* 'as silly as a goose'.

(l) Ese niño es *más bonito que un San Luis*. 'as handsome as paint'.

(m) Ha aprobado todo, está *más contenta que unas castañuelas* ('happier than castanets'). 'as happy as a lark'.

(n) Mi jefe es *más vago que el chaleco de un guardia* ('lazier than a police officer's jacket'). 'as lazy as a toad'.

(o) Dentro estaba *oscuro como boca de lobo* ('as dark as a wolf's mouth'). 'as dark as pitch'.

(p) Permaneció en silencio, *frío como un témpano* ('as cold as an ice floe'). 'as cold as cucumber'.

(q) ¡Está *tieso como un palo!* ('as stiff as a stick'). 'as stiff as a poker'.

(r) un Gobernador todo amabilidad, *suave como un guante/más suave que un guante* ('as gentle as a glove'). 'as gentle as a dove'.

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[1] Most of the examples have been drawn from *CREA* (*Corpus de Referencia del Español Actual*) and the remaining ones are suggested by the author.

[2] For each expression we provide the English counterpart.

The cognitive operation of strengthening underlying this group of expressions relies simply on a prototype. A prototype can be understood as a person or thing that best illustrates an attribute. In addition, the prototype acts as a cue for the activation of the content cognitive operation of comparison by resemblance. An entity is presented as bearing the same property as the prototype. The comparative adverb *más* is used to upscale the meaning of the gradable adjective that constitutes the core component of the expressions. By stating that an entity possesses an attribute in a higher degree than the entity best exemplifying such attribute, the upscaling of the attribute is increased.

On the other hand, the similarity between an entity and the prototype only touches upon a particular attribute. In this way the expressions instantiate the functioning of a further cognitive operation, namely domain reduction, which highlights an element of a conceptual domain. Then this highlighted element is expanded onto a different domain.

In similes the prototypes are usually inanimate entities such as an ice floe, a stick or a glove, whose prototypical feature – coldness, stiffness and softness respectively – is mapped onto a human entity.

In comparative expressions with the adverb *más* 'more', when the prototype is a human entity, it is frequently culture-specific. It may point to a historical character whose notorious attribute is highlighted, as illustrated by the expressions *más feo que Picio, más tonto/bobo que Abundio* and *más viejo que Cascorro.* Picio was a nineteenth century shoemaker from Granada who lost his hair and developed spots and pustules on his face as a result of being sentenced to death. Abundio was an eighteenth Cordovan peasant who intended to irrigate his country estate with a stream of water. Cascorro was a voluntary soldier who fought in the 1898 Cuban war.

The prototype may evoke the Christian or Greek culture. The expressions *más falso que Judas*, *más viejo que Matusalén* and *más malo que Caín* activate comparison with a Biblical figure[3], while the expressions *más malo que un pecado mortal* 'mortal sin'/*un demonio/un diablo* 'evil' evoke Christian beliefs. In contrast, the idiom *más rico que Creso* 'richer than Cresus' is rooted in Greek culture[4].

The prototype may be an animal, whose prototypical attribute is mapped onto a human entity, as exemplified in *más lento que una tortuga* and *más terco que una mula*.

It is convenient to note that when the attribute of an inanimate entity is mapped onto a human or inanimate entity, a meaning shift may take place either from the physical to the psychological/mental realm, or from the spiritual

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[3] In the Bible Methuselah was the grandfather of Noah; Cain was the firstborn son of Adam and Eve; Judas Iscariot was one of the Twelve Disciples of Jesus Christ. Judas betrayed Jesus by kissing him to reveal his identity.

[4] Croesus, who was very wealthy, was the king of Lydia – a country in Asia Minor – in the sixth century BC.

to the physical realm. Thus the feature 'healthy' is mapped onto goodness in expressions such as *más bueno que el pan*. The mapping of transparency onto certainty in the idiom *más claro que el agua* is grounded on the metaphor UNDERSTANDING IS SEEING. Physical pain is mapped onto emotional suffering in the expression *más malo que un dolor* 'as bad as the itch'. Moral wrongness is projected onto colour and ugliness in the expressions *más negro que/negro como el alma de Judas* as black as coal' and *más feo que un pecado mortal*, respectively. These metaphors are grounded on the LIGHT-DARKNESS schema[5], which gives rise to the conceptual metaphors POSITIVE IS LIGHT and NEGATIVE IS DARK. In the Lakoffian metaphor theory light is associated with knowledge (Lakoff and Johnson, 1980: 48) and life (Turner and Lakoff, 1989: 58), whereas darkness represents ignorance and death (Turner and Lakoff, 1989: 103). In addition, the light-dark polarity has a cultural motivation. Following Charteris-Black (2011), the valuation of light as typically good and of darkness as typically bad is rooted in Christian culture.

The domain reduction operation triggered by the comparison operation may be the result of other target-in-source metonymies. It is the case for the expressions *más listo* 'clever' *que el hambre* and *más contento* 'happy' *que unas castañuelas.* The correct interpretation of the former relies on the metonymy CAUSE-FOR-EFFECT. Hunger sharpens people's mind. The latter expression instantiates a metonymic complex. The castanets stand for the action of playing them through a process of metonymic reduction (OBJECT FOR ACTION). Then the action stands for its positive effects through a second reduction operation. This metonymic complex is schematized in figure 2.
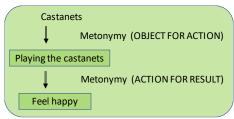

Castanets
↓   Metonymy (OBJECT FOR ACTION)
Playing the castanets
↓   Metonymy (ACTION FOR RESULT)
Feel happy

Fig. 2: Domain reduction operation underlying the expression "más contento que unas castañuelas".

The comparison operation may work on a domain reduction operation. The property highlighted through domain reduction may be encoded by a verb, as illustrated in (2):

(2)   (a) *Trabajaba como una hormiga/ como un enano/un negro* ('to work like an ant/a dwarf/a black man'), encerrado en un despacho. 'work very hard'.
    (b) He vuelto a *disfrutar como un enano* ('to enjoy oneself like a dwarf'). 'have a lot of fun'.

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[5] Image schemas are schematic mental patterns derived from sensory and perceptual experience that structure our thinking and reasoning about the world (Evans, 2006: 178).

(c) Vivía en una pensión y *bebía como un cosaco* ('to drink like a cossack')*.* 'drink like a fish'.
(d) Cuando te marchaste, *fumabas como un carretero* ('to smoke like a cart driver')*.* 'smoke like a chimney'.

The expressions *trabajar/disfrutar/divertirse/pasárselo como un enano* 'dwarf' evoke the role that dwarves, jesters and minstrels used to play as entertainers of the Habsburg monarchs in the Spanish courts. In the expressions *beber como un cosaco* and *fumar/hablar/jurar como un carretero* the comparison operation rests on the highlighting of a type of behavior associated with the source entities, cossacks and cart drivers respectively.

The second class of prototype-based expressions follow the pattern attributive verb (*ser, estar* 'be', *parecer* 'look') + noun phrase instantiating a prototype. The verb may be omitted. Consider the following examples:

(3) (a) Será *un cardo* toda su vida.
(b) Es inverosímil y anormal que *un Adonis* como tú no ligue cada noche.
(c) ¿Te quieres estar quieta, que pareces *un rabo de lagartija?*
(d) El marido es *un berzas* que siempre está de mal humor.
(e) El doctor Barajas era *una bestia parda.*
(f) Nong Toom, *un hacha* del brutal boxeo tailandés.
(g) Pedro, el compañero *empollón* de la primera fila.
(h) Balladur es *un hueso* difícil de roer.
(i) Permanecía imperturbable *como un témpano de hielo.*
(j) No hay que ser *un lince* para preverlo.
(k) De ninguna manera se me puede comparar con un *ogro* como ese.
(l) El señor Ceferino es un hombre de negocios, *un águila.*
(m) Es *una sanguijuela* que explota a los más necesitados.
(n) No esperes nada bueno de ella: es *una víbora.*
(o) Rocío es *un pedazo/trozo/cacho de pan* y está muy enamorada de mí.
(p) Julio habla 4 idiomas y tiene dos carreras; es *oro molido.*

In contrast with the comparative expressions in the previous groups, the attribute highlighted through a prototype is not mentioned. By virtue of metaphor, a person is endowed with the same attribute as the prototype. It is occasionally a physical attribute such as beauty (*un Adonis*) or ugliness (*un cardo*), but the majority of expressions highlight a personality feature such as goodness or roughness.

The prototype may be rooted in mythology (*un Adonis, un ogro*)[6], Christian culture (*un demonio* 'devil', *un barrabás*)[7] or the Spanish culture (*un Jaimito*)[8]. In other expressions an animal (or a part of it) activates the cognitive operations of comparison and domain reduction through the highlighting of a prototypical feature that is mapped onto a human entity. This is the case for *un lince* 'lynx' (intelligence), *un águila* 'eagle' (shrewdness), *una hormiga* 'ant' (hard-working), *un rabo de lagartija* 'the tail of a small lizard' (the movement of the tail is projected onto restlessness), *una víbora* 'viper' (venom mapped onto wickedness), and *una sanguijuela* 'leech', whose ability to suck blood is metaphorically understood as taking advantage of people. In much the same way, the meaning expression *un empollón* rests on the metaphorical projection from the position of a hen when she broods her eggs onto the seating position of a studious boy (Buitrago, 2012).

In much the same way, the strength of beasts of burden or of a bullock translates into coarseness in the expressions *una bestia* 'beast'/*una bestia parda*/*un burro*/*un asno*/*un cabestro*.

Plants also work as prototypical entities. Thus a thistle serves to describe an ugly or bad-tempered person (*un cardo*), the prickles of the plant triggering the comparison.

The prototype may also be an inanimate entity. The rigidness of a bone is mapped onto a person's sternness (*un hueso*). The little value of a cabbage, on which pigs are fed, is equated with stupidity (*un berzas/berzotas*), while the uselessness of an old stock, which is pulled up and burnt, is associated with coarseness (*un ceporro*). The qualities of an entity are compared with the preciousness of gold in the expression *oro molido*.

The cognitive motivation of expressions like *un hacha* is richer. *Hacha* refers to a big candle. The meaning 'very intelligent' is construed through comparison of light – the light given off by a candle – with wisdom. The association of light with knowledge put forward by the Lakoffian metaphor theory is also activated by the expression *lumbreras*, which comes from the word *lumber* 'light'.

Weather phenomena may also serve as a source for comparison. Thus the strength of a cyclone is set in metaphoric correspondence with a person's liveliness (*un ciclón*).

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[6] Adonis was the god of beauty in Greek mythology. Orcus was the Roman god of the underworld. He lived on human flesh. This feature accounts for his metaphorical representation as an evil being who captured children to eat them. Hence the meaning 'very cruel/bad-tempered' of the expression *un ogro*.

[7] Barabbas was a notorious criminal who was chosen by the crowd, over Jesus Christ, to be released by Pontius Pilate.

[8] Jaimito is a Spanish boy that features many jokes. He is sometimes silly, sometimes mischievous.

A close look at the formal constituents of prototype-based expressions leads us to postulate a basic structure with one obligatory constituent, the noun phrase denoting the prototype, and several optional elements: (1) the adjective expressing the attribute highlighted; (2) the comparative adverbs *más* 'more' or *como* 'as'; and (3) the comparative element *que* 'than'.

It is worth mentioning that the lexical strength of these expressions is related to cognitive effort. In metaphorical expressions such as *una tapia* the speaker has to infer which feature of the source domain is being mapped onto the target.

3.2. Intensifying expressions

We can distinguish three types of intensifying expressions:
a) Intensifying expressions which highlight an attribute of an animate or inanimate entity. They consist of a noun and a postmodifying adjective or a phrase introduced by the preposition *de*. Some examples are presented below:

(4)   (a) Todavía me queda algún dinerito *(mentira podrida).*
        (b) Castigar a la empresa, *un error garrafal.*
        (c) Tenía un carácter fuerte y *un corazón de oro.*
        (d) Me comportaba *como un tonto de capirote.*

In (4) the cognitive operations of strengthening and comparison underlie the postmodifying element. In the expression *mentira podrida* 'rotten lie' the adjective *podrida* activates a comparison between moral impurity and uncleanliness, which stands in opposition to the metaphor MORAL PURITY IS CLEANLINESS (Lakoff and Johnson, 1999: 307).

The comparison operation involves domain reduction in the other expressions. Through a reduction process, a particular attribute of the source entity is mapped onto the target. In the expression *error garrafal* 'big mistake', the attribute highlighted is big size, as shown in the word *garrafal*, which comes from the word *garrofa* 'big cherry' (Buitrago, 2012). In the expression *corazón de oro* 'golden heart', which exploits the metaphor THE HEART IS THE SEAT OF EMOTIONS, the high value of gold is first highlighted and then set in metaphoric correspondence with goodness or generosity.

Domain reduction may involve the highlighting of another domain element, as in *tonto de capirote*. The term *capirote* refers to the pointed hood that those who played the fool at parties used to wear, thus calling upon a target-in-source metonymy in which the garment stands for the person wearing it.

In contrast, strengthening works in combination with domain expansion in the expression *un trabajo de negros*. Black people stand for the hard work they used to do by virtue of a source-in-target metonymy. Then the attribute 'hard, tough' is highlighted to apply to any kind of work.

b) Intensifying expressions that emphasize intensity. This group includes the following expressions:

(5) (a) Hacía un frío *de muerte* en la casa.
(b) Este programa funciona, va a ser un éxito *del copón.*
(c) El presidente se ganó una bronca *de campeonato.*
(d) Los partidos políticos estaban perseguidos *a sangre y a fuego*.
(e) Yo la [la televisión andaluza] *defiendo a capa y espada*.

An interesting case of strengthening is provided by the idioms *de vicio/de espanto/de miedo/muerte* 'extreme, great'. The expressions support Krzeszowski's (1990: 161) claim that "many lexical items carry heavy axiological weight, and that weight is semantically relevant". More interestingly, the idioms, which contain negative lexical items ('vice', 'fright') generate an axiological clash inasmuch as they acquire a positive meaning within the expressions, thus becoming axiologically marked. This semantic change can be regarded as a strengthening device.

The semantic make-up of the other expressions in this group encompasses the cognitive operations of strengthening and comparison by resemblance. Comparison may involve domain reduction or domain expansion. A domain reduction operation underlies the idiom *del copón* 'great'. The size of the source entity, *copón* 'big chalice', is the salient feature in the metaphorical mapping EXCELLENT IS BIG.

In contrast, in the idiom *de campeonato* 'extreme, great' strengthening works in combination with domain expansion. The domain of a sports scenario used as the source of the projection emphasizes the skills that are necessary to take part in a sports competition.

In the idioms *a sangre y fuego* 'by fire and sword', *defender a capa y espada* 'to fight tooth and nail' strengthening is based on comparison with WAR and CONFLICT scenarios. The former expression makes use of a subdomain of the WAR domain, which consists of the effects of war, namely the blood resulting from the killing involved and the fire resulting from the weapons. The latter expression evokes the duels between Spanish aristocrats clad in sword and cape in the 17th century. Both idioms emphasize the action of fighting by means of target-in-source metonymies. Comparison with the domain of WAR accounts for the use of the idiom *a sangre y fuego* in a situation of conflict and of the expression *a sangre y fuego* with the verbs 'to fight', 'to defend'.

c) Intensifying expressions that highlight magnitudes such as quantity and speed. Some examples are shown in (6):

(6) (a) Hoy parecía que iba a llover *a cántaros*.
(b) Había comida *a espuertas/a punta de pala*.
(c) El público acudirá *a raudales* a ver la comedia.
(d) Me arrancaron el pelo *a puñados*.

(e) Era una historia de amor de las que hacían llorar *a moco tendido*.

(f) El autobús de prensa iba *hasta los topes*.

(g) Las salas llenas de público *hasta la bandera*.

These idioms also instantiate the working of the cognitive operation of strengthening. Strengthening is generally achieved by comparing two entities. Again, the content operation of comparison by resemblance is based on domain reduction. However, domain reduction does not involve the highlighting of an attribute of the source entity, but of a subdomain. Thus, *llover a cántaros* 'to rain buckets' calls upon a target-in-source CONTAINER FOR CONTENT metonymy, the pitcher (*cántaro*) standing for the strong flow of water coming out of it. The same metonymy is activated by the expression *a espuertas*. The word *espuerta* refers to a container for carrying sand, whitewash and cement.

The correct interpretation of *a punta de pala* 'shovel' requires the activation of a domain reduction operation in which the shovel is made to stand for the action of moving a big amount of earth/snow/etc. with it by virtue of the target-in-source INSTRUMENT FOR ACTION metonymy.

The expressions *a raudales* and *a puñados* highlight quantity through comparison with other entities. *Raudales* refers to a big volume of water flowing torrentially, *puñados* refers to the amount of something that fits in one's hands.

The notion of big quantity associated with the expression *llorar a moco tendido* 'to cry one's eyes out' is triggered by a target-in-source RESULT FOR ACTION metonymy, the snotty nose (*mocos*) standing for the action of crying.

Let us now consider the idioms *hasta los topes/hasta la bandera* 'packed out'. Here strengthening is first achieved through grammar. The preposition *hasta* marks the upper point of a scale. Secondly, strengthening is achieved through the cognitive operation of correlation. Quantity correlates with height (MORE IS UP). The nouns *tope* and *bandera* activate correlation. *Tope* denotes the upward limit of a container. The notion of quantity is activated by the CONTAINER schema. In the idiom *hasta la bandera* the upward position of a flag suggests height.

It is worth mentioning that the axiology of the UP orientation is an additional strengthening mechanism. Following Kreszowski (1990), abstract concepts are axiologically loaded. This claim led him to postulate a PLUS-MINUS parameter in image schemas.

Another set of idioms with the preposition *a* followed by a noun highlight speed:

(7)　　(a) Bajé *a toda mecha*.

　　　　(b) Los departamentos de diseño trabajan *a toda máquina*.

　　　　(c) Llegad a puerto *a todo trapo*.

　　　　(d) Iban *a matacaballo*, turnándose en el volante.

In (7) the speed of an action is highlighted through comparison with the speed of a galloping horse (*a matacaballo*), a ship (*a toda máquina, a todo trapo*) or the speed at which a fuse burns down (*a toda mecha*). In some cases the comparison operation involves domain reduction, inasmuch as it works on an element of the matrix domain. Thus in the expression *a matacaballo* the result of galloping, i.e. the killing of the horse, is made to stand for the action by virtue of a target-in-source RESULT FOR ACTION metonymy. *Máquina* and *trapo* are elements of seafare. The idiom *a toda máquina* evokes the order given by a captain to the sailors in the engine room to increase the speed of the ship, so that the action of starting the machines in the engine room stands for its effect. The expression *a todo trapo* activates a double domain reduction process, whereby the material from which sails are made to stand for the sails, and then the sails metonymically represent the fast movement of the ship. Figure 3 provides an illustration of this process:
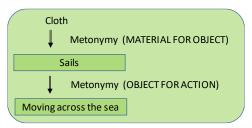

Fig. 3: Domain reduction operation underlying the expression "a todo trapo".

4. Conclusions

The present paper has explored the working of a set of cognitive operations in the Spanish lexicon. Following Ruiz de Mendoza and Galera's (2014) account of cognitive operations, we have provided evidence of the functioning of five content cognitive operations, namely strengthening, comparison by resemblance, domain reduction and domain expansion, through the analysis of a corpus of Spanish expressions. We have distinguished two categories of expressions involving strengthening: (1) prototype-based expressions that upscale an attribute of an entity through comparison with an entity prototypically possessing that attribute; and (2) intensifying expressions that highlight a magnitude such as intensity, quality, quantity or speed. The comparison operation is licensed by two additional content operations, domain reduction and domain expansion, which are triggered by target-in-source and source-in-target metonymies respectively. We hypothesize that an account in terms of cognitive operations provides a motivation for multi-word expressions. In line with this, our corpus study shows that cognitive operations contribute to meaning construal.

The scope of this paper being limited, further research should be done on the working of cognitive operations in other areas and other languages.

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