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Analogical and non-analogical resemblance in figurative language: a cognitive-linguistic perspective

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Abstract

For about four decades now, research into metaphor within Cognitive Linguistics has focused on experiential correlation as a source of metaphorical meaning to the detriment of resemblance connections. However, resemblance is cognitively productive and not necessarily less pervasive in human thought than experiential correlation. This paper studies the role of resemblance relations in figurative thought and language. The departure point is a basic distinction between *structural* (i.e., analogical) and *non-structural* (or attribute-based) *resemblance*. This distinction is combined with another between low and high-level resemblance. The paper explores how these two basic distinctions allow us to account for the convergences and divergences among some major traditional figures of speech such as metaphor, simile, analogy, paragon, allegory, and synesthesia, all of which are argued to be explainable in terms of either (high or low-level) structural or non-structural resemblance.

Keywords: analogy, allegory, fable, metaphor, paragon, resemblance, simile, synesthesia

1. Introduction

When one thinks of resemblance in language, metaphor and simile immediately come to mind. The tradition in rhetoric and in literary theory is to treat these so-called "figures of speech" or "tropes" as embellished deviations from standard uses of language based on the exploitation of perceived similarities (cf. Wilson, 2011: 196). In this view, poets, and literary authors in general, stand out for their special ability to capture resemblance connections which may go unnoticed to the average mind. Once captured they can be expressed in more or less elaborate forms of metaphor or simile, which mainly differ in formal expression. Thus, metaphors have always been considered "more concise" than similes and similes "more explicit" than metaphors (cf. Leech, 1969: 156). However, further exploration of resemblance brings into the picture other linguistic phenomena. Some have been clearly linked to metaphor and simile, such as the various kinds of allegory (parables, fables, apologues, exempla, and beast epics), which are treated as "extended" metaphors where objects and actions in a narrative are equated with meanings external to the narrative itself (Holman, 1972: 13). Others have been more loosely related to metaphor and simile. This is the case of analogy, which is usually seen as a way of reasoning based on parallel cases, but also, in a looser way, as a likeness between objects and/or ideas (Holman, 1972: 22). There are other forms of resemblance which are of interest to linguists. Ruiz de Mendoza and Galera (2014: 170-188) have identified two: echoic mention and iconicity. The former, which is characteristic of reported speech and irony, as noted by Sperber and Wilson (1995), is understood as similarity between thoughts, while the latter is the similarity of formal aspects of language to conditions in the world (cf. Givón, 1985, 1995; Croft, 2008).

In the last four decades metaphor has been a central topic of study in Cognitive Linguistics, where most of the work on this topic arises from the initial proposals in Lakoff and Johnson (1980, 1999), and their various developments, whether theoretical (e.g., Kövecses,

2000, 2005, 2015, 2020), experimental (e.g., Gibbs, 2006, 2014, 2017), or methodological (e.g., Steen et al., 2010). This framework has produced an overwhelming amount of theoretical and applied studies on the topic, which cannot be covered here (for overviews and research developments, the reader may refer to the collection of papers in Barcelona, 2000, Dirven and Pörings, 2002, Gonzálvez et al., 2013; see also Gibbs, 2017, and Kövecses, 2020). However, the emphasis in Cognitive Linguistics has been on what its theorists have termed *correlation* metaphor, which they clearly distinguish from *resemblance* metaphor (see Grady, 1999). Correlation metaphor is argued to be based on the frequent co-occurrence of events in experience. For example, we may say that two objects or properties are *close* if they are similar, even if they are not considered to be in physical proximity. As a result, red and pink are said to be close, since they are similar; or we can say that the carpet is close to the curtains if both objects resemble each other in form, color patterns, texture, and other properties. This non-literal use of *close* is not based, the argument goes, on the similarity relationship between this notion and its corresponding target meaning, i.e., similar. Rather, it is based on the fact that similar objects tend to cluster together (e.g., a flock of birds, a shoal of fish, a bouquet of flowers, a rock strewn with diamonds, a constellation of stars, etc.). The same adjective can be used in other contexts. We may say that two people are *close friends* to describe the high degree of affinity between them. Again, there is no similarity between physical proximity (the source meaning) and mutual liking (the target meaning). There is an experiential grounding for this metaphor, however. When two people like each other, they tend to seek physical contact, which they enjoy.

Correlation metaphor has been further argued to underlie *conceptual conflation*, which is the mixing-up of the source and target domains to such an extent that individuals may believe that they are speaking literally even if they use metaphor (Grady and Johnson, 2002). The study of correlation metaphors drew so much interest during the first two decades of research in

Cognitive Linguistics that resemblance metaphor and simile were relegated to a secondary place. Aware of this situation, Grady (1999) discussed the need to reinstate resemblance metaphor into cognitive-linguistic research. However, this call has largely gone unheeded, probably because of the clear ties between correlation, conceptual conflation, and the more recent notion of embodiment, which is the thesis that much of our thought, especially metaphorical thought, is heavily influenced by sensorimotor experience (cf. Gibbs, 2006).

Ignoring Grady's (1999) call has had consequences for Cognitive Linguistics. One is the creation of an unfilled research gap in metaphor theory, where resemblance metaphor is treated as trivial phenomenon. There are, however, less direct consequences. Another is the lack of theoretical research on simile. Sadly, this lack of interest in simile clashes with the abundance of experimental research invested in this phenomenon by cognitive psychologists, who, despite traditional claims to the contrary, have clearly pointed to relevant differences with metaphor (cf. Glucksberg and Haught, 2006). These two gaps are important in themselves. But there is a third problem, which is the lack of an analytical paradigm capable of bringing together metaphor and simile in a productive way. Designing such a paradigm is important not only to reinstate the notion of resemblance into the cognitive-linguistic approach to metaphor, but also to create the groundwork for future explorations into the role of resemblance in different domains of linguistic enquiry. For example, Ruiz de Mendoza (2014) has noted that other figurative uses of language than metaphor and simile make use of special forms of resemblance. Hyperbole is a case in point. Hyperbolic meaning is more than an exaggeration or distortion intended to produce an emotional reaction (Bussmann, 1996: 524). Through the exaggeration or distortion, the speaker builds a special source scenario, usually counterfactual, which can be aligned with the real-world target situation. This alignment necessarily brings about a comparison between the elements of the distorted source scenario and its target. For example, the verb *torture* is often used to mean 'do a lot of harm', as in *These shoes are*

torturing me. The impact of this sentence arises from the comparison between the impossible source situation and the real-world target scenario. Since torturing involves extreme physical harm, the logic of the hyperbolic use is that the speaker's discomfort feels "as if" he or she were suffering the extreme pain of torture. Metalinguistic resemblance is also of importance, as is illustrated by ironic echoes. Verbal irony has been studied as a matter of echoic mention in Relevance Theory (Wilson and Sperber, 2012), which has been further developed in terms of cognitive modeling in Ruiz de Mendoza (2017a) and Ruiz de Mendoza and Lozano (2021). An echo is the full or partial repetition, in various degrees of accuracy, of a previous utterance or (attributed) belief. Evidently, an ironic echo is a case of metalinguistic resemblance, since it does not involve the comparison of entities, situations or events, but of linguistic materials and/or the conceptual representations which speakers descriptively create on the basis of such materials. A full, accurate echo gives rise to extreme metalinguistic resemblance; other less complete and accurate echoes result in varying degrees of metalinguistic resemblance.

The present paper, for space reasons, will be restricted to the study of linguistic resemblance. More specifically, it will lay out the foundations for the analysis of resemblance in terms of two dichotomies: the distinctions between *structural* and *non-structural* (or attribute-based) resemblance, and between *low-level* and *high-level* resemblance. These two dichotomies provide two descriptive axes for a more accurate definition of an array of figurative uses of language. Several such uses will be covered here. To achieve this aim, the paper takes the following structure. Section 2 studies low-level attribute-based resemblance, which it treats by contrasting its descriptive and interpretive uses. Then, it discusses comparison and "as if" reasoning and goes on to explore the roles of open-endedness and of the degree of source-target similarity in metaphor and simile. Section 3 deals with high-level attribute-based resemblance. It puts forward the thesis that correlation metaphor is constrained by high-level resemblance and discusses cause-effect and effect-cause correlations as special

cases of high-level resemblance with important implications for the study of personification, metaphorical amalgams, and synesthesia. Section 4 explores structural resemblance. It also makes a distinction between high-level and low-level variants of this kind of resemblance, where the former variant relates to standard analogy and the latter (i) to eventive metaphor, when working in isolation, and (ii) to other exploitations of metaphor such as paragon, allegory, and fables, when combining with certain types of metonymic activity. Finally, section 5 offers a summary of the main theoretical findings of this article.

2. Low-level attribute-based resemblance

This manifestation of linguistic resemblance is based on perceptually accessible properties and relations between entities, situations, or events. It can be descriptive or interpretive. Descriptive resemblance is a matter of literal meaning; by contrast, interpretive resemblance, which is grounded in re-construal, requires making inferences. For example, the comparison *You are like your father* is descriptive. It designates a situation in which the hearer is compared to his father. However, *You are like a father to me* is interpretive. The hearer is not actually the speaker's father, but he behaves with the speaker as a father normally behaves with his children (e.g., showing affection and caring for them). Descriptive and interpretive meaning can coexist. A case in point is supplied by the sentence *You are just like most men*. At one level, it is descriptive: the speaker compares the hearer to "most" other men. However, at another level, a default assumption about this statement is that the comparison does not involve the entirety of most men's attributes, but a selection of relevant ones. This calls for a metonymic shift from the domain of "men" to the subdomain of men's stereotypical behavior (e.g., insensitive, selfish, lustful, etc.), where the exact nature of this subdomain is to be further adjusted on the

basis of consistency with the context. It is at this level that the comparison is interpretive and can be considered a case of simile.

Traditionally, it has been argued that simile and metaphor are functionally equivalent with one formal difference: the existence of a comparison is explicit in simile but implicit in metaphor (cf. Tversky, 1977; Fogelin, 1988; Miller, 1993). In this traditional view, *Your teeth are pearls* can be converted into *Your teeth are like pearls* without any significant change in meaning. Furthermore, the grounds for comparison (e.g., brightness) can be made explicit through various formal mechanisms, both for simile (*Your teeth are bright like pearls*/*as bright as pearls*) and metaphor (*The brightness of the pearls of your mouth*). However, this view of the relationship between metaphor and simile is not accurate. Changes in form have long been known to entail changes in meaning (Bolinger, 1977). The various formal presentations of interpretive resemblance are no exception. Thus, several scholars have identified differences in communicative impact, with simile been "weaker" than metaphor (Black, 1979). Glucksberg and Keysar (1990) relate the weakness of simile to the fact that metaphor works on the basis of class-inclusion, whereas simile does not. In the metaphor *My job is a jail*, the focus is on the speaker's job belonging to the same type of vital situations which are restrictive and/or oppressive, such as a boarding school, an illness, a deteriorating love relationship, etc. The notion of jail epitomizes such situations, which is why it acts as a preferred vehicle for the metaphor. On the other hand, in the simile *My job is like a jail*, there is no such an ascription but only a comparison between the conditions of the speaker's job and those in a jail (restrictive, oppressive, etc.). Following the logic of this view, metaphor acquires its greater strength by inheriting the properties from the class. These properties are directly ascribed to the target domain or tenor (the job). In *like*-similes, however, there is no direct ascription of properties. In the example, the properties of the speaker's job, which is the target domain,

compare with those of the vehicle, or source domain, the jail. However, these latter properties do not belong to the target concept. They are comparable, but not the same.

While Glucksberg and Keysar's (1990) thesis cannot be fully discarded, it has some weaknesses (Barnden, 2016). First, as noted above, not all metaphors can be converted into similes. We have the obvious case of correlation metaphors. These metaphors cannot be converted into similes because they do not involve attribute-based resemblance. There is also a rather problematic convertibility issue when the expression of an attribute-based metaphor does not take the A IS B form. A straightforward example can be found in the sentence: *My friend got up on his hind legs and challenged everyone*. This metaphor alludes to the action of a horse rearing up to attack an enemy when frightened. We can think of an angry person standing up in a meeting while shaking his fists in a threatening manner and compare this scene to that of the horse in a similarly aggressive attitude. But because of the scenic nature of this metaphor, it is questionable whether a *like*-simile could be used to convey the same meaning. Of course, in principle, an expression like the following could be possible: *When my friend stood up to challenge everyone, he was like a horse getting up on its hind legs to attack*. But this kind of paraphrase is more descriptive than interpretive because all relevant meaning is explicit. An additional problem for Glucksberg and Keysar's (1990) thesis is that it is not easy to argue for a class-inclusion explanation for this application of the frightened horse-angry person metaphor. In principle, it would be possible to postulate the existence of a class of items sharing the superordinate property of 'showing aggressiveness through one's postural reactions.' But this property is not the only one at work. The expression above can convey fear, stress, defiance, and physical exertion, among other possibilities, which may vary as the context changes. If there is a class, the class is not based on a single property and it is not stable. As a consequence, instead of postulating a class compounding a changing number of properties, it is better to acknowledge the existence of formal choices for different kinds of

meaning, where each choice arises from a combination of converging factors rather than for reasons of class inclusion or mere comparison. The following subsections deal with some such factors.

2.1. Comparison and "as if" reasoning

The introduction to section 2 has begged the question of the difference between metaphor and *like*-simile in terms of their meaning impact. Following Bolinger's (1977) well-known postulate on form-meaning constraints, we can trace this impact to formal factors. Such factors provide different expressive mechanisms for meaningful source-target alignments. Resemblance metaphors can take different forms. Some of them are illustrated in these examples:

(1) This classroom is a zoo ('unorganized, noisy, confusing').
(2) Laughter is the medicine of the soul (i.e., laughter has a healing power for our emotions).
(3) There is a garden in her face (Thomas Campion) (i.e., the lady's face is as beautiful as a garden).
(4) Warmth blanketed the whole area (i.e., the warmth covered the whole area).
(5) He fans his feathers every time he sees a nice girl (i.e., he shows off trying to impress her).

In (1) the source domain is expressed through a simple noun phrase. In (2) it is based on a complex noun phrase whose nominal complement (*of the soul*) provides the domain of reference for the metaphoric source (the medicine "heals" or alleviates the sorrows of the soul). In (3) the metaphor is provided by the existential construction (*there is a garden*). In (4) a verb

(*blanketed*) provides the source domain. Finally, in (5) the source domain is partially captured by a verb phrase depicting the scene of a peacock fanning its feathers. This partial depiction is developed metonymically to include all the conceptual material necessary for interpretation: the feather-fanning action stands for this fowl's courtship ritual. In the five examples above we use "as if" reasoning to highlight properties which are present in the target domain: in (1) the speaker feels as if he or she were in a zoo when in the classroom; in (2) the speaker feels as if laughter had a healing power for his or her emotions; in (3) the poet feels as if he were contemplating a garden when he looks at the woman's face; in (4) the speaker feels as if a blanket covered the area in question; in (5), the speaker feels as if witnessing a peacock displaying its beautiful feathers to attract a mate when he or she sees the protagonist showing off in front of a girl. A side effect of this kind of reasoning is the highlighting of the target domain elements of the metaphor in a way which is consistent with the meaning effects which characterize their corresponding source-domain elements.

It will be noted that only (1) and (2), based on noun phrases, can be converted into similes:

(6) This classroom is like a zoo.

(7) Laughter is like the medicine of the soul.

Converting (3), (4), and (5) into similes requires some more syntactic reorganization to produce a configuration of the *X is like Y* type, which involves a greater change in meaning implications than the one required for (1) and (2):

(8) Her face is like a garden.

(9) Warmth covered the whole area like a blanket.

(10) He fans his feathers like a peacock every time he sees a nice girl.

In (8) the hearer is led to compare a woman's face with a garden, in whatever way this can plausibly be done. For example, we can think of how a garden can embellish any place (e.g., a town, a mansion, a public park) and ascribe this property to the woman's face; or we can think of specific aspects of the woman's skin tones as being comparable to the variety of colors and hues which can be found in a garden filled with plants and flowers of different kinds. The properties in the source are not ascribed to the target, but simply seen as similar, even if to a large extent. The analytical situation is different in (3). Here, the speaker plays an unconcealed communicative "pretense" game with the hearer, of which the hearer is expected to be fully aware. The speaker directly ascribes properties, such as those described for the source concept in (8), to the woman's face. This is achieved by asking the hearer to think of the properties of the woman's face that make it beautiful in terms of corresponding properties in a garden. Furthermore, these properties are treated as if "in" the face. A different expressive approach is provided by the X is Y form:

(11) Her face is a garden.

This alternative metaphor does not call for comparison either. Like (8), it requires the hearer to think of the woman's beautiful face in terms of the properties which make a garden beautiful. But unlike (8) it does not envisage such properties as only part of (or located in) the woman's face.

Examples (9) and (10) are also based on comparison and differ from the metaphors in (4) and (5), and from their X is Y counterparts, in the same way as (8) differs from (3) and (11). Compare first (4) and (9) with (12):

(12) Warmth was a blanket covering the whole area.

Unlike (9), sentences (4) and (12) are not grounded in a call for hearers to explore similarities, thereby engaging themselves in comparing conceptual domains, but in presupposed similarity used as the basis for the reasoning pattern "treat X as if it were Y", where (4), but not (12), provides a dynamic construal of the scene. Now, compare (5) with the following examples, which make explicit mention of the peacock:

(13) (a) He is a peacock.

(b) He is a peacock every time he sees a nice girl.

(c) He is a peacock fanning his feathers every time he sees a nice girl.

The expression in (13a) has an open interpretation. For example, it may refer to the appearance of the man's outfit, which may share characteristics with a peacock's brilliant colorful plumage. However, we know that, when a male peacock courts a female, he spreads out his tail feathers to display his colors. This situation could justify an interpretation of (13a) in terms of behavior too. The expressions in (13b) and (13c) are more explicit in this respect. They direct our attention, with differing degrees of specificity, to the behavioral element itself, endowing it with greater prominence. The expressions in (13) are midway between the metaphor in (5) and the simile in (10). It may be noted that (13b) and specially (13c), which are more elaborate and consequently more constrained, may be less favored by users than (10). The reason is, as suggested above, that in resemblance metaphor, but not in simile, similarity is taken for granted. This makes simile comparatively more open to richer formal elaboration than

metaphor. The reason for this tendency is that it is necessary to give clues to the hearer as to the way in which the terms to be compared resemble each other.

There is corpus evidence of this tendency for *like*-similes to be more elaborate than metaphor (Romano 2017: 23). An example is provided by the preference of (14) to (15):

(14) Scottish Independence is like the wife forever telling her husband that she is going to leave him.

(15) #Scottish Independence is the wife forever telling her husband that she is going to leave him.

Of course, metaphor can be formally elaborated too, as is the case of (13c) above. The reason why (15) could be disfavored over (14) is primarily conceptual and only secondarily formal, i.e., it is a matter of the difference between resemblance-based metaphorical "as if" reasoning and non-descriptive comparison. In both (14) and (15), the Scottish Independence movement is presented as having little credibility because of its constant unmaterialized threats. However, the interpretive road is different. In (14) the hearer is required to compare independence threats to those of a stereotypical nagging wife; there is no anticipated presumption of similarity. In (15) we have a different situation. The similarity between the two scenarios, which is taken for granted, is used to support the "as if" reasoning process. It is for this reason that (15) is odd, since the presupposed cross-domain similarity between Scottish Independence and the nagging wife is not self-evident. This is not the case, however, of example (13c) for two reasons. One is the conventional use of peacocks to refer to vain, ostentatious men, as discussed above. The other reason is the stronger experiential grounding for the similarity exploited in (13c) than for the one in (15).

2.2. Open-endedness

We distinguish open-ended from close-ended simile. The former type can be exemplified by (16) and the latter by (17):

(16) Her eyes are as blue as the ocean.

(17) Her eyes are like the ocean / She has ocean-like eyes.

On the basis of different examples, Glucksberg (2001, 2006) has pointed out that similes like those in (17) offer a less restricted range of interpretations than metaphor:

(18) My lawyer is a shark.

(19) My lawyer is like a shark.

In experimental work, the subjects interpreted the metaphor in (18) in connection to the aggressive predatory nature of sharks. However, the simile in (19) added such features as physical strength, voracity, and the ability to swim fast. This differentiation is interesting. However, it misses an important fact: the shark metaphor is highly conventional in English, which necessarily restricts its interpretive possibilities. Conversely, there may be situations where hearers can hardly extract but one relevant feature from the source and target domains of a *like*-simile. Compare:

(20) (a) God's voice is like thunder.

(b) God's voice is thunder.

For the average hearer, it may be difficult to think of any property of thunder other than its awe-inspiring rumbling loudness being involved in the simile in (20a) and the metaphor in (20b). This property is the most salient one without any clear competing properties in a non-expert folk-knowledge perspective. That is, salience and uniqueness can combine into restricting the range of potential meaning implications of an inherently open-ended formulation. As a result of this combination, the simile in (20a) is more constrained than other examples of *like*-simile. In relation to this observation, it is worth mentioning a distinction made by Moder (2008) between *broad-scope* and *narrow-scope* simile. In the former category the attributes to be compared are only limited through our knowledge of the concepts underlying the two terms of the comparison, i.e., the source and target domains. Example (17) above would be a case of this kind of simile. In the latter category, however, the attributes to be compared are constrained through the explicit elaboration of the second term of the comparison (the source domain). Example (21) can illustrate this second category:

(21) He stood smiling at the door like the proud father at a wedding reception.

In this example, the *like*-simile is constrained by the highly specific image of a proud father in a wedding reception. In essence, the effect of explicit elaboration, a fundamentally formal mechanism with conceptual specificity consequences, is not different from the effect of combining salience and uniqueness. Therefore, it is not only formal elaboration that gives rise to narrow-scope simile.

In any event, *like*-similes are intrinsically more open-ended than metaphors, although they can be narrowed down through mechanisms like the two noted above. On the other hand, metaphors, although intrinsically close-ended, can be made open-ended if their meaning is not conventional. Compare (22) to (17) above:

(22) Her eyes are the ocean.

This sentence can refer to the color of the eyes, their depth, their crystalline nature, etc., or to a combination of these and other attributes. One more observation is in order. Metaphor seems to be more sensitive to conventionalization than *like*-simile (Gentner and Bowdle, 2001, Bowdle and Gentner, 2005). In English, in terms of conventionalized meaning, a lion is courageous, a chicken is cowardly, a machine is a tireless, a rock is firm and steady, a mother is loving and caring, a shark victimizes others, etc. But it may be possible to override these default meaning assumptions by creating alternative frames of reference which are conceptually consistent with the source concepts. For example, compare:

(23) (a) These football players are real lions.

(b) These football players are like real lions.

(24) (a) These football players are strong, instinctual, and fast like real lions.

(b) # These football players are real strong, instinctual, and fast lions.

In a game like football, courage is not a salient feature. Players can be swift, skillful, strong, instinctual, and aggressive, among other features. Generally, we do not envisage lions as being skillful, but we see them as fast, powerful, instinctual, and fierce animals. These attributes are then more clearly available for a *like*-simile interpretation than for metaphor, which may lead speakers to a preference for (24a) over (24b).

2.3. Source-target similarity

It has been found that source-target pairs with high similarity ratings are generally realized as metaphors (Chiappe and Kennedy, 2000). By contrast, pairs felt to be less similar are realized as *like*-similes. This means that (25a) is preferred to (25b) and (26a) to (26b):

(25) (a) Her teeth are pearls.

(b) Her teeth are like pearls.

(26) (a) Her teeth are like the stars.

(b) Her teeth are the stars.

There is an iconicity issue at work here, which motivates the formal choice of metaphor when similarity is high and of *like*-simile when similarity is felt to be lower. The explicit comparison marker *like* creates formal discontiguity between the two terms of comparison, thus matching their conceptual dissociation. This phenomenon falls under the scope of what Haspelmath (2008) has termed *iconic discontiguity*, also called *iconic distance* (Croft, 2008).

Similarity can be physical, as in the examples above, or behavioral. For example, the mapping from chicken to people is based on the agitated behavior of chickens when they fear the presence of a predator. This gives rise to the insulting expression in (27a) but also to others like (27b) and (27c), which are mere depictions of situations:

(27) (a) You are (such) a chicken!

(b) He chickened out at the last moment.

(c) That's so chicken of him!

Note that, when converted into *like*-similes, the metaphors in (28) lose much of their impact and that (28a) and (28c) are odd:

(28) (a) #You are (so much) like a chicken.

(b) He acted like a chicken at the last moment.

(c) ##That's so much like a chicken of him!

The reason for the oddities in (28) is to be found in a combination of factors. Thus, (28a) is not a good expressive choice because it is precluded by high behavioral similarity combined with the high degree of conventionality of the coward-chicken association. In (28c) there is an additional factor. As we have noted before, metaphor uses "as if" reasoning to intensify a target-domain property. This enables the use of "chicken" as an adjective in the construction *That's So + Adj +of +NP*. Example (28b), however, is not problematic. This is due to the fact that breaking down the derived category *chicken* (vb.) into *act like a chicken* explicitly preserves its behavioral component. But (28b) plays down the similarity between source and target. Also, if compared with (27b), (28b) is less expressive. This is simply due to the ability of English to shift categories without any grammatical marking. This process, which has been termed *categorial conversion* (Lieber, 2005: 418), has been argued to be constrained by metonymy (Kövecses and Radden, 1998; Dirven, 1999; Ruiz de Mendoza and Pérez, 2001). Thus, in (27b), the metonymy uses the agent of the action to designate the action by virtue of the saliency of the chicken as an agent in the scene in which it runs away without control when frightened.

3. High-level attribute-based resemblance

High-level cognitive models have been defined as those conceptual characterizations which result from the generalization by abstraction of the conceptual material shared by low-level (or specific) cognitive models (Ruiz de Mendoza and Galera, 2014: 64). For example, from our observation of specific actions like *kill*, *break*, *hit*, we derive such notions as action, agent, object, instrument, and result. These are high-level cognitive models. High-level resemblance is based on similarities resulting in conceptual characterizations of this kind rather than in object-based perceptually accessible attributes and/or behavior. To illustrate, think of the similarity between being bed-ridden because of a disease and being in a jail. In both situations, a person's freedom of action suffers from restrictions. The notion of 'restriction' is a high-level cognitive model, which arises from the experience with real-life situations where one is not free to move, speak, travel, etc. This underlies metaphor and simile based on this aspect of a jail experience. Thus, people can say *I'm in a jail* or *My life is (like) a jail* in various situations where they feel they cannot act freely, such as a failed marriage, a job, and an illness. This kind of metaphorical thought contrasts with the one involved in low-level attribute-based resemblance, which has been illustrated above; e.g., lawyers are sharks on account of their ruthless predatory behavior, teeth are pearls by virtue of such physical attributes as their whiteness and brightness, and the eyes are the ocean in terms of their color and subjective depth.

There are other areas of linguistic description where high-level similarity plays an important role. The next two subsections will discuss two of them within the context of attribute-based resemblance. Then, section 4 will deal with high-level similarity in the case of structural resemblance.

3.1. Correlation metaphor as a case of high-level resemblance

Correlation metaphor has been argued not to involve any sort of cross-domain similarity (Lakoff and Johnson, 1999; Grady, 1999). This view is taken for granted in all the literature on embodied metaphor (cf. Boroditsky, 2000; Casasanto, 2008, 2009; Casasanto and Boroditsky, 2008; Casasanto and Gijssels, 2015; Gibbs, 2011, 2014). However, in his discussion of the understanding-seeing correlation, Ruiz de Mendoza (2020: 18) has noted the existence of high-level resemblance. The correlation is self-evident, since seeing is a source of understanding. However, it should be noted that experiential correlation not always gives rise to metaphor. For example, hearing a clink of glasses suggests a possible toast or hearing thunder correlates with the beginning of a storm, but there is no metaphor between the clinking sound and the toast or between the thunder and the storm, i.e., we do not engage in "as if" reasoning to relate the two events. Other cases of experiential correlation, however, do give rise to metaphor. Consider these examples:

(29) My boss got steamed up.

(30) Helen showed up late at work.

(31) She is a big name in her field.

(32) Your brother seems to be in good shape.

Sentence (29) exemplifies the anger-heat experiential correlation. We naturally correlate anger with heat since we feel hot when we get angry as a result of blood flushing to the surface layers of our skin. This correlation underlies expressions *get hot under the collar*, *a heated argument*, and *be a hothead* (cf. Lakoff, 1987: 383). As for "steamed up" in (29), there is an additional factor. An engine is steamed up when the vapor in it exerts sufficient internal pressure to be released and produce motion. This increase in pressure is analogous to the internal tension felt when someone gets angry. Since we think of our bodies as containers filled with fluids (e.g.,

blood, sweat, urine), the internal tension can be envisaged in terms of the pressure exerted by such bodily fluids when heated (Gibbs, et al., 2004: 1195).

The rest of the examples are also grounded in straightforward correlations. In (30) "up" correlates with visibility. In our experience, objects can be better detected when they take an upper position closer to our eyes. In (31) importance correlates with size; bigger objects are more impressive since they dominate our visual fields. Finally, (32) is based on the correlation between good physical condition and canonical shape.

At this point the question is why the experiential correlations illustrated by examples (29) to (32) give rise to metaphor while other correlations do not. The answer is that the correlations in these examples are constrained by high-level resemblance:

-Anger-heat: the similar feelings of excessive discomfort which arise when one is angry and when one is subjected to too much heat.

-Upper position-visibility: the similar experience of being aware of the presence of an entity when it comes up into our visual field or when it otherwise comes into sight.

-Importance-size: the similar feelings of awe and wonder which people can have when thinking of an important person and when faced with a sizeable object.

-Physical condition-canonical shape: the similar feeling of acceptability of someone's good physical condition or of a person's canonically proportionate shape.

This observation is important because it restores the notion of resemblance to its central role in understanding metaphor, while restricting the possibility of producing infelicitous or even impossible metaphors on the basis of the unconstrained application of the notion of experiential correlation.

3.2. Cause-effect/effect-cause correlations

One productive case of high-level resemblance is found in "cause-effect" and "effect-cause" correlations. These are abundant in our everyday life. For example, kicking a ball (cause) will move it away (effect), putting one's hands on a hot stove (cause) will produce a burn (effect), an excess of rain (cause) can cause floods (effect), etc. Conversely, if we see a ball flying through the air (effect), we assume it has been hit by someone (cause); also, if we see a burn in someone's hand (effect), we infer that it has been produced by fire, heat, electricity, a chemical, or another agent (cause); finally, if the streets are flooded (effect), we can attribute this to heavy rainfall, rapid snowmelt, a storm surge, or any other phenomenon involving water overflows (cause).

Such correlations can be exploited metaphorically. An example is the conceptualization of death as a thief. This metaphor is based on naïve thinking according to which death is not only the effect of an underlying cause (e.g., oldness, disease, murder), but also the cause of a loss of property (in this case a person's life). A "cause-effect" correlation also lies at the origin of the Grim Reaper metaphor, where death is personified as a soul collector paradoxically causing death with its presence. In its most usual depiction, the Grim Reaper is represented as an animated skeleton, wearing a dark cowled robe and wielding a scythe, which it uses to collect the souls of those that die or are on the verge of death. Within Cognitive Linguistics, this metaphor was studied by Turner and Fauconnier (1995), who noted logical irregularities (e.g., the animacy of a skeleton, the paradox of death being both cause and effect) which are resolved through the application of the principles of conceptual integration (see Ruiz de Mendoza, 1998, for detailed discussion). What is of interest to us here is the fact that, as in the case of death-as-a-thief, the death-reaper metaphor is possible on account of the events of death and of harvesting a crop sharing their "cause-effect" structure. In the event of dying there is a

cause of death and death itself is the result; in a similar way, the reaper is the causer of the death of the plants which he cuts.

An "effect-cause" correlation, on the other hand, can act as a licensing factor for metaphorical amalgams, that is, the integration into one single metaphorical construct of two otherwise self-standing metaphors (Ruiz de Mendoza, 2017b). Consider:

(33) That dirty old man is a pig with me.

In (33) the term *pig* is taken to mean lustful, immoral, and abusive in a way that offends and disgusts the speaker. However, pigs are not inherently lustful, immoral, and abusive. So, one may wonder why this term is used in that sense. The solution comes from the consideration of pigs as outstandingly filthy animals. This first gives rise to a low-level attribute-based metaphor. For example, a mother can complain about her 8-year-old son, who has been playing with some friends in the mud, by calling him pig. But being "filthy" can also be an undesirable moral attribute. This happens because we feel disgusted both by physical dirtiness and by people's immoral actions. In terms of "effect-cause" high-level resemblance, we can say that a person's lack of morality (cause) is as disgusting (effect) as a pig's physical filthiness (cause). In other words, the similarity of the two effects allows us to align their corresponding causes. The amalgam between the person-pig and immorality-filth metaphors takes the following form:

(34) An immoral person is (like) a filthy pig.

A paraphrase of the amalgam could be:

(34') The disgust that an immoral person produces on me is similar to the disgust that a filthy pig produces on me.

As this paraphrase reveals, the unenriched person-pig metaphor, based on low-level resemblance, is enriched by importing into its basic meaning layout the immorality-filth mapping. Since immorality-is-filth is itself licensed by "effect-cause" high-level resemblance (the similar feelings of disgust produced by immoral behavior and by filth), it follows that this kind of resemblance has a twofold role: one, as a licensing factor for the immorality-filth mapping; the other, as a licensing factor for the amalgam of the two metaphors.

There is another way in which high-level "effect-cause" resemblance can cooperate with low-level resemblance, a way in which no metaphorical amalgam is formed. This analytical situation can be illustrated by our previous examples (20a) and (20b): *God's voice is (like) thunder*. We noted the existence of low-level similarity between God's attributed voice and the noise made by thunder in terms of loudness and resonance. However, this is not enough to account for the relevant meaning of these examples. There is an additional high-level cause-effect similarity relationship: the sound of thunder causes awe or even fear, much like God's voice. In this case, the cause-effect similarity is not imported into the voice-thunder mapping from another contributing configuration, but is inherent to it.

Understanding the role of high-level "effect-cause" resemblance is important to account for synesthesia. Synesthesia occurs when two sensory domains are bound to each other. For example, we can say that a color is "dull" when it lacks intensity, or that it is "loud" to characterize it as strident. There are two basic positions on this phenomenon. One, defended by Strik-Lievers (2017), among others, is that it is a type of metaphor which brings together two sensory conceptual domains in such a way that one of them is used to reason about some aspect of the other. The other position, defended by Winter (2009), uses research from

neuropsychology to argue that even five-year-old children can make cross-modal associations such as matching the brightness of visual stimuli with the loudness of a sound. Saying that a color is "loud" is not figurative thinking but simply a reflection of the individual's neural structure. This observation has two weaknesses. First, there are "living" cases of synesthesia, just as there are creative uses of metaphor in general. These abound in literature. An example is the following lines from Emily Dickinson's 'Ample make this bed':

(35) Let no Sunrise' yellow noise
Interrupt this ground.

One possible interpretation of the expression *yellow noise*, which brings together visual and auditory inputs, can be made in relation to the disturbing visual impact of sunrise after the night's darkness. Such an impact is seen in terms of the one produced by a disagreeable noise. The other weakness is that the existence of a neural substrate for cross-modal associations does not preclude these associations from being exploited on the basis of "as if" reasoning.

Ruiz de Mendoza (2020: 25) has argued that the two positions described above can be reconciled through the application of the notion of high-level "effect-cause" or "cause-effect" resemblance. Expressions like *loud/dull color* are grounded in an "effect-cause" alignment whereby similar effects (low/high intensity in the domains of sound and color) are thought to have similar causes, which thus become comparable. On the other hand, *yellow noise* is based on a "cause-effect" alignment where the color and the noise resemble each other in so far as they produce similar disturbing effects. It may be noted that synesthesia is thus not essentially different from the "pig" metaphor in (33), where the similarity of two effects (disgust) brings together the underlying causes (immorality and filth).

4. Structural resemblance

In attribute-based resemblance, which we have examined in the previous sections, the similarity judgment is based on the A is B form, where A and B have an attribute C in common. Structural resemblance, by contrast, creates domain-internal alignments of structure. It typically works on the basis of analogy judgments which take this general form: A is to B as C is to D. Like attribute-based resemblance, it can be used descriptively or interpretively and it can apply at the low and high levels of abstraction. The following subsections explore the relationship between these distinctions and different kinds of analogy judgments.

4.1. Low and high-level structural resemblance

As mentioned above, structural resemblance works on the basis of analogical reasoning of the following kind:

A is to B as C is to D

This kind of reasoning can be used descriptively or interpretively. When used interpretively, the following condition-consequence reasonings can be added:

A is C

B is D

Example (36) below is descriptive:

(36) A dog (A) is to a puppy (B) as a cat (C) is to a kitten (D).

The relationship between a dog and puppy is based on age, just like the relationship between a cat and a kitten. An important aspect of this structural resemblance relationship is that, in a default context, it resists a metaphorical interpretation; that is, the A is C and B is D reasoning schemas are infelicitous:

(37) (a) *A dog is a cat.

(b) *A puppy is a kitten.

This includes elaborated versions of (37a) and (37b), which ascribe features of A to C or features of C to D:

(38) (a) *A dog is a barking cat.

(b) *A puppy is a barking kitten.

The situation is completely different with interpretive uses of structural resemblance:

(39) The heart pumps blood around the body.

A pump is a mechanical device that forces liquids or gases to move, e.g., throughout a hydraulic system. The heart is a muscular organ that “pumps” blood received from the veins into the arteries. The use of “pump” in (39) is therefore metaphorical, based on structural resemblance:

(40) The heart (A) is to the circulatory system (B) as a pump (C) is to a hydraulic system (D)

In the case of this analogy, because of its interpretive nature, it is possible to derive "A is C" and "B is D" consequences:

(41) The heart is (like) a pump.

(42) The circulatory system is (like) a hydraulic system.

It must be noted that (39), (41) and (42) are not literal (or descriptive) uses of "pump" despite the fact that we can think of the heart as a "type of" pump and of the circulatory system as a "type of" hydraulic system. However, this "type of" connection is not descriptively accurate, since (literal) pumps and hydraulic systems are mechanical devices and the heart and the circulatory system are not.

Consider now:

(43) Your words were a (like) dagger to my heart.

This example of metaphor is also based on structural resemblance where 'heart' is metonymic for the feelings culturally associated with the heart:

(44) Words are to emotional damage as a dagger is to physical injury.

The metaphor (or simile) which arises from this analogy, i.e., causing emotional damage is (like) causing physical damage, is not a low-level resemblance one, since its target domain

(emotional damage) is abstract in nature. Note that this metaphor is not based on the structural properties of entities but on the structural properties of events, where the entities play a secondary role; i.e., it is an eventive metaphor. The secondary nature of words and the dagger is evidenced by the following variants of (44):

(45) Your words/eyes/tears/pierce/break/devour my heart.

Eventive analogy-based metaphor (or simile) rests on high-level structural resemblance. On the other hand, non-eventive analogy-based metaphor (or simile) is a matter of low-level structural resemblance. To give one last example, think of the argument-war metaphor discussed by Lakoff and Johnson (1980: 4). In this metaphor, arguing is engaging in battle; opponents are enemies fighting each other; contenders attack the enemy's position and their own; argumentative strategies are war tactics; contenders gain or lose ground; finally, there is either defeat or victory. These are some examples of sentences which apply different aspects of this metaphor:

(46) The debater came under heavy attack.

(47) It was not just a debate; it was all-out war.

(48) Our team was defeated in just one brief battle.

(49) He changed his tactics in the middle of the debate.

(50) She felt unable to defend her position any longer.

This metaphor has the following eventive analogical grounding, which is evidently a matter of high-level structural resemblance:

(51) People arguing (A) are to the domain of an argument (B) as contenders in a battle (C) are to the domain of war (D).

High-level structural resemblance can give rise to simile, as exemplified by example (43), but only if the focus of attention is placed on the participant entities within the eventive frame.

4.2. Analogy and other figurative uses of language

The distinction between high and low-level structural resemblance is useful to account for other figurative uses of language, where analogical reasoning is complemented with metonymic construal. Paragon, allegories, and fables are cases in point.

4.2.1. Paragon

Paragon is a metonymy-based analogy which makes use of low-level structural resemblance. In paragon a person or an object is posited as a paradigmatic example of a certain attribute. Because of this, the person or object can stand for (i.e., can be metonymic for) such an attribute. Take the following example:

(52) Alan Turing is the Isaac Newton of artificial intelligence.

Newton, one of the most influential scientists of all time, established classical mechanics and formulated the laws of motion and universal gravitation. Alan Turing, besides other achievements, is widely recognized as the father of artificial intelligence. The analogy takes this form:

(53) Turing (A) is to artificial intelligence (B) as Newton (C) is to physics (D). So, Turing (A) is the Newton (C) of artificial intelligence (B).

Note that, in the consequence part of the analogy, which is captured linguistically by the paragon in (52), the D element is not expressed. The reason for this is that in paragon the speaker works under the assumption that the hearer is aware of what C stands for.

4.2.2. Analogy and allegory

An allegory is traditionally defined as a verbal or visual narrative which reveals a hidden meaning (usually, moral, philosophical, or political). This definition, however, does not account for its cognitive grounding. It does not deal with the resemblance relations between the elements of the narrative and what they symbolize. Here, in consonance with the previous analysis of analogy-based thinking, we argue that allegory rests on high-level structural resemblance combined with the member-for-class metonymy. To give one example, consider the well-known Biblical parable of the prodigal son (Luke 15:11–32). In the parable, Jesus tells the story of a well-off father who has two sons. One day, the younger son asks his father for his share of his inheritance. Instead of rebuking him, the father grants his son's request. The son leaves his father's home and wastes his fortune until he becomes so poor that he has to beg for food. Feeling destitute, he decides to return home and pleads with his father to accept him as a servant. Strikingly, with no condemnation, the father welcomes his son back with a great celebration. The other son, a hardworking and loyal man, feels outraged and refuses to take part in the festivities. The father then reminds his envious son of the blessings which he has enjoyed for his faithfulness and of the fact that he still has his full inheritance. Then, the father discloses the reason for his joy: his younger son was lost but has now been found. In this allegory, the forgiving father represents the merciful God preached by Jesus, and the wayward

younger son is the sinner that exchanges God's blessings (the squandered inheritance) for the pleasures of the world. The elder brother is the self-righteous people of Jesus's day (e.g., the Pharisees and teachers of the law). The major theme of the parable is the restoration of a fully repented believer into fellowship with God. Evidently, this is a system of metaphorical correspondences. However, this system differs from others in one important respect. Except for the correspondence based on God, which is by definition conceived as a unique entity, all source characters map onto a class of elements in the target. This is a distinguishing feature of allegory (Table 1).

Source	**Target**
The forgiving father	The merciful God preached by Jesus
The wayward son (younger brother)	A sinner
The obedient but uncompassionate elder brother	Obedient but self-righteous and judgmental followers of God
The squandered inheritance	God's spiritual blessings
The stray son's material predicament	A sinner's spiritual predicament
The wayward son's realization of the mistakes which have caused his material predicament and associated distress	A sinner's repentance for his sins which have caused his spiritual predicament and associated distress
The wayward son's return to his father to avoid the material consequences of his mistakes	A sinner's return to God to avoid the spiritual consequences of his mistakes
The forgiving father's banquet celebration of his son's return to the household for material protection	God's joy for a sinner's return to Him for spiritual protection

Table 1. Cross-domain correspondences in "The prodigal son"

There are two other important characteristics in this allegory. First, it is constructed on the grounds of experiential correlation, which, as we have pointed out in 3.1, involves high-level resemblance. The sinner's return to God for spiritual protection is seen as the remorseful return of the stray son to his father for material nourishment and shelter. In our experience, the provision for material needs is associated with the home. If a son leaves the parental home, he may eventually lack subsistence resources and perish. If accepted back home, he will enjoy parental protection again. In terms of high-level resemblance, the return to the "father", whether the earthly parent or the Creator, brings about similar feelings of prospective (material/spiritual) protection and comfort. Second, the allegory also rests on a form of analogical thought, where a person's realization of the (material/spiritual) mistakes made plays a central role:

> (54) God and a sinner (A) are to a sinner's repentance (B) as a forgiving father and a wayward son (C) are to the wayward son's realization of his material mistakes (D). Therefore, God is a forgiving father and a sinner is a wayward son.

This discussion shows that allegory, as advanced at the beginning of this section, can be defined, in cognitive-linguistic terms, as a case of analogical reasoning based on cross-domain structural high-level resemblance where each non-unique target element stands for a class of items.

4.2.3 Analogy and fables

A fable is an allegory that teaches a moral. The characters in it are personified animals. Personification is a kind of metaphor (animals-are-people) which partly endows animals with human behavioral attributes and character traits while retaining material animal attributes. Like allegory, fables are based on cross-domain metaphorical correspondences where the target elements are real-life people, situations, and events and the source elements are based on the target domain of the personification (i.e., animals). Also, like allegory, fables make use of the member-for-category metonymy, which applies to its target elements.

Let us briefly discuss Aesop's fable "The tortoise and the hare". In this narrative, a tortoise challenges a hare to a race. The hare has an excess of self-confidence in her running skills, so she decides to take a nap in the middle of the race and oversleeps. As a result, the tortoise, although much slower than the hare, ends up winning the competition. Table 2 spells out the main metaphorical correspondences.

Source	**Target**
A fast hare	A talented and overconfident person
A slow tortoise	An untalented but persevering person
Running a race	Competing for success in life
Winning the race	Achieving success in life

Table 2. Cross-domain correspondences in "The tortoise and the hare"

The most central correspondence in the mapping is "achieving success in life is winning a race", which is based on the correlation metaphor goals-are-destinations. This metaphor, which is grounded in our common experience of traveling to get to places, rests on high-level resemblance: similar feelings of being in a different condition when changing state (e.g., achieving success) and when changing location to reach a destination. Because of its primary

nature, this correlation metaphor provides the basic layout for the system of low-level correspondences between specific skills and personality traits of the characters. Personality traits are provided by a chained combination of the metaphor animals-are-people with people-are-animals, which is in turn used to ascribe the features of the personified animals to people. The people in the latter metaphor (people-are-animals) are metonymic for classes of people thus converting the whole system into a high-level one, as is the case with allegory. Finally, also as in allegory, fables make use of analogy:

> (55) Idle talented people and persevering untalented people (A) are respectively to the domain of success in life (B) as a hare and a tortoise (A) are each to the domain of speed (B). Therefore, an idle talented person (in the domain of success) is a hare (in the domain of speed) and an untalented but persevering person (in the domain of success) is a tortoise (in the domain of speed).

5. Conclusions

Resemblance plays a more important role in the understanding of metaphor, including correlation metaphor, than has been realized so far. The meaning potential of metaphor, simile, and other figurative uses of language exploiting resemblance can be best determined on the basis of an account of resemblance dimensions and types. In this respect, the main dimensions of language-based resemblance are: (i) low and high-level resemblance; (ii) attribute-based and structural resemblance.

These dimensions underlie the different types of resemblance and their manifestation in specific uses of language. The linguistic realization of attribute-based resemblance depends on (i) whether the speaker presupposes resemblance in an "as if" reasoning process or calls for the exploration of possible cross-domain similarities; (ii) the open-ended or close-ended nature of the cross-domain correspondences; (iii) the degree of similarity between the source and target domains. High-level attribute-based resemblance underlies correlation metaphor based on experiential co-occurrence. In addition, cause-effect relations underlie the personification of abstract concepts (e.g., death seen as a thief or as the Grim Reaper), and effect-cause relations underlie some cases of metaphorical amalgam (e.g., the incorporation of immorality-is-filth into a person-is-a-pig) where the similarity of effects (e.g., disgust) allows us to relate their corresponding causes even if unrelated (e.g., filth and immoral behavior). Cause-effect and effect-cause alignments can also underlie two different kinds of synesthesia; in one, the similarity of effects (e.g., low intensity) allows us to bring together two unrelated sensory domains (e.g., sound and vision in *a dull color*); in the other, two unrelated sensory domains are presented as belonging together because they share similar effects (e.g., *yellow noise*, where both the color and the sound are disturbing). Finally, low-level structural resemblance underlies classical analogy, whereas high-level structural resemblance lies at the base of eventive metaphors. This last type of resemblance is also exploited in paragon, allegory, and fables, which involve different kinds of metonymic elaboration. In paragon a person or an object stands for a certain attribute which is considered paradigmatic of the person or object. In allegory and fables the target elements are developed through the member-for-class metonymy, with the only difference that in fables the characters in the source domain are personified animals. The two narrative forms are grounded in correlation metaphors and, as a consequence, in high-level resemblance relations. All in all, this analysis of resemblance processes in

language provides an initial integrative framework for future work on resemblance-based linguistic phenomena.

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