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Toward a Cognitive Approach to Analyzing Comics: A Selective Frame-Theoretic Characterization of the Conceptual Representation of Comics¹

Abstract: Szawerna (2012) contends that similarity-based approaches to the representation of conceptual categories — the classical approach, the family resemblance approach, and the exemplar approach — are not equipped with mechanisms that would enable an analyst to integrate all of the information obtained by anatomizing an array of expert definitions of comics into a comprehensive characterization of the concept of comics. This paper, conceived as a continuation of Szawerna (2012), aims to demonstrate that a description of the conceptual category of comics informed by frame theory readily incorporates the characteristics of comics that Szawerna (2012) has shown to be problematic for the similarity-based approaches: the multifacetedness of comics, the variation in the degree of prominence attributed to the multiple facets of comics, the variation in the degree of abstractness observable in the category of comics, and the interplay between the components of the visual representation found in comics.

1. Introduction

This paper was conceived as a modest contribution to the academic field of comics studies, which has evolved in recent years from a mere “topic area” (Heer and Worcester 2009: xi) into a burgeoning field of inquiry. In comics scholarship, the dialogue about the inner workings of comics was initiated by practicing cartoonists — Will Eisner (2008), Robert C. Harvey (1994; 1996), and Scott McCloud (1994) — who succeeded in “suggesting new avenues of investigation and providing a tool box

¹ This paper follows McCloud’s (1994) usage of the noun *comics*, which became widespread in the field of comics studies. In accordance with this usage, the plural form *comics* used with a singular verb refers to the entire medium, the singular form *comic* used with a singular verb refers to an individual comics publication, and the plural form *comics* used with a plural verb refers to a collection of such publications.

of terminology that continues to be used to this day” (Beaty and Nguyen 2007: vii). Observers point out, however, that the contribution to comics studies made by the representatives of the comics community, while seminal in that it provided “a solid foundation for academic inquiry into comics” (Varnum and Gibbons 2001: xiii), has been criticized for its lack of an academic orientation, for “being removed from the scholarly traditions with which it might best intersect” (Beaty and Nguyen 2007: vii).

Recently, a number of researchers — including Neil Cohn (2010), Bart Eerden (2009), Charles J. Forceville (2005), Kazuko Shinohara and Yoshihiro Matsunaka (2009), and Michał Szawerna (2011) — have effectively applied the analytical instruments of such cognitive linguistic approaches as George Lakoff and Mark Johnson’s (2003) classic theory of conceptual metaphor and metonymy, Lakoff’s (1987) theory of idealized cognitive models (ICMs), and Gilles Fauconnier and Mark Turner’s (2002) theory of conceptual integration to the analysis of the meanings encoded in comics. Szawerna (2012: 61–64) pinpoints the major reasons why the meaning of comics is particularly amenable to exploration through the lens of cognitive linguistics. Firstly, the meaning of a comic is not unlike the meaning of a linguistic expression: viewed from the cognitive perspective, both types of meaning take the form of conceptual representations constructed by human interpreters with the use of their background knowledge in response to sets of perceptually acquired, vastly underspecified cues. Secondly, the principle of cognitive linguistics whereby the meanings of linguistic expressions are shaped by the same mechanisms that guide non-linguistic cognition validates the application of the theoretical apparatus developed by cognitive linguists to the characterization of meanings encoded in comics, which combine linguistic and pictorial representations. It is for these reasons that Szawerna (2012) advocates the formulation of a cognitive linguistic theory of comics.

While Szawerna (2012: 60–61) believes that cognitive linguistics may provide comics scholarship with the best available academic orientation, he points out that the application of cognitive linguistics to the analysis of meaning in comics imposes the requirement of psychological plausibility onto the prospective semantic account. In accordance with this requirement, a semantic account of comics informed by cognitive linguistics constitutes a hypothesis about the representation of the concept of comics situated in the minds of comics readers. In view of the psychological plausibility requirement, Szawerna (2012: 64) identifies the selection of the theory of conceptual representation that is optimally appropriate to the task of characterizing the concept of comics as the key prerequisite for the development of a semantic account of comics. According to Szawerna (2012: 66–67), the theory of conceptual representation equipped with mechanisms enabling the analyst to integrate all of the information concerning comics obtained from competent informants into a coherent model of the concept of comics will be the optimal basis for the development of a comprehensive theory of comics informed by cognitive linguistics.

In order to gain an insight into the conceptual make-up of comics, Szawerna (2012: 64–65) anatomizes twelve expert definitions of comics and compiles a list of attributes which collectively characterize this conceptual category.² The list comprises twenty-two attributes: (1) *Comics employ pictorial and linguistic images*, (2) *Comics integrate words and images*, (3) *In comics, there is preponderance of image over text*, (4) *Comics feature speech balloons*, (5) *Comics utilize the entire icon-symbol continuum*, (6) *Comics comprise sequences of panels and pages*, (7) *Comics is a species of the narrative genre*, (8) *Comics are dramatic narratives*, (9) *Comics narratives are episodic*, (10) *Comics narratives are open-ended*, (11) *Comics employ recurrent, identified characters, with predictable ranges of behavior*, (12) *Reading comics is a skill involving progressive construction of meaning*, (13) *Reading comics requires that the reader make reference to external sources of information*, (14) *Comics are produced with the use of a reproductive, mass medium*, (15) *Comics are printed on paper*, (16) *Comics are of book-size scale*, (17) *Comics is a representational art*, (18) *Comics elicit an aesthetic response*, (19) *Comics convey information*, (20) *There are various functional kinds of comics: entertainment comics, instructional comics, storyboards, etc.*, (21) *Comics tell a moral and topical story*, and (22) *Comics have a low price*.

Szawerna (2012: 65–66) observes that these attributes make up clusters pertaining to such facets of comics as their form (attributes 1–6), their narrative potential (attributes 7–11), the way they are interpreted by readers (attributes 12–13), their production (attributes 14–16), their artistic aspects (attributes 17–18), their functions (attributes 19–20), their themes (attribute 21), and their status as market commodities (attribute 22). Szawerna (2012: 66) regards this clustering of the attributes as indicative of the multifacetedness of the concept of comics. Additionally, Szawerna (2012: 66) points out that these clusters vary in terms of the number of attributes they comprise and interprets this fact as an indication that the multiple facets of comics (artistic, commercial, formal, narrative, etc.) are not on a par in terms of their contribution to the characterization of the category of comics. What is more, Szawerna (2012: 66) demonstrates that the attributes abstracted from the analyzed expert definitions of comics vary in terms of their specificity, which seems to indicate that the category of comics extends over multiple levels of abstraction. He argues that the clustering of the attributes and their varying abstractness can be taken as symptomatic of the relations holding among them.

In the remainder of his paper, Szawerna (2012) evaluates what Lloyd K. Komatsu (1992: 502) refers to as “the similarity-based views” of conceptual representation — the classical view, the family resemblance view, and the exemplar view — with regard to their potential for integrating the attributes obtained by analyzing

² The definitions of comics examined by Szawerna (2012) come from books by Martin Barker (1989), David Carrier (2000), Randy Duncan and Matthew J. Smith (2009), Eisner (2008), Thierry Groensteen (2007), Harvey (1994; 1996), M. Thomas Inge (1990), David Kunzle (1973), McCloud (1994), Roger Sabin (1993), Mario Saraceni (2003), and Coulton Waugh (1991).

expert definitions of comics into a comprehensive description of this conceptual category. To Szawerna (2012: 71), the similarity-based views may be progressively more suitable for the formulation of a broad-based description of comics — with the classical view being the least and the exemplar view being the most suitable of the three approaches — but they share the fundamental flaw of reducing category descriptions to lists of unrelated attributes. According to Szawerna (2012: 71), a purely list-based description of comics cannot account for the multifacetedness of this concept because the clustering of the attributes presupposes the existence of relationships among them. As a list-based description cannot account for the clustering of the attributes of comics, it cannot account for their variable prominence either. Szawerna (2012: 71) observes that in a list-based description of comics — one which precludes the clustering of the attributes — the issue of the variable prominence of attribute clusters fails to arise. Additionally, Szawerna (2012: 71) believes that a purely list-based description of comics cannot account for the varying abstractness characteristic of the concept of comics, for the reason that the very conception of subordinate and superordinate levels of categorization presupposes the relationships between these levels and the basic level. What is more, Szawerna (2012: 71) regards the existence of the relationships among the entities presupposed by the attributes of comics (various kinds of pictorial and linguistic images) as problematic for a purely list-based description.

This paper, conceived as a direct continuation of Szawerna (2012), discusses the characterization of the conceptual category of comics in terms of frame theory: a view of conceptual representation which is argued to preserve the advantages of the similarity-based approaches and overcome their shortcomings when it comes to describing the conceptual make-up of comics reflected in the previously listed twenty-two attributes abstracted from the expert definitions of comics anatomized by Szawerna (2012). As regards this paper's structure, the main body falls into two sections. The first section outlines the principles of frame theory that bear on the selective frame-theoretic description of the concept of comics presented in the second section. Due to the limitations imposed on the length of this paper, the analytical scope of the second section in the paper's main body is largely restricted to a single, albeit central, facet of the conceptual category of comics: its material anchor.

2. The basic principles of frame theory pertinent to the concept of comics

According to Komatsu (1992: 510), a frame is a data structure comprising the data and the information about their use. Foremost frame theorists, such as Lawrence W. Barsalou (1992: 29) and David Everett Rumelhart (1980: 34), claim that frames represent all types of categories (animates, objects, locations, physical and mental events, etc.). As concerns the inner workings of frame theory, Barsalou (1992:

28–33) explains that it distinguishes between attributes and values. Both are said to be concepts, but while attributes are general, values are specific. Additionally, attributes comprise ranges of permitted values, but they tend to approximate defaults which collectively describe category prototypes. Situated at different levels of specificity, attributes and values are hierarchically related concepts which make up taxonomies comprising three levels: superordinate, basic, and subordinate. Consequently, a concept's status is a relative matter: while a concept may function as a value of a superordinate attribute, it may also function as an attribute with relation to its subordinate value. Since a concept can be resolved into more specific concepts at any level of abstraction, frames may be embedded in other frames to create hierarchically arranged frame systems.

As to other principles of frame theory pertinent to the concept of comics, Barsalou (1992: 37–40) points out that a frame typically includes a set of frequently co-occurring attributes that systematically recur across contexts. These so-called core attributes are said to be related, both correlationally and conceptually, with the former type of relation often emerging as a consequence of the latter. Because the relations among core attributes are relatively stable connections, they are referred to as structural invariants. Another important property of frames is pointed out by Komatsu (1992: 510), who states that not only does a frame retain experientially gathered information about unique category exemplars (i.e. encountered members of a category), but it also stores information abstracted across such exemplars. Barsalou (1992: 45) explains how this is accomplished: while unique category exemplars are stored in a frame as co-occurring sets of attribute values, they are at the same time integrated into the frame by virtue of the relations holding between them and the frame's attributes. What is more, category exemplars are not integrated into frames at random. Instead, they are organized according to similarity: exemplars with values on the same attributes are stored together by virtue of being integrated into the same frame, whereas exemplars with values on other attributes are stored elsewhere in long-term memory. As a result, exemplars with many shared attributes are stored closer to one another in memory than exemplars with few shared attributes. Importantly, integrating an exemplar into a frame does not necessarily cause the exemplar to lose information as the values characterizing the exemplar remain interconnected; it does, however, provide a natural mechanism for forgetting exemplar information.

Additionally, Komatsu (1992: 511) points out that frames include information not only about the relationships among a category's attributes (structural invariants and constraints), but also about class inclusion, i.e. the relationships among categories situated at different levels of specificity. Barsalou (1992: 51) explains that class inclusion emerges naturally in frames because subordinates are sets of exemplars whose values constitute a subset of frame information. He goes on to add that taxonomies emerge in frame systems through the representation of more and more specific subordinates, whose increasing specificity results from their

progressive characterization with relation to particular values set on more and more frame attributes. As to typicality effects, frames produce them naturally according to Barsalou (1992: 47), who describes frame theory's conception of a prototype as "the set of most frequent values across attributes" (Barsalou 1992: 47). While he does not regard prototypes as necessarily stable representations within frames, he does insist that they "provide default information about a category when values for frame attributes are not specified explicitly" (Barsalou 1992: 49).

3. A selective frame-theoretic description of comics

This section presents a selective frame-theoretic characterization of the conceptual category of comics, with the focus on frame theory's ability to account for the information concerning comics which Szawerna (2012) demonstrated to be problematic when viewed from the perspective of the similarity-based views of conceptual representation: the classical view, the family resemblance view, and the exemplar view. Subsection 3.1 discusses two attribute-related benefits of a frame characterization of comics. Subsection 3.2 evaluates the potential of frame theory to account for the multifacetedness of the internal structure of the category of comics observable at varying levels of abstraction: both at the most inclusive level of the concept as a whole and at the more specific level of the concept's component subframe of a comic, which comprises the subordinate level of maximally specific individual exemplars of comics as well as the basic level of comics publication formats (cartoons, comic strips, comic books, etc.). Subsection 3.3 explores the issue of the representability of the multifarious relations obtaining among the core attributes of a comic in a frame-theoretic account of the conceptual category of comics.

3.1. The attribute-related benefits of a frame representation of the concept of comics

It seems that there are two attribute-related advantages of a frame representation of comics over a characterization of this concept in terms of the similarity-based views of conceptual representation referred to previously. Firstly, the fact that the attributes abstracted from expert definitions of comics by Szawerna (2012) vary in terms of their degree of specificity can be considered a natural consequence of frame theory's view of categories as conceptual hierarchies comprising attributes broken up into values. In the frame of comics, then, the rather specific properties *Comics narratives are episodic* and *Comics narratives are open-ended* can be straightforwardly characterized as values of the property *Comics are dramatic narratives*, which in turn becomes an attribute when considered in relation to the two specific properties. Secondly, the non-binary, continuous properties of comics,

such as *In comics, there is preponderance of image over text* and *Comics utilize the entire icon-symbol continuum*, which Szawerna (2012) showed to be particularly problematic for the classical view of categorization, are naturally incorporated into the frame of comics as the theory of frames does not preclude the possibility of a continuous distribution of the values making up frame attributes.

3.2. On incorporating the multifacetedness of comics observable at varying levels of specificity into a frame representation of this conceptual category

Apart from the attribute-related benefits of a frame representation of comics discussed in the preceding subsection, there are other, perhaps more crucial, advantages to applying frame theory to the description of the conceptual category of comics. Two interdependent tenets of this theory — (1) concepts make up intricate taxonomies with multiple levels corresponding to points along the scale of abstraction and (2) a concept can be broken up into further concepts at any taxonomic level — ensure the emergence of hierarchically arranged frame systems in which frames comprise other frames, which in turn comprise yet other frames, etc. The fact that an open-ended set of lower-level frames may function as the constitutive attributes of a higher-level frame is of key importance to a psychologically plausible characterization of comics, because this complex conceptual category presupposes an array of knowledge structures as parts of its characterization. To the extent that these knowledge structures are invoked by the previously listed twenty-two attributes of comics abstracted from expert definitions by Szawerna (2012), the attributes can be taken as instrumental in identifying the conceptual complexes functioning as the attributes of the comics frame.

Without a doubt, the conceptual representation of a comic — the physical object embodying the principal conventions of comics — makes an important attribute of the comics frame (cf. McCloud 1994: 4). In blending theory, this kind of physical object — a prop whose conceptual representation figures prominently in the structure of a category — is known as the category’s “material anchor” (Fauconnier and Turner 2002: xiv). The material anchor of the comics frame is invoked by several attributes abstracted from expert definitions: *Comics employ pictorial and linguistic images*, *Comics feature speech balloons*, *Comics comprise sequences of panels and pages*, *Comics are produced with the use of a reproductive, mass medium*, *Comics are printed on paper*, *Comics are of book-size scale*, and *Comics have a low price*. As the representation of a comic constitutes a conceptually complex attribute, it is in itself a frame, albeit embedded in the more inclusive, higher-level frame of comics. The sub-frame of a comic comprises attributes pertaining to such aspects of this material anchor as its color, constituent parts, length, part-whole, price, status, shape, size, thickness, the material of which it is made, weight, etc. The default values on these attributes collectively characterize a prototypical comic as a low-priced small-sized pamphlet comprising about thirty

lightweight stock pages of colorful panels containing cartoon art as well as writing enclosed in balloons and caption boxes.

The fact that comics vary greatly relative to all of the attributes making up the sub-frame of a comic is reflected in each attribute's encompassing a range of values. This kind of range can be either digital, with a fixed number of clearly defined choices (as in the case of length, shape, and size), or analogue, with a continuous range of choices (as in the case of color and thickness). For example, the digital range of values making up the attribute of shape makes it possible to account for comic book covers which are shaped like a vertically oriented rectangle, a horizontally oriented rectangle, a square, etc. In turn, the digital range of values making up the size attribute of a comic makes it possible to account for comics which are pocketbook size, regular pamphlet size, large album size, etc. Similarly, the digital range of values making up the attribute of length, measured in terms of the number of panels a comic is comprised of, makes it possible to account for the traditional distinction between cartoons, which are composed of a single panel (Saraceni 2003: 35), comic strips, made up of "very few panels" (Duncan and Smith 2009: 6), and comic books, comprising "many panels" (Duncan and Smith 2009: 6). To give one more example of a digital range of values, the part-whole status attribute accounts for the distinction between comics integrated into larger publications, i.e. cartoons and comic strips, and comics in the form of unattached publications, traditionally referred to as comic books. As to value ranges of the analogue kind, the values making up the attribute of a comic's thickness make it possible to account for a variety of comic books, ranging from slim pamphlets to albums of varying thickness to exclusive, typically hardbound, collector's editions made up of hundreds of pages.

Collectively, the specific values along the constitutive attributes of the sub-frame of a comic characterize individual comic exemplars, with the proviso that a particular exemplar of a comic need not be characterized relative to all attributes making up the sub-frame of a comic. For example, with relation to the attributes pertaining to the length, part-whole status, shape, size, and thickness of a comic, an individual issue of DC's *Superman* (1939–) can be characterized as an unattached slim multipanel comic the size of a regular pamphlet, shaped like a vertically oriented rectangle. In turn, Bill Watterson's *The Revenge of the Baby-Sat* (1991) can be characterized relative to the same attributes as an unattached medium-thick multipanel comic the size of a children's book, shaped like a square, while the Kitchen Sink Press edition of *Flash Gordon by Alex Raymond, vol. 1: Mongo, the Planet of Doom* (1990) can be described as an unattached medium-thick multipanel comic the size of an oversize album, shaped like a horizontally oriented rectangle. The fact that the three comic exemplars referred to here have values on the attributes of the comic sub-frame pertaining to shape, size, and thickness is indicative of their comic book status. In contrast, cartoons and comic strips, which do not have values on the attributes of shape, size, and thickness,

can be characterized only with reference to the attributes of part-whole status and length. With reference to these two attributes, a newspaper daily issue of Charles M. Schultz's *Peanuts* (1950–2000) qualifies as a comic strip insofar as it constitutes a supplement within a newspaper and is composed of only several panels, whereas a substantial corpus of drawings by such artists as Feiffer, Mlecenko, and Piraro qualify as cartoons by virtue of their single-panel structure and integration into the larger whole of a magazine.

To summarize, the characterization of the material anchor of the category of comics, referred to as a comic, as a frame comprising an array of attributes and their values makes it possible to simultaneously include an abstract representation, or a general idea, of a comic and the representations of particular exemplars of comics (specific cartoons, comic strips, and comic books in all their idiosyncratic detail) in the description of comics. What is more, this characterization of a comic provides a means of explicitly representing the level of categorization that is intermediate between the high-level abstracted idea of a comic and the low-level particularized comic exemplar representation: the basic level at which particular publication formats of comics (Lefèvre 2000) — the cartoon, the comic strip, and the comic book — are situated. At this intermediate level, cartoons, comic strips, and comic books make up sets of exemplars that differ in terms of the attributes relative to which they are characterized as well as the values they have on these attributes. In other words, the exemplar sets representing types of comics constitute subsets of the information making up the sub-frame of a comic insofar as they make selective use of the attributes stored in the sub-frame and their values. For example, if such attributes of a comic as its length, part-whole status, price, shape, size, thickness, and weight are taken into consideration, then comic books are characterizable relative to all of them, while cartoons and comic strips can only be characterized in terms of the first two: length and part-whole status. Additionally, the distinction between magazine cartoons and newspaper comic strips can be reduced to the values these types of comic have on the attribute of length: cartoons consist of a single panel, whereas comic strips are comprised of more than one panel.

Additionally, frame theory predicts that the representations of the particular exemplars of the comic sub-frame will be grouped together by virtue of being integrated into the sub-frame on the basis of similarity. The representations of individual cartoons, comic strips, and comic-books will be stored in different locations within the sub-frame of a comic because their descriptions share some of the attributes making up the sub-frame, but ultimately make reference to non-identical sets of these attributes. The internal structure of the comic sub-frame, wherein the high-level abstract representation of a comic coexists with the representations of individual exemplars of comics, mediated by the representations of cartoons, comic strips, and comic books, which in turn determine the grouping together of the specific exemplars, directly reflects the intuitions of comics experts like Randy Duncan and Matthew J. Smith (2009: 5–7) and Coulton Waugh (1991: 14), for

whom cartoons, comic strips, and comic books are separate, albeit related, instantiations of the more general concept of a comic.

Importantly, the sub-frame of a comic cannot be reduced to sets of attributes and values; of equal importance are the relations holding between these components of the comic sub-frame. The types of relations between what are argued to be the essential, or core, attributes of the comic sub-frame are discussed at some length below with reference to the constituent parts of a comic.

3.3. On incorporating the relations among the core attributes of a comic into a frame representation of this conceptual category

The principle of frame theory whereby a set of correlationally and conceptually interconnected core attributes characterize most, albeit not necessarily all, members of a category makes it possible for the frame representation of comics to capture an important insight of comics experts: comics employs “a great number of conventions” (Barker 1989: 6) which are collectively employed in a substantial portion of the comics corpus, but are not necessarily actualized in all of it (Gabilliet 2010: xiii). There is a general consensus among comics experts (cf. Barker 1989: 6; Carrier 2000: 74; Duncan and Smith 2009: 4; Gabilliet 2010: xiii; Inge 1990: xi; Kunzle 1973: 2–3; Waugh 1947: 13–14) that a comic features a narrative told in a sequence of panels comprising iconic (pictorial) and symbolic (written) images. In addition to panels, comics employ such pictorial conventions as caption boxes, speech- and thought-balloons, speed lines, etc. As for writing, it is used in comics to represent narrative elements, speech, thought, and a variety of non-linguistic sounds (Sabin 1993: 5). Collectively, the conventions pertaining to pictures and writing are argued to make up a set of core attributes featuring prominently in the sub-frame of a comic.

To substantiate this assumption, it is instructive to invoke Ronald W. Langacker’s (1987) account of cognitive domains. To Langacker, the semantic structure of a linguistic expression is characterized with reference to one or more cognitive domains, which he defines as “mental experiences, representational spaces, concepts, or conceptual complexes” (1987: 147). To the extent that the sub-frame of a comic can be equated with the semantic structure of the English expression *a comic* and the attributes making up the sub-frame can be regarded as concepts, Langacker’s observations concerning the characteristics of cognitive domains seem to be pertinent to the discussion of the internal structure of the sub-frame of a comic. While Langacker (1987: 155) subscribes to the open-ended, encyclopedic conception of semantics laid out by such scholars as John Haiman (1980), he at the same time claims that “[t]he multitude of specifications that figure in our encyclopedic conception of an entity clearly form a gradation in terms of their centrality” (Langacker 1987: 159). Langacker (1987: 159) goes on to add

that the centrality accorded to a facet of a conceptual representation of an entity tends to correlate with the degree to which this facet is conventional, generic, intrinsic, and characteristic. Langacker (1987: 159–161) explains that knowledge is conventional to the extent that it is widely known and shared by the members of a community. In turn, the extent to which knowledge is generic is said to be directly proportional to the number of category exemplars it pertains to. As for the third parameter, knowledge is said to be intrinsic to the extent that it relates to the internal properties of an entity that are not due to external influence. Lastly, knowledge is said to be characteristic to the degree to which knowledge is unique to a particular class of entities.

It is arguable that the conventions pertaining to pictures and writing, which were previously hypothesized to make up a set of core attributes within the sub-frame of a comic, register high values when measured against all four of the parameters determining the centrality of a facet of an entity's knowledge, or, in terms of frame theory, the prominence of an attribute within a frame. These attributes are highly conventional because it is a widely recognized fact of popular culture that comics combine iconic and symbolic images in a unique fashion. Additionally, the attributes are highly generic insofar as they pertain to all types of comics, cartoons, comic strips, and comic books alike, and are thus encountered in a vast majority of the exemplars of the sub-frame of a comic. What is more, the attributes are highly intrinsic as they constitute parts of the material outfit of a comic. Lastly, the attributes are highly characteristic: even though each of them is employed by comics as well as other modes of expression, their combination seems to be unique to comics.

On the whole, then, unique exemplars of the material anchor of the category of comics, i.e. individual comics in all their specificity, as well as the more abstract comic types, i.e. cartoons, comic strips, and comic books, characterizable in terms of frame theory as sets of interrelated attributes and values, make use of some, but not necessarily all, of the potential residing in the combination of the conventions making up the set of core attributes characteristic of the category of comics. In the words of Thierry Groensteen, each comic “only actualizes certain potentialities of the medium, to the detriment of others that are reduced or excluded” (2007: 12). Other comics experts (Gabilliet 2010: xvi; Sabin 1993: 5; Waugh 1991: 14) make the same point less directly by using adverbs like *typically*, *usually* or *often* when they speak of the employment of a particular convention in specific comics publications. The following discussion shows the ways in which these core attributes are linked by means of a variety of structural invariants, of which spatial, causal, and intentional relations appear to be the most prominent.

The iconic and symbolic images inside a comics panel — the pictorial representations of characters, the speech balloons issuing from their mouths, the writing in the balloons, the visual representation of the environment in which the characters are situated, the caption boxes, the writing the boxes contain, etc. — can be

considered spatially related by virtue of their mutual closeness within the panel's boundaries: the law of proximity formulated by the Gestalt psychologist Max Wertheimer (1999) states that visual elements located in each other's neighborhood tend to be processed collectively. Additionally, these images are all spatially linked to the panel that encompasses them via a part-whole relation: they are the visual components of which the panel is composed. But a speech balloon can also be viewed as both causally and intentionally related to the image of a character for the reason that the character's speech, metaphorically represented by the writing inside the balloon, is interpreted as a product of the character's communicative intention.

So far, a variety of structural invariants — spatial, causal, and intentional relations — have been shown to link the components of a comics panel. While some structural invariants are confined to the boundaries of an individual panel, others extend beyond a panel's frame. These cross-panel connections hold between comics panels, which are said to make up hierarchically arranged strings. Groensteen (2007: 30) distinguishes between several types of such panel strings, or, as he calls them, "multiframes" (Groensteen 2007: 30): the strip, the page, the double page, and the entire comic book. These multiframe types are said to be "systems of panel proliferation that are increasingly inclusive" (Groensteen 2007: 30) in the sense that a comic book includes double-page spreads, which are in turn comprised of individual pages, which in turn comprise strips made up of panels.

By virtue of the gestalt law of proximity, a panel is spatially related to other panels making up the strip, the page, and the double-page spread in which it is situated insofar as the panels of which these three progressively larger multiframe types are composed are all simultaneously available to the reader's vision. In turn, by virtue of the part-whole relation, the same panel can be regarded as spatially related not only to the strip, the page, and the double-page spread, but also to the entire album. Similarly, a strip is spatially related to other strips situated on the same page or a double-page spread by virtue of the proximity law, while its spatial relation to the page, the double page, and the album of which it is a constituent is of the part-whole kind. Additionally, the pages making up a double-page spread can be conceived of as spatially related to each other by virtue of their mutual proximity, while each of them can be said to be spatially related to the double page on account of its function as a constitutive part of the spread. Finally, the double page can be viewed as spatially related to the entire album by virtue of the part-whole relation.

To summarize, the core attributes which figure in the conceptual representation of a comic, as a sub-frame embedded in the frame representation of the entire category of comics, have been shown to be related by means of a variety of structural invariants. These core attributes — conceptual representations of the iconic (pictorial) and symbolic (written) components of a comic — have been shown to be linked correlationally, i.e. by virtue of their co-occurrence, as well as

conceptually, i.e. by means of spatial, causal, and intentional interconnections. The structural invariants linking the core attributes of a comic — images of characters, background elements, caption boxes, various types of balloons, entire panels, etc. — are conceived of as constant relations, generally true of most comics. It is in this sense that they are referred to as normative by the proponents of frame theory (Barsalou 1992: 37).

4. Conclusion

According to Szawerna (2012), the similarity-based views of conceptual representation — the classical view, the family resemblance view, and the exemplar view — lack the mechanisms that would enable them to integrate the information gained by analyzing expert definitions of comics into a comprehensive description of the conceptual category of comics. This paper, which is a continuation of Szawerna (2012), argues that unlike the similarity-based views, a frame-theoretic account of the concept of comics readily accounts for the multifacetedness of comics, the variation in the degree of prominence attributed to the multiple facets of comics, the variation in the degree of abstractness observable in the category of comics, and the interplay between the components of the visual representation found in comics. The principle of frame theory, whereby an open-ended set of lower-level frames may function as the constitutive attributes of a higher-level frame, makes it possible to describe comics as a conceptual category presupposing an array of knowledge structures as parts of its characterization. The same principle makes it possible to simultaneously include an abstract representation of a comic and the representations of specific cartoons, comic strips, and comic books in the frame of a comic. Additionally, a frame-theoretic characterization of a comic readily incorporates the subframe's basic level of categorization, at which individual comics publication formats — the cartoon, the comic strip, and the comic book — are situated. The principle of frame theory whereby a set of correlationally and conceptually interconnected core attributes characterize most, albeit not necessarily all, members of a category makes it possible for the frame representation of comics to account for the variation in the degree of prominence attributed to the multiple facets of a comic. Lastly, the principle of frame theory whereby the core attributes of a frame are linked by means of a variety of relations readily accounts for the interplay between the components of the visual representation encountered in comics. As the mechanisms of frame theory seem to enable the analyst to integrate all of the information concerning comics obtained from prominent comics scholars into a coherent representation of the conceptual category of comics, frame theory appears to be the best available basis for the development of an overall theory of comics informed by cognitive linguistics.

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