UvA-DARE (Digital Academic Repository)

Pictorial runes in 'Tintin and the Picaros'

Forceville, C.

DOI

[10.1016/j.pragma.2010.07.014](https://doi.org/10.1016/j.pragma.2010.07.014)

Publication date

2011

Document Version

Submitted manuscript

Published in

Journal of Pragmatics

[Link to publication](#)

Citation for published version (APA):

Forceville, C. (2011). Pictorial runes in 'Tintin and the Picaros'. *Journal of Pragmatics*, 43(3), 875-890. <https://doi.org/10.1016/j.pragma.2010.07.014>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

The following is a preprint of a paper that published as: Forceville, Charles. "Pictorial runes in *Tintin and the Picaros*." *Journal of Pragmatics* 43: 875-890. DOI: 10.1016/j.pragma.2010.07.014. If you want to quote from it, please do so from the published version.

Abstract: Speed-lines, movement-lines and emotion-enhancing flourishes ("pictorial runes") may contribute, marginally or substantially, to the potential meanings to be inferred from a comic's panel. It seems plausible that pictorial runes convey their meanings in patterned ways, but hitherto little systematic research appears to have been done to investigate them. The primary aim of this paper is to present the first version of a model to research pictorial runes by inventorying and categorizing all specimens occurring in a single *Tintin* album and to generalize tentatively about their meaning. In this manner, the model can be further tested, refined, elaborated, or refuted, in further research. Such research will aid both comics scholarship and cognition studies based on visual stimuli.

Keywords: pictorial runes, comics, visual language, conceptual metaphor theory.

1. Introduction

Narrative information pertaining to events and characters in comics albums is conveyed in two modalities: language – about which I will say very little – and visuals. As to the visuals, in mainstream comics real-

Forceville: Pictorial runes in *Tintin and the Picaros*

world events and characters are mostly depicted more or less mimetically, although comics artists may vary greatly between aiming for anything ranging from “photo-realism” to extreme stylization. Recognition on the part of the readers/viewers of course presupposes their willing suspension of disbelief; they are expected to grant ontological status to cartoon characters: we know what Tintin, Asterix, and Lucky Luke look like, just as we know what a unicorn looks like – even though none of them has a referent in real life.

However, there is another type of visual information that many comics artists make use of. The elements belonging to this type have been called “pictorial runes” (Kennedy, 1982; Forceville, 2005) but are also known as “indicia” (Walker, 2000: Chap. 2), and “cartoon symbols” (McCloud, 2006: 125), while in their richly illustrated compendium of visual signs in comics, Gasca and Gubern (2001: 194) use the Spanish expression “símbolos cinéticos.” As a first approximation, pictorial runes can be described as non-mimetic graphic elements that contribute narratively salient information. Examples of pictorial runes are lines behind a running character to indicate speed, a halo of droplets around a character’s head to suggest she is emotionally affected, and the wavy lines above a garbage bin to convey its smell.

Charting and identifying patterns in pictorial runes serves at least the following purposes. In the first place, such inventorying will contribute to the historiography and theorization of the comics genre. Will it be possible to credit specific artists with the invention of certain runes? Do

runes develop over time? Do they characterize the style of certain artists or artistic movements? Are they bound to certain cultural traditions?

In the second place, understanding runes will increase our insight in the possibilities of pictorial communication. While realistically depicted phenomena can assume an infinite number of forms and occur in endless combinations, runes, by contrast, constitute a limited repertory of elements. Moreover, the ways they can be combined with each other as well as with other sources of narrative information also appear to be constrained. Runes thus have characteristics in common with language that most other types of visuals do not (other exceptions are traffic signs and logos; see Koller [2009] for discussion of the latter): they have a more or less fixed form, just as words have a more or less stable spelling and allow for limited variation in their orthography; they form a relatively closed set; and they have a rudimentary “syntax.”

Thirdly, since runes visually suggest events that are literally unrepresentable, such as movement and emotions, they constitute pictorial equivalents of what in language would be labeled metaphors, metonymies, or other tropes. Tversky proposes the phrase “figures of depiction” (Tversky, 2001; see also Forceville, 2005, 2006, 2008, 2009) for these non-literal pictorial phenomena. Investigating pictorial runes will shed light on the broader question how visual information can be used to communicate non-literally, which is a matter of interest in the fields of graphics and design.

Forceville: Pictorial runes in *Tintin and the Picaros*

Finally, runes may tell us something about how we think. Lakoff and Johnson's (1980, 1999) "embodied cognition" view has as a central tenet that human beings can only conceive of abstract phenomena by metaphorically coupling them with concrete phenomena, i.e., phenomena that are perceptible via the body's motor functions and its sense organs. Most of the research found in support of this thesis is, however, purely verbal in nature. Here lurks a danger: skeptics (Murphy, 1996; Haser, 2005) object that metaphor may after all be a matter of language alone. In order to further probe the validity of Lakoff and Johnson's influential claim (e.g., Lakoff and Johnson, 1980, 1999; Lakoff, 1987, 1993; Johnson, 1987, 1993, 2007, Sweetser, 1990, Kövecses, 2000, 2005, 2010; Gibbs, 1994, 2006, 2008), systematic examination of non-verbal data is needed. With reference to runes, the important question would be: are they closer to Peircean indices or to Peircean symbols, that is, are they motivated or arbitrary signs (see Forceville, 2005)?

Although there are some scattered references to what are here called pictorial runes (Tan, 2001; Saraceni, 2003: chapter 2; McCloud, 2006: chapter 3; Cohn, 2007), no sustained investigations into the phenomenon appear to exist in the young discipline of comics theory. However, some work on runes has been done by scholars in media studies and linguistics. In Forceville (2005) I investigate all the visual signs (both iconic/mimetic and runic) used in a single Asterix album to depict angry characters, based on Kövecses' (1986, 2000) blueprint of how this emotion is expressed in language. Eerden (2009) explores the signs for

anger in other Asterix albums as well as in Asterix animation films, demonstrating that the use of another medium (allowing for movement, and the use of sound and music) affects the use of runic renderings of emotions. Van Eunen (2007) examines PRIDE and FEAR, also charted by Kövecses, in both Asterix and Donald Duck. Shinohara and Matsunaka (2009) find that, by and large, Japanese Manga use the same runes for anger I locate in Asterix, but also identify runes that are typical of Manga (see also McCloud, 2006: 97).

In this paper I will pursue the study of runes from a different perspective. In the studies hitherto cited the question was: “what runes (and iconic/mimetic signs) are used to depict anger and other emotions in comics, Manga, and animation?” By contrast, I will here make an inventory of all the runes in a single *Tintin* album. The goal is the development of a model for cataloguing and analyzing pictorial runes. It will be argued that it is possible to assign to each of these runes a more or less specific meaning, and that runes are to a considerable extent motivated signs, that is, it is not pure coincidence that they look the way they do. Methodological problems are discussed to help pave the way for other researchers who want to use, adapt, and refine the model for analysis proposed here.

2. The runes in *Tintin et les Picaros* (Hergé, 1976)

2.1 Definition and characterization of runes

Tintin and the Picaros (original title: *Tintin et les Picaros*) provides a fitting corpus. Perhaps more than any other series, Hergé's *Tintin* albums can lay claim to epitomizing the canonical European mainstream comic, and we may assume that the last album that the father of the "clear line" and his studio completed shows the master in full command of his pictorial repertoire. Moreover, the *Tintin* albums belong to the type of comics that Benoît Peeters calls "rhetorical," and whose primary aim is to tell a long story as clearly as possible – as opposed to what the other three types aim for: ornamentation, experimentation, and telling (part of) a story or joke in the three or four panels available in a newspaper or magazine (Peeters, 1998: 48 *et passim*). Hergé knew exactly what he wanted to achieve: "The great difficulty in comics, or so it seems, is to show only what is necessary and sufficient for understanding the story; nothing more, nothing less" (Sadoul, 1989, cited in Peeters, 1998: 69, my translation, ChF).

Before an inventory of the runes in *Picaros* can be presented, it is necessary to delimit more precisely what visual phenomena are to be labeled "runes." Runes are typically very simple, abstract-looking flourishes, which would have little meaning if we were to encounter them in isolated, decontextualized form. They are to be distinguished from what are commonly known as "pictograms" (skulls, lightning, flames, stars, boxing gloves, flowers, etc. – called "metáforas visuals e ideograms" by Gasca and Gubern [2001: 312 ff]), which are often used to signal

Forceville: Pictorial runes in *Tintin and the Picaros*

characters' emotional or physical states. Like runes, pictograms are used in a non-literal way. But pictograms have some inherent meaning because of their mimetic character. Another source of non-literal visual information in comics pertains to text and thought balloons. Deviating formats and colors, unusual typefaces and fonts, creatively designed onomatopoeia, and non-standard "tails" (the part of the balloon that points toward its speaker) are all important instruments to convey meaning visually, but it seems wise not to include them under the general heading of runes (*pace* Forceville, 2005), and discuss them elsewhere (see Forceville, Veale, and Feyaerts, forthcoming).

Whatever it is that a rune communicates, it seldom does so on its own. A rune's meaning reveals itself in combination with one or more of the following: (1) other runes; (2) pictograms; (3) balloon features; (4) iconic information, including facial expressions and hand/arm postures (Forceville 2005); (5) panel form, lay-out and orientation; and (6) verbal text. Given this dependence on other types of information, runes could be metaphorically seen as graphic equivalents of what in language are *bound morphemes* (I owe the analogy to Engelhardt, 2002: 24). Finally, while some runes typically consist of a single item, others typically consist of multiples. A rune is "single" if it can be drawn without taking the pencil off the paper; it is "multiple" if it cannot. Some multiples consist of identical items occurring as haloes around characters' heads or as "emanating" in a semicircle from a source; others consist of more or less fixed, gestalt-like combinations of two or three separate flourishes. If a rune acquires its

Forceville: Pictorial runes in *Tintin and the Picaros*

meaning always or predominantly because it is part of a multiple, this multiple will here nonetheless be referred to collectively as one “rune.” In table 1, the runes identified in *Picaros* are listed, named, and briefly described. Subsequently they are characterized in greater detail.

Pictorial rune	Name for rune	Typical location and orientation
Speed lines	Behind or parallel to a person or object, often indicating direction.
Three types of movement lines	In various orientations around or parallel to a body part or other object.
Droplets	In multiples in halo-like fashion around a person's head.
Spikes	In multiples in halo-like fashion around a person's head or other object.
Spiral	Usually in multiples in halo-like fashion around a person's head, sometimes singly, parallel to a body part.
Twirl	Usually single, appearing more or less horizontally behind an agent or vertically above a person's head.

Table 1. Stylized examples of pictorial runes used in *Tintin and the Picaros*.

2.2 Detailed characterization of runes in *Tintin and the Picaros*

Speed lines. Speed lines can be either straight or curved and may be of varying length. Mostly two or three lines with the same form are used roughly parallel to each other, sometimes “tapering off” in one or more shorter lines or dots. Speed lines are primarily used to indicate a

Forceville: Pictorial runes in *Tintin and the Picaros*

trajectory that a character, vehicle, or other object has covered, often with a certain velocity. Typically, they occur behind a running person's feet or legs, or behind or parallel to cars, motorbikes or other vehicles. If the agent has come from around a corner, or has made a whirling movement, speed lines may be accordingly curved (e.g., 1.2.1 [fig. 1], 19.3.3 [= page number, row, and panel, respectively]; see table 2 for quantitative information about all runes identified). It is to be noted that many "realistic" lines suggesting the materiality (or "texture"; see Kennedy, 1974: chapter 7) of the visual environment (such as "ruts" on roads and tarmac) convey the same information as speed lines.

Fig. 1. Speed lines behind Tintin's motor bike, *Tintin et les Picaros*, panel 1.2.1.

Movement lines. Movement lines are slightly curved, short lines that appear mostly parallel to a body part, and sometimes parallel to an inanimate object, to indicate motion. It is not always easy, or even

possible, to distinguish between movement and speed lines, since both designate the trajectory and direction of a movement. By and large, movement lines differ from speed lines in emphasizing a movement of something relative to an entity to which it is physically connected. The typical example is the movement of a *body part*, caused by bending a joint (wrist, neck, knee, ankle, middle, shoulder). By extension, the lines indicate restricted movements in *objects* that are part of larger wholes, such as an opening door, turning on its hinges.

Fig. 2. Movement lines and a twirl to cue Haddock's wrist movement, *Tintin et les Picaros*, panel 1.4.2b.

In panel 1.4.2b (fig. 2.), for instance, the movement lines indicate captain Haddock flicking his wrist to empty his glass. The lines in this case signal a movement that has already taken place. This is conveyed by the two movement lines parallel to his Adam's apple, which reveal his swallowing. An interesting case is 32.4.3, where two movement lines next to professor Calculus' right pocket indicate that he is rumbling in it; the movement lines draw attention to the fact that he there holds the anti-booze pills which, as transpires a few panels later, he will surreptitiously

throw into the Arumbayas' cooking pot. In line with Hergé's self-imposed mission not to use superfluous visual information, the focus on movement here as elsewhere serves to make salient narratively important information.

Droplets. Unlike the other runes discussed, droplets can have a purely literal, mimetic meaning: that of little units of liquid, for instance in the form of water, sweat, tears, and spit. Examples of such literal uses in *Picaros* are 8.1.1 (Nestor, the butler, perspiring in embarrassment when caught drinking Haddock's whiskey), 16.2.4b (Haddock spewing unpalatable whiskey), 16.3.2 (Calculus bathing), and 44.4.2 (Alcazar, bleary-eyed because of a tear gas grenade).

Fig. 3. Emotion droplets. *Tintin et les Picaros*, panel 50.2.2.

But droplets are also used in a way that warrants labeling them as runes, namely when they depict something non-literally. Specifically, they are used to suggest that someone is emotionally affected. Droplets occur

in multiples (up to eight, as in 3.3.3), and the range of emotions they convey includes surprise or consternation (1.4.3, 5.4.3, 9.4.3), anger (13.4.3, 40.1.1), anxiety (3.3.2, 3.4.4, 50.2.2 [fig. 3]), and fear (10.3.3) – although it is not always possible to pinpoint the precise emotion(s) communicated in a specific panel. Even if the runic droplets should originate in beads of sweat, at the very least they have in their present halo-form developed into a strongly hyperbolic version, since in real life droplets of sweat do not defy the laws of gravity in the way they do here. McCloud makes the same point, calling this hyperbolic use “pure symbols” (2006: 96). In the runic variety, moreover, the droplets may occur around a character’s entire head – which again cannot be accounted for realistically. A third reason for seeing the halo-droplets as having only a very tenuous link with sweat beads is that for some emotions the droplets are arguably not even hyperbolically realistic. While an angry or a fearful person may in reality break out in sweat, “surprise” surely does not have this effect. It is furthermore notable that when Hergé wants to depict a sweating person (as in 12.4.2), he uses the droplets differently: they are not depicted in a halo, and fall *off* characters’ faces rather than emanate from their entire heads; in such cases they have not been considered runes. The droplets rune occurs quite frequently in *Picaros* – more than twice as often as literal liquid drops (151 versus 66 occurrences, respectively).

Since there is a continuum from unambiguously literal to unambiguously runic use of droplets, there are bound to be borderline

cases. These cases are interesting in themselves. In panels 33.4.3-34.3.2, Tintin and Professor Calculus are eating a very spicy Arumbaya dish. The droplets from their faces can here be both understood literally as resulting from their physical discomfort, and runically as conveying embarrassment at offending their hosts as a result of this. Since both are pertinent, the ambiguity is functional and need not be resolved. A similar situation occurs in 37.3.1, 37.4.1, and 37.4.2, where Tintin has just saved Haddock from a pool with a cayman. The droplets visible in these panels can be seen both as literal water, and as emotion runes. Again, the ambiguity is functional.

Spiky lines around (part of) an object. Often, a circle or semi-circle of straight lines is drawn around something. I propose to distinguish between three subtypes: (a) a semi-circle around a person's head, in halo-like fashion; (b) a circle around an onomatopoeia or a semi-circle around a sound-producing body part or device; (c) other cases. In type (a) the meaning appears to be similar to that of runic droplets: generic affect – and indeed straight lines are sometimes used in alternation with droplets (just as spirals are). In type (b) the primary function appears to be to enhance the idea that a sound is produced. This can be a knock on the door, a radio, or an onomatopoeia (in 48.3.3 [fig. 4] the spikes occur in both varieties). In type (c) the spikes draw attention to a salient item that otherwise might escape the viewer's attention. In panel 17.4.1 we see the proverbial banana over which the guard Manolo is about to slip

surrounded by these lines, and in panel 18.2.1 they appear around Haddock's pocket, where he searches for his tobacco. In 11.1.2 the straight lines are the most important cue that Nestor is not just standing behind a door but is actually eavesdropping, and in 28.1.1 the monkey that is – diminutively far ahead – crossing the road also is haloed with spikes. Sometimes, it is difficult to tell the sound-enhancing and attention-enhancing types apart. In 19.3.1, the spikes were counted as the latter, but one could argue that the turning key produces a sound as well, and the same could be said of the helicopter in 35.4.3 and 36.4.3. As in other cases, the ambiguity is functional. It is to be noted that in the transition from 23.3.2 to 23.3.3 the onomatopoeia for “knocking” becomes louder, which is partly indicated by bolder font spikes. Thus this rune allows for grading.

Fig. 4. Spike lines to indicate both sound and surprise, *Tintin et les Picaros*, panel 48.3.3.

Forceville: Pictorial runes in *Tintin and the Picaros*

Spirals. Spirals are corkscrew-like flourishes that occur usually in multiples. They always “emanate” from somebody or something. In *Picaros* they manifest themselves (a) around a character’s head (8.3.1 [fig. 5]); (b) from a music or sound-producing source; or (c) parallel to a body part or a vibrating object; (d) differently than in (a-c). The most frequently occurring variety is around people’s heads or faces, just as the droplets and the spikes. In almost all these cases, they convey a generically negative emotion, such as anger, disgust, or frustration. In some cases, the spirals alternate with droplets around a person’s head.

A second clear-cut situation where spirals are used is to convey sound or music. In the latter case, the panel usually also has the “musical note” pictogram. This variety of the spiral rune occurs for instance when Bianca Castafiore is singing (2.3.2; 21.4.3; 48.2.3); when Haddock is whistling (16.1.2b); when there is music on the radio (59.1.1); and at the Carnival parade (59.2.2). Non-musical sound spirals occur with a ringing telephone (3.1.1, 9.1.2) and a loud claxon (50.4.3).

Fig. 5. Anger spirals around Haddock's head. *Tintin et les Picaros*, panel 8.3.1.

Fig. 6. Anger spirals around Tintin's foot, *Tintin et les Picaros*, panel 28.2.2.

Sometimes a body part or an object has one or two spirals parallel to it. This variant of the spiral rune is used in *Picaros* to convey sustained exertion or shaking. Six cases have been identified: a TV set shaking when Bianca Castafiori is seen singing on it (2.3.1, 2.3.2; note that in both cases the "shake lines" have communicated themselves to the contour of the TV itself), a ringing telephone (3.1.1), a tipsy Snowy (4.1.1); and a hard-pulling Haddock (17.2.1, 17.2.2). It is important to note that the movement is not only repetitive but also involuntary, unlike the situation in movement lines.

Some spiral uses fit neither of these three categories, however. In these cases (in table 2 rated as "other"), the rune's meaning is less specific, but it appears to have negative connotations. In 2.4.4, the spirals emanate from the feet of Thomson and Thompson falling off stairs, probably hinting at "pain" (see also 17.2.3). Panel 18.2.4 shows spirals

around the hand of Haddock, impatiently searching for his tobacco in the pocket of his jacket.

The multiple communicative purposes that spirals can serve allow, as do other runes, for a degree of creative ambiguity. Thus the spirals surrounding the TV set on which the dictator Tapioca inveighs against Tintin and his friends (8.4.1) suggest both “sound” and “negativity.” Two panels with spirals deserve some discussion. The first is 23.4.2, where Tintin has “angry” spirals when first seeing his old friend Pablo; but in the next panel he smiles. We can account for this by assuming that Tintin is at first unpleasantly surprised to see his old friend Pablo with the enemy, but immediately changes mood. A somewhat similar situation occurs in 23.3.1, where from the spirals around Calculus’ head we are invited to infer that his mirth is mixed with malice.

Like text balloons, spirals occasionally occur in a panel not depicting the character they belong to, either because the character is “off-screen” or because he is blocked from view (18.1.1, 48.3.1, 48.4.3, 56.1.3). In these cases, textual information confirms that the non-visible characters emanate “negative emotion” (although in some cases they can also be taken to “speak loudly,” cueing the sonic interpretation of the spiral rune).

The spiral runes in the “other” category appear to retain the “negativity” meaning they have when used to convey anger. Here are some examples: In 28.2.2 (fig. 6), we see spirals around Tintin’s foot, which suddenly presses the brake while Alcazar is driving. The narrative makes clear that Tintin is angry that Alcazar ignores his urgent suggestion

to stop the car. It would thus be consonant with this narrative context to understand the spirals around Tintin's foot as qualifying his mood.¹ Similarly, Haddock's frantic rumbling in his coat pocket in 18.2.4 can be regarded as "angry, impatient" rumbling – but on a sceptic reading merely as emphasizing movement. But if the "angry" reading is accepted, these examples suggest an analysis in terms of metonymy: the "angry" foot and hand are both a saliently chosen body-part-for-the-whole-person. There is no principled reason why other runes, such as movement lines and twirls might not be deployed in similar fashion, but in *Picaros* this use has not been identified.

Finally, it seems that sometimes the spirals in *Picaros* convey a specific point of view. Panel 50.3.3b shows spirals emanating from the food that Tintin urgently requests Snowy to eat. Snowy's grimace and thought balloon make clear he dislikes the food because it is too spicy. The spirals cannot signify "heat" or "unpleasant smell," for they don't appear in the earlier panel depicting Snowy sniffing, but not yet eating from, the dish (50.2.3a), so they signify "negativity" to Snowy. Similarly, one could argue that the spirals' negativity in 56.1.3 is experienced not by Tintin and his group, or by the readers, but by the unpleasantly surprised dictator Tapioca. (Note, however, that an alternative interpretation is available: grim satisfaction on the part of Tintin c.s. at succeeding in

¹ An anonymous reviewer volunteered that the spirals may convey Alcazar's sudden pain rather than Tintin's mood. In that case, however, one would have expected the spirals to emanate from Alcazar's foot rather than from Tintin's. Yet another view might be that the spirals merely suggest that Tintin exerts pressure on Alcazar's foot.

deceiving Tapioca.) These examples suggest what in narratology is called *mental subjectivity* (Bordwell & Thompson, 1997: 105) or *focalization* via a specific character (Bal, 2009: 145-165). To what extent other runes are used in this way remains to be attested.

Twirl. A twirl resembles a spiral, but is visually distinguishable from it by being broader, and by having at least one open loop. Moreover, a twirl usually functions on its own, whereas a spiral almost always occurs in multiples (its use as “shaking line” being the main exception). There are two primary locations for a twirl: (1) behind the feet or legs of walking or running people and behind, sometimes alongside, moving vehicles, in a parallel (i.e., usually horizontal) orientation to these feet etc.; (2) above or around a person’s head, in an orientation that is typically at right angles to the head. In the first case it signals movement, and an indication of the direction from which the agent has come – similar to speed lines; in the second case it signals dizziness, drunkenness, confusion, or unconsciousness. In 26.2.3 (fig. 7) the twirl appears in both varieties.

Fig. 7. Two twirls, one indicating dizziness, the other movement and direction, *Tintin et les Picaros*, panel 26.2.3.

As for the movement twirl, behind walking and running persons or animals it always occurs singly, whereas behind moving vehicles sometimes more than one twirl is used. The dizziness twirl is found as a multiple of three or more in four panels (10.1.3; 17.3.3; 19.4.3; 37.3.2 – three of which pertain to Haddock); multiples here presumably suggest intensification of the rune's meaning.

Special cases. By far the majority of the runes found in *Picaros* are accounted for by the categories presented above. However, some runes do not, for various reasons, unambiguously fit into these categories. Panel 2.1.3a shows three wavy lines above Tintin's glass which most likely are to be seen as "smell lines" (Walker [2000: 29] suggests the name "waftarom" for them), although they could also be understood as "spirals," with "negativity" as their meaning. Note that if we opt for the latter interpretation, it is Tintin's *expectation* of foul smell that appears to

be connoted, not the actual foul smell – for it turns out there is nothing wrong with the whiskey (see 2.1.4). As suggested above, this suggests the possibility that runes may convey a subjective point of view. A more difficult case is the pair of identical flourishes appearing in 13.4.3. Are these runes conveying the heat of the dish? Its smell? And is there a jocular hint at the “anger spiral” in the flourish that appears above the guard’s head? Similarly ambiguous are the bulbous flourishes appearing parallel to Tintin and Calculus’ heads in 34.1.1 (fig. 8), 34.1.2, and 34.3.1 after eating from the spicy Arumbaya food and (in Tintin’s case) drinking from the whiskey that Calculus made unpalatable. The narrative situation suggests the characters’ physical discomfort, which we then are likely to see enhanced by the flourishes, but since these are the only instances appearing in the album, it is unclear how to describe and define this flourish. Lastly, the lines around the man’s head in 9.2.3 function as spiral shaking lines, but are graphically dissimilar to these.

Fig. 8. Irregular bulbous rune, *Tintin et les Picaros*, panel 34.1.1.

A category of lines that, after consideration, I decided to exclude from the "rune" catalogue are "reflection lines." Windows often have diagonal lines that indicate their transparent and (partly) reflective nature. Shiny floors in posh buildings invariably feature small vertical lines under the objects standing on these floors. Presumably, the lines reflect those objects. By no means all floors have them. Indeed, in pages 29-54, which depict jungle scenes, the only three reflection lines identified are on Jolyon Wagg's coach. Besides characterizing windows and floors, reflection lines also typify other objects: mirrors, TV screens, and shiny tables. I have taken such lines as hints that suggest objects' visible "texture," on a par with the token crease to indicate cloth, the token leaf to indicate foliage, and the token tuft of grass to suggest a lawn. For the record I note that not *all* windows have reflections, while conversely there are other means besides runes to indicate mirroring: colored patches, for instance, or (in outdoor scenes) shadowy contours of reflected buildings.

For completeness' sake it is to be emphasized that the many instances of "smoke" (Haddock's pipe, Alcazar's cigar) are considered stylized versions of phenomena that are visible in reality, and thus are not considered runes. Coloured "stars" to indicate concussion or pain (e.g., 2.4.3, 7.4.4) are regarded as pictograms rather than runes on the basis of the fact that "stars" have a rudimentary context-independent meaning.

Forceville: Pictorial runes in *Tintin and the Picaros*

Runic type	Subtype	Total number of occurrences in <i>Picaros</i> (755 panels)	Percentage of panels in which rune occurs
Speed lines		102	13.3%
Movement lines		155	20.5%
Runic droplets		151	20.0%
Spikes	Around heads	23	3.0%
	Enhanced sound	18	2.4%
	Attention	15	2.0%
Spirals	Around heads	37	4.9%
	Enhanced sound	22	2.9%
	Shaking	8	1.1%
	Other	4	0.5%
Twirls	Behind agents	64	8.5%
	Above heads	17	2.3%

Table 2. Rune frequencies in *Tintin and the Picaros*. Each rune, whether a single or a multiple, was counted *once* for each source in a panel, whereby a source is the character or object which is “qualified” by the rune or exudes the effect visualized by the rune. For example, if in a panel 12 speed lines appear behind three running characters, this was scored as three in the speed line category; if two of the characters in addition featured 7 movement lines in all, this led to a score of two in the movement line category.

3. Methodological considerations in the study of runes

A minimal requirement for the model outlined in this paper to make any sense is that the majority of the runes can be unambiguously classified in a category. That is, each instance must be recognizable as one rune rather than as another. Inasmuch as runes constitute a rudimentary language, certain flourishes must all be recognizable as, say, twirls, and different from the spiral (this is akin to the Saussurian distinction between the system of *langue* and its manifestations in *parole*). That is, for the

cataloguing procedure to work at least reasonably well, runes must have a prototypical or idealized manifestation. I am fully aware that a corpus consisting of a single album by a single artist, rated by a single rater, counsels cautiousness, and that many more case studies (both of works within and outside of the “clear line” tradition) are required for substantiation (or refutation) of the idea that all, most, some, or no runes have prototypical manifestations. Since I hope that the model presented in this paper will inspire other scholars to undertake new case studies (pertaining to other *Tintin* albums, other *oeuvres*, other styles, other periods, other geographical locations), it will be necessary to expand briefly on some premises I adopted and methodological problems I encountered in the process of cataloguing runes in this particular album. This will help future refinements, adaptations, and/or corrections with respect to the model.

The following issues deserve consideration: (1) Is something to be considered a rune, or a (stylized) literal depiction? (2) What, if there is such a thing, is a rune’s prototypical form (prototypical at the very least in an artist’s “idiolect” in a specific album)? (3) What is its prototypical location? (4) What is its prototypical orientation (e.g., horizontal, vertical, irregular; see also Engelhardt 2002: 25-28)? (5) Does a rune prototypically occur on its own, or as a multiple? (6) With what other runes, and other sources of visual or verbal information – if any – can a given rune occur? Let me briefly expand on each of these issues.

Forceville: Pictorial runes in *Tintin and the Picaros*

Rune or literal depiction? In my typology, the “droplet” can have both a literal and a runic meaning. My decision to opt, in a given case, for a runic interpretation rather than a literal one has been primarily motivated by the assessment whether laws of gravity for the droplets were defied (if yes: rune; if no: literal droplet), but inevitably there is a fuzzy boundary. The status of other flourishes sometimes also poses problems. Hergé often draws roads with lines on the tarmac that are parallel to these roads’ directions (e.g., 13.2.2). Are these literal or runic lines? I have opted to consider them as literal “materiality” lines rather than speed line runes – but they may serve the same purpose as speed runes. A third problematic case is backgrounds. In the jungle, the shrubs, tree leaves, and straw Arumbaya huts feature many lines that help attest the materiality of the entities depicted; but against their background, it is sometimes possible to construe a “camouflaged” rune.

Form. From table 1 we can gauge that some runes, such as the twirl, the droplet, the spike, and the spiral, have specific forms, which are not easily confused. Speed and movement lines, by contrast, can take a variety of forms, partly because they may enhance non-linear, erratic paths of motion. Decontextualized form alone is insufficient to distinguish between the two; orientation and location need to be taken into account to comprehend their meaning. Similarly, while the twirl and the spiral are usually clearly distinct, sometimes a twirl may have no open loops and so appear identical to a spiral. In such cases, the analyst has to make a choice on the basis of narrative plausibility. But note that there is

inevitably a degree of circularity here: the conclusion that *hoc loco* a flourish that graphically looks like a spiral is in fact a twirl is arrived at on the basis of supportive clues, such as other visual or verbal information – but this means that the flourish's meaning is subject to interpretation. The same problem presents itself when one of the halo-multiples (spirals, spikes, droplets) occurs around the head of a character that is relatively far away. The result is that these runes look the same (e.g., 26.1.2a, 53.1.1). The analyst should always consider the possibility that a new rune (sub)category needs to be designed, or alternatively, that an artist has added a fuzzy flourish to add some general dynamism rather than wishing to convey a precise meaning.

Location and orientation. We have seen that for instance the twirl – which is polyvalent out of context – acquires its meaning of “speed and movement” by appearing more or less horizontally behind a moving agent, and its meaning of “dizziness/drunkenness” by appearing more or less vertically above a character's head. Droplets usually appear halo-like around a character's head; spirals and spikes often do so as well, but these latter may also be used elsewhere in a panel.

Even when form, location and orientation are unambiguous, the meaning of a rune cannot always be given uncontroversially. Although I propose subclasses for several runes, objective categorization is sometimes impossible. For instance, the “spike” halo is used in one of its manifestations to indicate sound and in another to draw generic attention – but sounds are also attention-drawers. I categorized the spikes as

Forceville: Pictorial runes in *Tintin and the Picaros*

“sound-enhancing” rather than as attention grabber whenever I assumed a sound was made (e.g., the tape recorder’s click in 56.3.3).

Single or multiple? Of the runes in *Picaros*, only the twirl typically occurs on its own; the others typically appear as multiples consisting of two or more graphic signs. But there is no reason why other artists may not vary on this.

Runes in combination with other information. Far more case studies will have to be done before any generalizations about the “syntagmatic” properties of runes can be hazarded. Suffice it to observe here that halo-droplets are sometimes alternated with spirals and spikes, presumably further qualifying the emotion or mood of the character’s head around which they appear. Similarly, movement twirls can be combined with movement lines.

4. Instances of pictorial runes in other comics

As indicated, the fact that only a single album has been investigated considerably limits the degree to which generalizations can be made. In order both to show that Hergé’s use is not idiosyncratic *and* to sketch some challenges that further research may encounter, I will in this section eclectically discuss runes in some panels by other comics’ artists.

Figure 9 displays “angry” spirals alternating with spikes around the head of the character on the far left, Homéopatix. We see literal (rather than “runic”) droplets emanating from the head of Bonemine (to Homéopatix’ left) as well as from her husband Abraracourcix’ glass. There are spikes (or are they anxiety-runic-droplets-seen-from-a-distance?) emanating from Galantine’s (sitting opposite Bonemine) head, as well as movement lines around Homéopatix and around his two drunken guests.

In the panel from Morris’ Lucky Luke album *Le Bandit Manchot*, (fig. 10), the woman’s anger is conveyed not just by her red complexion (extended to her cap), but also by a halo of alternating droplets and spikes. Morris uses this halo-combination to convey various types of emotion in the album, but he also combines droplets and spirals to convey specifically anger (e.g., in 4.1.2 and 30.2.3), which may suggest that this artist is less precise and systematic in his use of runes than Hergé.

<p>Fig. 11. Movement lines, droplets, and twirl. <i>Soirs de Paris: 26 Rue Fontaine</i> (Avril & Petit-Roulet), panel 4.3.2.</p>	<p>Fig. 12. Movement lines and spikes (left); movement lines and spirals (right). <i>Soirs de Paris: 52 Avenue de la Motte</i> (Avril & Petit-Roulet), panels 3.2.1 and 3.2.2.</p>

But runes also occur in less main-stream comics. Figure 11, from Avril and Petit-Roulet's *Soirs de Paris* – an album which tries to communicate as much as possible through purely visual means – depicts a scene in a club. The man on the right, we know from the story, is excited and dazzled by a magician's performance he has just witnessed. The magician has let a woman float in the air, having only her head rest on a chair. His confusion about how this trick was performed is conveyed by the twirl, his excitement by the drops, while the movement lines in combination with the hand posture may be an attempt to mimic what he has just seen. Note that the musical notes and the star are in my model pictograms rather than runes, while the grid on the man's cheek would be a stylized version of a literal "flush." The "curl" next to the man's head, by contrast, may qualify as a rune (not occurring in *Picaros*). Two contiguous panels (fig. 12) from the same album use movement lines and spikes in panel 3.2.1. The former reinforce our interpretation that the man fondles the woman, while the latter indicate that she is startled by this. In panel

3.2.2 the movement lines indicate the woman has turned her head; the spirals suggest her displeasure (note, incidentally, that the same spiral on the refrigerator suggests something else – perhaps a reflecting surface).

Fig. 13. Spirals in *Le Combat Ordinaire*, vol. I (Larcenet), panel 52.3.3.

Fig. 14. Twirls in *Le Combat Ordinaire*, vol. I (Larcenet), panel 52.4.3.

The anger of the protagonist in Manu Larcenet's four-volume *Le Combat Ordinaire* is communicated via the familiar spirals (fig. 13). A few panels later he is (literally or hallucinatorily) lost in a wood, the two twirls above his head communicating his confused state of mind (fig. 14).

In *Mister O*, Lewis Trondheim manages to present 30 variations of the story of Mister O trying to cross a ravine – and inevitably failing. Each story covers a single page, which contains 60 (10 rows of 6) postage stamp-format pictures. Text balloons are very rare (19 balloons in 1800 panels), and only contain pictures, pictograms, numbers, and mathematical symbols. The twirl in panel 5.6.5 (fig. 15) indicates the movement and direction of the leaves whirling by. In panel 5.7.1 (fig. 16) the spirals help express Mister O's frustration at not being able to cross

the ravine. Panel 5.9.5 (fig. 17) shows again the movement twirl – now at the other side to convey the reversed direction of the whirling leaves – and a halo of spikes around Mister O's head. Whether these latter are to be interpreted as sonic spikes, attention-drawing spikes, or none of these is a matter for debate. Alternatively, they could also be understood as droplets-seen-from-a-distance. (I note in passing that the few depicted droplets in this album are invariably sweat-beads – although in gravity-defying halo-form, e.g., in 13.3.4, 13.3.5, and 13.3.6.)

<p>Fig. 15. Movement twirl in <i>Mister O</i> (Lewis Trondheim, panel 5.6.5)</p>	<p>Fig. 16. Spirals in <i>Mister O</i> (Lewis Trondheim, panel 5.7.1)</p>	<p>Fig. 17. Twirl and spikes in <i>Mister O</i> (Lewis Trondheim, panel 5.9.5)</p>

The runes discussed in this eclectic panel selection suggest the following: (1) movement lines, twirl, spirals, droplets, spikes occur in other albums, with the same meaning as found in *Picaros*; (2) artists have their own way of drawing a specific rune; (3) runes occur in “artistic” as well as mainstream comics; (4) there are more runes than the ones identified in *Picaro* (see Gasca and Gubern [2001] for more examples).

5. Runes: arbitrary or motivated signs?

The phenomenon of pictorial runes evokes the intriguing question whether they are to be considered completely arbitrary signs that only through endless reuse by different artists have become conventionalized, or whether their meaning is, or at least at one time was, somehow motivated, in the sense that there is a reason why runes look the way they do. This is a fundamental question. If runes should be (partly) motivated signs, what is it then that motivates them? Conceptual Metaphor Theory (CMT) provides a possible governing motivating principle via the “cognitive science of the embodied mind,” which has as its key assumptions “(1) a strong dependence of concepts and reason upon the body and (2) the centrality to conceptualization and reason of imaginative processes, especially metaphor, imagery, metonymy, prototypes, frames, mental spaces, and radial categories” (Lakoff and Johnson 1999: 77). The embodied cognition view entails that humans are able to conceptualize abstract phenomena – and thereby to make sense of their lives – thanks to their visual, aural, tactile, olfactory, and gustatory access to the world and thanks to their ability to *move* in certain ways (typically: forward, and along the horizontal plane). These motor skills, together with the information provided by the five senses, enable human beings to handle abstract concepts via their “imaginative capacities” (Lakoff and Johnson 1999: 76).

Forceville: Pictorial runes in *Tintin and the Picaros*

I submit that pictorial runes can be considered as non-literal ("imaginative," "metonymic") representations to convey movement and emotions in a medium – comics – that needs to visualize these phenomena in standalone pictures. They are therefore good candidates for exploring the CMT claims about embodied cognition. This is in itself a worthwhile enterprise, since CMT's empirical findings are hitherto largely based on language alone (for a survey, see Gibbs, 2006). Conversely, since CMT presents a plausible model to explain how abstract phenomena are conceptualized – namely via embodied cognition – it is worth pursuing how pictorial runes could be understood as visual expressions of this model. I will thus offer some speculations about possible embodied motivations of each of the runes identified in *Picaros*. CMT critics could then think of rival (i.e., non-embodied) motivations.

Speed and movement lines. Kennedy (1982: 592-93) suggests that speed lines are rooted in everyday experiences: vehicles leave tracks on muddy surfaces; vehicles and people moving past us make us feel air currents, or cause trails of dust (see also McCloud, 1993: 108-114).

Droplets. As discussed above, the "droplets" rune appears to originate in "beads of sweat." Beads of sweat occurring in real life are symptoms of literal heat, and also as accompaniment of certain emotions, such as profound embarrassment, anger, and fear. In the transition from literal to figurative use, two mechanisms seem to play a role: (1) hyperbole: a few droplets of perspiration become a halo of beads, which – defying gravity – spring from a character's head; (2) metonymic

extension: while the beads are plausible accompaniments of specific emotions, they have come to signify “emotion” generically.

Fig. 18. Two *literal* “spirals,” left hand top corner, *Tintin et les Picaros*, panel 28.4.2.

Twirl. We could see the twirl as resembling a miniature tornado, or a small spring – both strongly associated with exerting physical pressure. (In fact, in panel 28.4.2 [fig. 18]) we see some *literal* springs sticking out of an exploded car, depicted in a way that is indistinguishable from the twirl.) But this may be too far-fetched an attempt to ground it realistically. However, it is interesting that the twirl is used not just to indicate literal movement, but also confusion, dizziness, or drunkenness. This phenomenon is by no means restricted to *Picaros* (cf. Albert, 2007: 42). Thus the idea of dizziness, which we could see as a character’s subjective experience of turmoil in his/her head, is conveyed by means of a rune that in other situations is unequivocally used to convey literal movement. I submit that any movement that plays a role in the “dizziness” variety is at

the very least gradually different from the literal relocation of a moving character. If this difference is accepted, the twirl would visually exemplify the conceptual metaphor MENTAL DISFUNCTIONING IS MOVEMENT-IN-THE-HEAD (cf. Kövecses, 2000; Forceville, 2005).

Spiky lines. The straight lines around a character's head to suggest generic emotion do not as such have an embodied motivation. However, perhaps they have, in this function, developed from the droplets rune. As sound lines the spiky lines arguably suggest that something comes "out" of the musical or sonic source – think of loudspeakers whose vibrations can be physically *felt*. As salience marker a possible motivation could be the sparkling of shiny things.

Spirals. To suggest sound, the verbal expression of sound as "waves" might underlie the spiral rune – but this would have to be checked across languages: do languages systematically conceive of sound in terms of "waves"? As accompaniment of negative emotions, I cannot think of any plausible reason.²

² An anonymous reviewer comments that the spiral "looks more like a wave to me, whereas the 'twirl' looks like a spiral" and suggests renaming the spiral as a "wave," since "this would connote 'waves of sound, pain, anger' and using the label 'twirl' for what in this paper is called a 'spiral' as it " connotes the meaning of this rune (spinning, dizziness, etc.)." This suggestion sounds plausible, but since I already used the terminology deployed here in Forceville (2005), I prefer to retain my original labels to avoid inconsistency and confusion.

6. Concluding remarks

Pictorial runes, I propose, constitute a rudimentary “language” that is used to (help) visualize non-visible events and experiences understood to take place, or to have taken place, in a static medium. How precise and universal this language is can only be assessed after more applications of the blueprint model presented here. The primary aim of this paper was to outline, on the basis of all the runes occurring in a single comics album, Hergé's *Tintin and the Picaros*, how pictorial runes can be distinguished, catalogued, and labeled, and to describe some problems arising in this procedure. In addition I have tentatively glossed the runes' respective functions in this particular album. I hope that the analyses have demonstrated that not only comics scholars, but also theorists of visual metaphor and metonymy may benefit from the systematic examination of pictorial runes. Moreover, cognitivists in various disciplines should find the phenomenon of runes pertinent to their concerns. Finally, one of the big challenges facing information technologists is to develop computer programs that can identify and retrieve relevant visual information from pictures on internet. Inasmuch as pictorial runes constitute one of the most patterned dimensions in the comics medium, this may be a fruitful avenue to pursue. At least some runes have quite specific forms, locations, and orientations, and appear to be associated with specific events and situations (movement, emotion, drawing-attention), which would seem to make them interesting candidates for computerizable

search variables. Haloed droplets appear to be a clear indication of strong emotion. Haloed spirals are associated with negative emotions, specifically anger, but by extension with negativity in a more general sense. In the not-too-distant future it will perhaps be possible to write computer programs that can recognize specific runes in corpora of comic panels that have been compiled (or occur on Internet) in digitized form, despite the variations with which they occur in different context, and are used by different artists (that is, the computer would have to recognize the “text” despite the idiosyncratic “handwriting”). But such goals can only be fruitfully pursued after the present model has been further calibrated in many more cases studies. Historical research is necessary here, too. For instance, tracing the diachronic development of the various “haloed” runes (droplets, spikes, spirals) could shed light on the question whether any of them was used prior to, and spawned, the others, or whether each of them had different origins. In addition, the degree to which the runes identified have a stable meaning must be investigated in empirical research (see Ojha and Forceville, in preparation). It is hoped that the present paper helps launch further research into these various directions.

Acknowledgments This paper was conceived during a fellowship at the Royal Flemish Academy of Belgium for Science and the Arts (VLAC) in Brussels, 2008 (Research project: *The Agile Mind: Creativity in Discourse and Art*, with Kurt Feyaerts and Tony Veale) in 2008. Versions were presented at the International *Bande Dessinée* Conference, London, UK

(19-20 June 2009) and the PALA conference, Roosevelt Academy, Middelburg, NL (28 July -1 August 2009). The library of the *Centre Belge de la Bande Dessinée* in Brussels proved a good resource. I am indebted to Gert Meesters (University of Liège) and Lisa El Refaie (University of Cardiff) and to three anonymous reviewers for *Journal of Pragmatics* for their thoughtful comments on earlier drafts. Both their critical comments and their encouragement have helped improve the quality of this paper. The responsibility for any errors and misinterpretations resides, of course, entirely with me.

References

- Albert, Éric, 2007. *Le Mouvement*. Éditions Iconograph, Strasbourg.
- Bal, Mieke, 2009. *Narratology*, 3rd ed. Toronto University Press, Toronto.
- Bordwell, David, Thompson, Kristin, 1997. *Film Art: An Introduction*, 5th ed. McGraw-Hill, Boston etc.
- Cohn, Neil, 2007. A visual lexicon. *Public Journal of Semiotics* 1, 53-83.
URL: <http://www.semiotics.ca/issues/pjos-1-1.swf> (last consulted April 2010).
- Eerden, Bart, 2009. Anger in *Asterix*: The metaphorical representation of anger in comics and animated films. In: Forceville, Charles, Urios-Aparisi, Eduardo (Eds), pp. 243-264.

Forceville: Pictorial runes in *Tintin and the Picaros*

- Engelhardt, Yuri, 2002. *The Language of Graphics: A Framework for the Analysis of Syntax and Meaning in Maps, Charts and Diagrams*. ILLC/University of Amsterdam: Amsterdam.
- Forceville, Charles, 2005. Visual representations of the Idealized Cognitive Model of anger in the Asterix album *La Zizanie*. *Journal of Pragmatics* 37, 69–88.
- Forceville, Charles, 2006. Non-verbal and multimodal metaphor in a cognitivist framework: Agendas for research. In: Kristiansen, Gitte, Achard, Michel, Dirven, René, and Ruiz de Mendoza Ibáñez, Francisco (Eds), *Cognitive Linguistics: Current Applications and Future Perspectives*. Mouton de Gruyter, Berlin/New York, pp. 379-402.
- Forceville, Charles, 2008. Metaphor in pictures and multimodal representations. In: Gibbs, Raymond W., Jr. (Ed.), *The Cambridge Handbook of Metaphor and Thought*. Cambridge University Press, Cambridge, pp. 462-482.
- Forceville, Charles, 2009. Metonymy in visual and audiovisual discourse. In: Moya-Guijarro, A. Jesús, Ventola, Eija (Eds.), *The World Told and the World Shown: Issues in Multisemiotics*. Palgrave MacMillan, Basingstoke/New York, pp. 56-74.
- Forceville, Charles, Veale, Tony, Feyaerts, Kurt, forthcoming. Balloonics: The visuals of balloons in comics. In: Goggin, Joyce, Hassler-Forest, Dan (Eds.), *The Rise and Reason of Comics and Graphic Literature: Critical Essays on the Form*. McFarland, Jefferson, NC.

Forceville: Pictorial runes in *Tintin and the Picaros*

- Forceville, Charles, Urios-Aparisi, Eduardo, (Eds.) 2009. *Multimodal Metaphor*. Mouton de Gruyter, Berlin/New York.
- Gibbs, Raymond W., Jr., 1994. *The Poetics of the Mind: Figurative Thought, Language, and Understanding*. Cambridge University Press, Cambridge.
- Gibbs, Raymond W., Jr., 2006. *Embodiment and Cognitive Science*. Cambridge University Press, Cambridge.
- Gibbs, Raymond W., Jr., (Ed.), 2008. *The Cambridge Handbook of Metaphor and Thought*. Cambridge University Press, Cambridge.
- Gasca, Luis, Gubern, Roman, 2001 [1994]. *El Discurso del Comic*. Catedra, Madrid.
- Haser, Verena, 2005. *Metaphor, Metonymy, and Experientialist Philosophy: Challenging Cognitive Semantics*. Mouton de Gruyter, Berlin/New York.
- Johnson, Mark, 1987. *The Body in the Mind: The Bodily Basis of Meaning, Imagination and Reason*. University of Chicago Press, Chicago.
- Johnson, Mark, 1993. *Moral Imagination: Implications of Cognitive Science for Ethics*. University of Chicago Press, Chicago.
- Johnson, Mark, 2007. *The Meaning of the Body: Aesthetics of Human Understanding*. University of Chicago Press, Chicago.
- Kennedy, John, 1974, *A Psychology of Picture Perception*. Jossey-Bass, San Francisco.
- Kennedy, John, 1982. Metaphor in pictures. *Perception* 11, 589-605.

Forceville: Pictorial runes in *Tintin and the Picaros*

- Koller, Veronika, 2009. Brand images: Multimodal metaphor in corporate branding messages. In: Forceville, Charles, Urios-Aparisi, Eduardo (Eds), pp. 45-71.
- Kövecses, Zoltán, 1986. *Metaphors of Anger, Pride, and Love*. John Benjamins, Amsterdam/Philadelphia.
- Kövecses, Zoltán, 2000. *Metaphor and Emotion: Language, Culture, and Body in Human Feeling*. Cambridge University Press, Cambridge.
- Kövecses, Zoltán, 2005. *Metaphor in Culture: Universality and Variation*. Cambridge University Press, Cambridge.
- Kövecses, Zoltán, 2010. *Metaphor: A Practical Introduction*, 2nd ed. Oxford University Press, Oxford.
- Lakoff, George, 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. University of Chicago Press, Chicago.
- Lakoff, George, 1993. The contemporary theory of metaphor. In: Ortony, Andrew (Ed.), *Metaphor and Thought*, 2nd ed. Cambridge University Press, Cambridge, pp. 202-51.
- Lakoff, George, Johnson, Mark, 1980. *Metaphors We Live By*. University of Chicago Press, Chicago.
- Lakoff, George, Johnson, Mark, 1999. *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. Basic Books, New York.
- McCloud, Scott, 1993. *Understanding Comics*. Paradox, New York.

Forceville: Pictorial runes in *Tintin and the Picaros*

- McCloud, Scott, 2006. *Making Comics: Storytelling Secrets of Comics, Manga and Graphic Novels*. Harper, New York.
- Murphy, Gregory L., 1996. On metaphoric representation. *Cognition* 60, 173-204.
- Ojha, Amitash, Charles Forceville (in prep.). How stable is the meaning of pictorial runes?
- Peeters, Benoît, 1998. *Case, Planche, Récit: Lire la Bande Dessinée*. Casterman, Tournai.
- Saraceni, Mario, 2003. *The Language of Comics*. Routledge, London/New York.
- Shinohara, Kazuo, Matsunaka Yoshihiro, 2009. Pictorial metaphors of emotion in Japanese comics. In: Forceville, Charles, Urios-Aparisi, Eduardo (Eds), pp. 265-293.
- Sweetser, Eve E., 1990. *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure*. Cambridge University Press, Cambridge.
- Tan, Ed S., 2001. The telling face in comic strip and graphic novel. In: Baetens, Jan (Ed.), *The Graphic Novel*. University Press Leuven, Leuven, pp. 31-46.
- Tversky, Barbara, 2001. Spatial schemas in depictions. In: Gattis, Merideth (Ed.), *Spatial Schemas and Abstract Thought*. MIT Press/Bradford Books, Cambridge, MA, pp. 79–112.

Forceville: Pictorial runes in *Tintin and the Picaros*

Van Eunen, Thijs, 2007. Angst, Woede, Liefde en Trots: De Visuele Representatie van Emoties in *Asterix* en *Donald Duck*. MA thesis, Media Studies, Universiteit van Amsterdam.

Walker, Morton, 2000 [1980]. The Lexicon of Comicana. Authors Guild Backinprint.com Edition, Lincoln, NE.

Comic albums

Avril, Francois, Petit-Roulet, Philippe, 1989. Soirs de Paris. Les Humanoïdes Associés.

Hergé, 1976. Tintin et les Picaros. Casterman.

Larcenet, Manu, 2007. Le Combat Ordinaire, vol. I. Dargaud.

Morris, de Groot, Bob, 2002. Le Bandit Manchot. Citel Video.

Trondheim, Lewis, 2005. Mister O. Guy Delcourt Productions.

Uderzo, Albert, Goscinny, René, 1972. Les Lauriers de César. Dargaud.