# Representing emotive meaning in visual images:
# A social semiotic approach

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**Abstract**

This study examines how emotive meaning is represented in visual images using the semiotic resources of facial expression, touch and body orientation. Complementing the cognitive metaphorical interpretation, the visually represented emotive behaviors are theorized as partial iconic representations of real life behaviors, which are in turn indexes of emotion. Adopting a social semiotic approach, this paper formulates facial expression, touch, and body orientation as inter-related systems of meaning, the selection and combination of which constitutes a systemic functional ''lexico-grammar'' for analyzing and interpreting meaning making in visual imagery. The systems are then used to explain how emotive meanings are represented in comic books. The analysis shows that cartoonists' systemic choices for representing emotions are largely consistent with the coding accuracy of facial behaviors on the one hand, and style guidelines advocated in comic handbooks on the other. Through the examination of both American and Japanese comics, it is demonstrated that the social semiotic lexico-grammatical approach is not only effective in explaining the emotion resources in nonverbal behavior, but also useful for investigating cultural differences in the visual depiction of emotion. The systemic choices also provide artists with a framework to ''design'' emotion in creative visual media such as comics, and possibly in computer vision, game design and related domains.
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*Keywords:* Emotive meaning; Emotive behavior; Visual representation; Social semiotic approach; Comics

## 1. Introduction

In visual art forms such as comics and graphic novels, emotion is not only constructed by the more or less conventionalized signals such as pictorial runes, pictograms and balloons (see Forceville et al., 2010), but also by stylized versions of bodily behaviors such as facial expression, body posture, and touch. Cognitive theorists, most notably Charles Forceville (e.g. 2005, 2011), interpret these nonverbal behaviors as visual manifestations of the Idealized Cognitive Model (ICM) of emotion, drawing upon the cognitive metaphor theory (e.g. Lakoff and Johnson, 1980; Kövecses, 1986, 2000). As an alternative to the cognitive approach, the present study argues that a large number of visually represented emotive behaviors are direct simulations of those in real life. Premised on this assumption, this study aims to systematically model visually represented emotive behaviors from a social semiotic perspective. The social semiotic approach, specifically Michael Halliday's systemic functional theory (e.g. Halliday, 1978; Halliday and Matthiessen, 2004), emphasizes the significance of interpersonal meaning (i.e. enactment of social relations) as the gateway to the experiential basis of meaning making. However, in studying visual images, social semioticians have tended to concentrate on interpersonal

resources such as camera angle, modality, and gaze, which negotiate image-viewer relations (e.g. Kress and van Leeuwen, 2006; O'Toole, 2011), rather than visual realizations of emotive meaning in communicative acts.

This paper attempts to systematically analyze the visual representation of emotion, focusing on the embodied resources of facial expression, touch and body orientation, which are collectively called *emotive behaviors*. Martinec's (2001) systemic descriptions of facial actions are refined and extended in order to elucidate the complex interaction of emotion resources. It should be emphasized that from the social semiotic perspective, emotive behaviors are not seen as accurate ''semiotic codes'' for encoding emotive meaning, but as ''semiotic resources'' which are organized to create meaning in social contexts. Therefore, like Martinec (2001), we are not arguing that these resources are closed semiotic systems which are able to signify emotions independently; rather, our aim is to systemically model the choices of facial expression, touch and body orientation which are available for meaning making in visual art forms. It follows that our framework does not constitute a ''prescriptive grammar'' for the construction of emotive meaning, but rather serves as a ''descriptive tool'' which provides a systematic account of the available semiotic choices. The social semiotic description complements Forceville's (2005) cognitive approach, which interprets visually represented emotive behaviors as belonging to the ICM of emotion concepts.

The systemic frameworks are used to analyze the patterns of emotive resources in the (nonverbal) construction of emotion in visual media, more specifically comics, where artists depict emotion through exaggerated facial expressions and other embodied actions (McCloud, 1993; Ozawa, 2005). Following Forceville (2005), the analysis is undertaken in a top-down manner, where emotions are identified first based on the multimodal expressions of the characters and the narrative context. Following this, the facial expression, touch, and body orientation of the characters which display unambiguous emotions are analyzed to see what choices are made from the paradigmatic systems developed for these three semiotic resources. That is, as in the case of Forceville (2005), rather than judging an emotion from a single expression (e.g. wide open mouth), our aim is to systematically describe the semiotic choices that are made for the representation of a given emotion. The focus on how a given emotion is semiotically constructed, rather than the meaning of a single nonverbal behavior, avoids the problem of interpreting ''what is felt'' through ''what is expressed'' subjectively.

This paper unfolds in the following manner. Section 2 is concerned with the semiotic status of emotive behaviors, addressing the questions ''what type of signs are they?'' and ''how do they signify meanings?''. Following this, a social semiotic framework for emotion resources, that is, a systemic functional ''lexico-grammar'' which describes the choice systems for portraying facial expression, touch and body orientation is developed in section 3. The usefulness of the social semiotic framework for interpreting emotive behaviors is demonstrated through the analysis of cartoonists' choices for representing emotions in comics in section 4. The analyses are also related to handbooks for comic creators, such as Blair (1994) and McCloud (2006) (see Eerden, 2009 for an effort of this kind). The approach provides analysts with an explicit framework to explain the emotion resources in nonverbal behavior and a method to investigate cultural differences in the visual depiction of emotion. Furthermore, the systemic choices may serve as a meta-language for teaching about the design of comics, and related fields such as game design and computer vision.

## 2. Emotion and the body: the semiotic status of emotive behavior

The signifying power of emotive behaviors is premised on psychological findings that nonverbal expressions of emotion can be recognized with a high degree of accuracy (e.g. Ekman and Friesen, 1975; Izard, 1977). An early attempt to scientifically relate emotion to nonverbal behavior is Charles Darwin's (1872) description of behavioral expressions and possible emotions. For example, Darwin links blushing with shame, body contact with affection, clenching fist with anger, and so forth. Ekman and colleagues (e.g. Ekman and Friesen, 1975, 1976) further demonstrate that certain combinations of facial muscle movement can unambiguously encode basic emotions across cultures. As a result, nonverbal behaviors are able to function as ''actional semiotic resources'' for the creation of meaning (Thibault, 2004:79).

Before exploring the emotion resources in nonverbal behavior, it is necessary to clarify the nature of nonverbal emotive behavior as a sign. According to Charles Peirce's (1931–1958) trichotomy of *icon* (representing the object through similarity), *index* (representing the object through cause–effect relations) and *symbol* (representing the object through convention), emotive behavior is indexical because it is related to emotion through causal continuity relations (i.e. emotion causes emotive behavior) (Sebeok, 2001:53; Forceville, 2005:73). However, we are not concerned with actual physical emotive behaviors (and their biometric measures) at this stage, but rather the ''representation'' of emotion in visual images.

Regarding the visual representation of emotion, Forceville (2005) distinguishes two types of signs in comics: *indexical signs* and *pictorial runes*. The first type refers to the physical symptoms that we recognize in everyday life, such as frowns and smiles. The second type, following Kennedy (1982), refers to signs that are not perceptible in real life, like the use of smoke or fire above a character's head to indicate anger. Forceville's (2005) formulation of these two types of visual signs warrants further investigation.

First, Forceville (2005) rightly points out that emotion defies iconic representation because it is an abstract concept. Therefore, he concludes that visual representations of emotion with nonverbal behavior are indexical in nature. However,