

MULTIMODAL SIMULACRUM AND VISUAL SEMIOSIS

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Abstract. This article addresses the problem of mental imagery in the interpretation of iconic signifieds. It examines, with regard to the iconic sign, François Rastier's hypothesis that "mental images are constrained (but not entirely determined) by signifieds [in context]" (RASTIER, 1991, p. 242), it being understood that, in Rastier's systematics, the signified, which belongs to the semiotic sphere, is distinguished from the concept, which belongs to the cognitive sphere. More precisely, it is a matter of transposing to visual semiosis the concept of the multimodal simulacrum proposed by Rastier (1991), a kind of eidetic content that would be generated or at least solicited by the semantic structure of the message. In this hypothesis, the interpretation of the iconic sign would cognitively elicit presentations that potentially combine different represented sensory modalities, and also possibly abstract features. The conceptual transposition proposed in this article integrates the results of work in the field of cognitive psychology on mental imagery with Rastier's proposals.

Keywords: multimodal simulacrum, visual semiosis, interpretation, mental image, iconic signifieds, interpretative semantics, cognitive psychology

1. Introduction

This article examines the problem of the production of mental imagery during the interpretation of iconic signifieds. It seeks to answer the question: what happens cognitively "in the head" of the interpreter of a figurative image, whether that image is a drawing, a painting, or a photograph?

To this end, I focus on the psychological concept of *multimodal simulacra* formulated by François Rastier in the context of linguistic semantics, in order to apply this concept to the field of the interpretation of figurative images.

The first part of the article presents the concept of multimodal simulacra as it is conceived within the systematics of interpretative semantics. The second part suggests some ways of extending the concept by transposing it to the process of the semiosis of the iconic sign. This conceptual transposition draws on existing work on mental imagery in the field of cognitive psychology, including that of Michel Denis.

2. The multimodal simulacrum in Rastier's Interpretative Semantics

The Three Spheres (Physical, Semiotic, and Cognitive) and the Autonomy of Semiotics

Before considering the concept of multimodal simulacra, we must recall that, in Rastier's systematics, any social practice (taken as a codified activity, such as a professional activity [RASTIER, 2001, pp. 228-231 and p. 301]) presupposes the interaction between three spheres (RASTIER, 1994, pp. 4-5) (also referred to as "worlds" [RASTIER, 1991, p. 237-243] and "levels" [RASTIER, 2002, pp. 246-247]):

- the physical sphere (or phenophysical level);
- the semiotic sphere (or semiotic level, that of signs and cultural performances);
- the sphere of mental processes (or level of (re)presentations).

Since the semiotic world possess a relative autonomy — or at least an analytical autonomy — in relation to the physical and cognitive worlds, it...:

generally fulfills a mediating function between physical factors and mental representations [...]. This function reflects the very structure of signs, which by definition establish a relation between two strata: the stratum of expression has privileged correlates in the physical sphere [through stimuli], and the stratum of content has privileged correlates in the representational sphere [through mental images or multimodal simulacra (RASTIER, 1991, pp. 207-212)]. (RASTIER, 1994, p. 5)

For Rastier, the tripartite division between the physical sphere/semiotic sphere/cognitive sphere, together with the affirmation of the relative autonomy of semiotics, have an essentially methodological and disciplinary scope, notably as a way of identifying the proper objects of study of semiotics and linguistics respectively: “As we are not making a realist hypothesis about the three worlds, we have adopted this convenient fiction in order to present a classification of the disciplines according to the objects that they describe” (RASTIER, 1991, p. 244). This “convenient fiction” makes it possible to objectify and analyze signs and meaning.

Signs, which are objects belonging to the semiotic sphere, are nevertheless linked to the physical sphere through the stimuli that actualize signifiers: in the case of a written linguistic sign, these stimuli are the shapes of letters, whereas for the iconic sign “man”, for example, they might consist of lines, brush strokes, colors, etc. However, the signifier is not a physical stimulus as such, but rather a *model*, that is, a *type* whose constituents are graphemes in the case of the written linguistic sign, or units such as a head, a nose, eyes, etc. in the case of the iconic sign “man”. To become accessible, this model or type needs to be manifested in a particular *occurrence*, or *token*, through the particular material configuration of stimuli in a given context (such as a written text or a painting).¹ This manifestation of the signifier by the stimulus confers on the former a semiotic existence of its own and makes it analyzable.

The signified, which is inseparably associated with the signifier and is grasped at the same time as the signifier in the process of semiotic production, is the meaning of the sign. When a signified is manifested in a particular context (i.e., in a text or image), it has, according to Rastier (1991, p. 103; 1996, pp. 24-25), an *operative content*², which provides it with its own semiotic objectivity, and which is determined by differential relations of various kinds: between the model (or type) signified (defined in the system of signs) and the manifested (or token) signified in the particular text or image; between the signifieds that co-occur in context (between the contents of words in a linguistic sequence; between the figures present in a given image); etc. This differential dynamic is conceived within the framework of the Saussurean theory of dualities (see RASTIER, 2015 and 2018; SAUSSURE, 2002; TRUDEL, 2020).

1. The content of this paragraph is based on Hébert (2010), Klinkenberg(1996), and Groupe µ (1992).

2. Rastier’s point here pertains to signs in general.

The signifier and the signified thus have an operative existence in semiotic productions, because of the differential and interdefining relationships that they have with each other *locally* within the sign: in semiosis, content and expression are indissolubly linked and constructed “consubstantially”. Moreover, “semiosis is not a simple pairing between signifier and signified taken in isolation, for each of the two sides of the sign is defined by distinguishing itself from the sign as a whole: S_a vs[$S_a/S_é$] and $S_é$ vs[$S_a/S_é$]” (RASTIER, 2018, p. 102). The Saussurean theory of dualities holds that “each [of the terms of the duality (signifier and signified)] forms a duality with the whole that contains it” (RASTIER, 2018, p. 102).

The operative character and proper “legality” of the signifier, signified, and sign also arise from a principle of extended contextuality, especially in homoplanar interactions between signifiers or between signifieds ($S_{a_1} \subset \supset S_{a_2} \subset \supset S_{a_3}$; $S_{é_1} \subset \supset S_{é_2} \subset \supset S_{é_3}$), and in heteroplanar interactions between content and expression (e.g., through the passage from S_{a_1} to $S_{é_2}$ or from $S_{é_1}$ to S_{a_2}). This differential character of the signifier and the signified, which is effectively generalizable to the sign itself, makes a certain contribution to the objectivity and relative autonomy of the semiotic world with respect to the physical and cognitive worlds.

3. The Constraint Exercised by the Operative Content on the Eidetic Content

As Hébert (2021, p. 221) suggests, semiotics, signifiers, and signifieds are cognitive formations *in the broad sense*. Indeed, it is the interpreter’s mind that constructs the signifier and the signified in a given semiotic performance, if only because the interpreter’s mind mobilizes models stored in memory, without which the attribution of a semiotic function to a sign could not take place. However, according to Rastier’s semantics, a careful distinction must be made, at least in principle, between the semiotic level and the level of (re)presentation. This distinction overlaps with the distinction between the *operative content* of the signified and its *eidetic content*, where the latter corresponds to a concept, a mental image, or a representation. In relation to linguistic semiotics, Rastier states that:

“if the signified of a word [...] is defined as a value, the differences that constitute this value determine its operative content [...]. [...] the representations attached to the signified of a lexie constitute its eidetic content” (RASTIER, 1991, p. 103).

Rastier provides a use full illustration of the crucial distinction between signified and concept: the operative meaning of the word “white” in the expression “white cane” is the same for someone who has been blind since birth as it is for a sighted person (notably because the signified of “white” is opposed to that of “black” in discourse), but the eidetic meaning, the mental image associated with “white”, is very likely to be very different in the minds of the two people (RASTIER, 1996, p. 24; HÉBERT, 2010 and 2021, p. 221). This example reveals the relationship between the semiotic sphere and the cognitive sphere, as Rastier sees it.

The following remark by Rastier provides further detail about this relationship: “The operative content *constrains* the eidetic content, but without determining it in the strong sense” (RASTIER, 1991, p. 103).³ It is under the principle (to which we shall return) of this same constraint that Rastier inscribes the new psychological concept of the *multimodal simulacrum* (RASTIER, 1991, p. 207), which makes it possible to refine the concept of the *mental image*. He had previously adopted the concept of the mental image in his interpretative semantics (RASTIER, 1989, p. 252), and continues to use this concept in a broad sense, in distinction to the narrower concept of the multimodal simulacrum.⁴

4. The Definition of Multimodal Simulacra in Interpretative Semantics

Within the framework of the hypothesis that I am proposing here, which is a generalization of the proposition stated above (in short, that “the semantic structures of a message constrain mental imagery”; RASTIER, 1991, p. 207), we can, by synthesizing the spirit of interpretative semantics, define the multimodal simulacrum as follows: it is a cognitive event elicited by the interpretation of a sign, which, in the subject’s consciousness, takes the form of presentations potentially associating different represented (i.e., not “real”) sensory modalities, be they visual or auditory, or even olfactory, haptic, or gustatory (to use, non-exclusively, the traditional typology of the senses). According to Rastier, these “imaginary” modalities can also be joined by cultural modalities, that is, data resulting from the subject’s semiotic experience and constructed on the basis of contact with literary or artistic works (KURTS-WÖSTE, 2017, p. 350).⁵ Although Rastier rejects the hypothesis of amodality in cognitive processes (RASTIER, 1991, p. 210), it is not excluded, by virtue of the possible presence of cultural modalities within the multimodal simulacrum, that the latter might include abstract features.

Here we must once again recall the principle of the constraint exercised by the semiotic on the cognitive in the production of the multimodal simulacrum: for Rastier, it is semantic units in context that give rise to the psychological event, and not the reverse. In fact, the context of the semiotic performance plays a predominant role in the particular configuration that mental images take: “thus, the mental image of the fish in [the expression] *the canary and the fish* is not the same as it is in [the expression] *the cormorant and the fish*” (RASTIER, 1991, p. 211). This contextual effect results in a *referential impression*, a “multimodal simulacrum of a perceptual nature” (RASTIER, 1991, p. 211), which confers a “reality effect” (RASTIER, 2011, p. 169) on the interpreted meaning and “which, for the subject, constitutes an objectivity” (RASTIER, 1994, p. 19).

3. Rastier also states that “the study of this constraint could establish a privileged relationship between linguistics and psychology, provided that the latter recognizes the existence of operative contents” (RASTIER, 1996, p. 103). The present article aims to contribute to the creation of this relationship, by extending it to the collaboration between visual semiotics and cognitive psychology. More recently, Rastier noted that, “the (re)presentational correlates of linguistic activity remain outside the field of linguistics and concern only a field of differential psycholinguistics that has yet to be built” (RASTIER, 2018, p. 217). By opening up this perspective, it seems possible to programmatically envisage a field of differential psychosemiotics.

4. The concept of *mental image* does not account for sensory modalities other than visual and non-sensory modalities (HÉBERT, 2018, p. 240).

5. Rastier (1991) does not seem to define the concept of cultural modality. He refers the reader to “§ 4”, which does not seem to correspond to any content in that chapter (p. 207).

In interpretative semantics, the meaning and directionality of this constraint exercised by the semiotic fact on the cognitive event is considered to have precedence.⁶ In fact, Rastier (1991, p. 210) allows for the possibility of feedback (i.e., at a subsequent stage) from the simulacrum on the interpretation of semantic contents, but according to Missire's (2001) understanding of the process, this feedback occurs second, and is secondary in importance. Drawing on the perspective of Missire, the proposals presented in this article for extending the concept of multimodal simulacra to the interpretation of the iconic sign will view the relationship between the two orders of reality in terms of a *heterarchy*, rather than a hierarchy or sequentiality leading from the semiotic to the cognitive, and possibly followed by feedback from the cognitive to the semiotic. It will follow from this that the multimodal simulacrum involved in the semiosis of the figurative image can take the place of a basis or intermediate term in the constitution of the semantic content of the iconic sign, which therefore relativizes the autonomy and precedence of the semiotic sphere.

5. The Production of the multimodal simulacrum during the interpretation of the iconic sign

5.1. Transposability of the Concept

In this second part of the article, I will propose some ways of enriching the concept of the multimodal simulacrum by transposing it to the interpretation of iconic signs, particularly artistic ones. In linguistics as in general semiotics, few works, apart from those of Hébert (2001 and 2021), have been devoted to the study of the constitution of multimodal simulacra, at least as far as I am aware, and according to information communicated to me personally by Rastier. The concept refers to a cognitive experience, whose description must take into account its semiotic character as well as its psychological dimension. The following proposals should be seen as essentially exploratory in nature, as the question remains open and, as far as I am aware, relatively uncharted.

Although the concept was originally developed in linguistic semantics, there is nothing to prevent it from being applied to the semiosis of visual signs. After presenting a model illustrating the relations between multimodal simulacra and the semiotic system, Rastier (1991, p. 210) adds that the latter “includes, of course, the semantic subsystem specific to language, but also the subsystems specific to other sign systems”. This valuable observation authorizes the conceptual extension undertaken here. This transposition is also facilitated by the fact that cognitive psychology has established a strong functional and structural kinship between mental imagery and perception, as well as between their respective objects (DENIS, 1989 and 2003a). However, it is obvious that the interpretation of visual signs relies heavily on the processing of percepts that are thus semiotized into figures, particularly for iconic performances.

6. This paragraph takes up, adapts, and summarizes the remarks of Missire (2001).

5.2. An Example of a Multimodal Simulacrum in Iconic Semiosis

As a way of approaching the subject, let us start with this observation by Lupien:

If our external and internal sensory percepts constantly feed and modify our mental images and representations, artistic images make it possible to undergo perceptual experiences that engage the perceiving subject in a *new affective and intellectual experience*. (LUPIEN, 1997, p. 259; my emphasis)

We can assume that this “new affective and intellectual experience” corresponds to the multimodal simulacrum generated by the iconic interpretative activity. The novelty of the experience is undoubtedly due to the destabilizing and allotropic universes that are often created by pictorial works, which break with our everyday perceptual experiences. Nonetheless, “realistic” artistic images too can elicit in the mind of the viewer very particular mental images, which are products held by that individual alone.

A painting by Magritte such as *The Discovery of Fire* (1934 or 1935)⁷ never fails to astonish the perceiving subject. The sight of a flaming tuba in this painting causes a brief disruption to our “normal” encyclopedic knowledge (because a metal object should not “normally” catch fire, owing to its intrinsic non-flammability). Yet the improbable and incongruous assembly of elements on the canvas compulsively and irrepressibly fixes the gaze of the viewer, who cannot help but attribute meaning to it, constructing an interpretation of some kind (RASTIER, 1991, pp. 212-213). The attribution of meaning to this strange iconic figure— a figure that is itself produced within the *external* object-sign (the canvas) through contextual interaction and the forced and paradoxical combination of entities that are usually unrelated to one another —rests on the emergence of an *internal* event: it only through the emergence of a concomitant mental image, however fleetingly, that the subject can experience a semantic content. Undoubtedly this representation in the viewer’s mind will have a primarily visual dimension, but the sight of a strong fire can also elicit a sensation of heat, or even the smell of smoke, while the presence of a tuba can bring to mind a memory of music, etc. According to Lupien (1997, p. 57), “observing a physical work of art thus engages not only the visual faculty, but also a polysensorial faculty, since, even in an activity that seems to be exclusively visual, we decode information that addresses our immediate receptors, such as the tactilo-kinesthetic and the thermal, etc.” Admittedly, Magritte does not play, for example, on the signifiers of texture in order to create a haptic effect. Nonetheless, iconic figures, that is, semiotic contents — in this case, fire and a tuba — have the potential to elicit mentalized sensorialities (both products and processes) (HÉBERT, 2021, pp. 234-243 [article “Sensoriality”]) – here, a thermal “impression,” an olfactory “emanation,” the “hearing” of a remembered piece of music, etc. The cognitive event associated with iconic interpretation can therefore be multimodal, and indeed cognitive psychology considers that the hypothesis that mental representations have a multimodal character is likely to be true: “Indeed, the human mind possesses the capacity to handle information that is presented in extremely varied forms and organizations” (DENIS, 2003, p. 384). So far, attention has been devoted mainly to representations in an analogical (and especially visual) format and to representations in a

7. The interested reader will easily find this painting by Magritte on the internet.

propositional/abstract format (Paivio's theory of double coding comes to mind), but analogical cognitive formations could just as well include modalities other than visual.

5.3. Description of the Mechanism

How can we describe the mechanism of the creation of the multimodal simulacrum during the interpretation of figurative images? While keeping in mind the semiotic dimension of the experience — because it involves an interpretable iconic sign — and thus the relationship between the semiotic level (the iconic sign) and the representational level, we must consider that the semiosis of the image cannot take place only in the interactional immanence of the signifieds or of the figures present in the image, and that, for the semiosis to be actualized, it requires resources. As mentioned above, Rastier posits that the operative semantic content (resulting from differential interactions internal to the context) *constrains* the eidetic content — that is, the multimodal simulacrum — and he makes this constraint, and therefore the semiotic level, of primary importance in the directionality of the process: the meaning thus comes first in the semiotic production, which then triggers associated imagery, which may then have a feedback effect on the meaning.

However, it seems reasonable to conceive of the constitution of the content of the image and the constitution of the content of the multimodal simulacrum in a “consubstantial” and heterarchical way, without losing sight of the distinction — both in principle and in fact — between the semiotic reality of the sign and the reality of the cognitive event. In order to assign meaning, and to semiotize the image's percepts into recognizable figures, the interpreter must draw on “materials” stabilized in long-term memory, which are a kind of foundational resource for the constitution of both semiotic meaning and the simulacrum actualized in the subject's cognitive present. According to Denis (1989, p. 11):

the image, in short, is seen, not as the *site* of signification, but as an instrument of *figuration* of signification. When imagery accompanies the processes of comprehension, it gives rise to optional cognitive products, whose nature and structure remain fundamentally distinct from those of the representations that code the *signification* of the utterance.

In order to describe the process in question, let us make use of the distinction between the *type* multimodal simulacrum (the model) and the *token* multimodal simulacrum (an actual instance or occurrence).⁸ Based on Denis (1989, pp. 17-18; 2003, p. 383), we can formulate the hypothesis that there are in fact two kinds of multimodal simulacrum.

The type multimodal simulacrum is a permanent cognitive entity which is available in long-term memory and acts as a virtual, latent model for recognizing and/or categorizing an object. For example, the type multimodal simulacrum of “the human” contains a maximal set of representative features, which may be visual (e.g., average height), olfactory (e.g., the smell of an average person), auditory (e.g., the timbre of a human voice), haptic (e.g., the softness of hair), etc., and may also include abstract features (e.g., intelligence, moral agency).

8. This distinction is also inspired by Hébert (2010), which is also the basis for a later part of the article.

The token multimodal simulacrum, on the other hand, is a transient cognitive formation which, under the effect of activating elements, actualizes — either totally (the default position) or partially — the sensory and/or non-sensory (abstract) features of the type multimodal simulacrum that are available. The token multimodal simulacrum arises in the working memory, and thus in the subject’s immediate consciousness, and constitutes a particular configuration of the type multimodal simulacrum, which can then undergo variations and transformations, by addition, deletion, substitution, or permutation⁹ of sensory and/or non-sensory features.

In a similar perspective, Hébert (2010) establishes (without further detail) a distinction between the model (or type) multimodal simulacrum and the token multimodal simulacrum. Taking up the Rastierian principle that the semiotic constrains the cognitive, Hébert (2010) points out that the token signified determines the token simulacrum. Furthermore, he usefully observes that the model multimodal simulacrum may be a privileged interpretant (in the Rastierian sense of a functional element used in the process of semiosis in order to construct meaning) for the content of iconic signs, notably because the model simulacrum involves visual modalities (to which we can add other sensory modalities and nonsensory modalities).

Thus, by nuancing the observations made above, we can easily consider that the event of effective consciousness that is associated with iconic semiosis—that is, the token multimodal simulacrum—is an instrument, an intermediary, and a temporary and necessary mental support for the figuration of meaning. If that event occurs, it does so because the configurations of the expression present in the iconic sign make it possible to elicit and recover the sensorial configurations stored in long-term memory, and specifically in the type multimodal simulacrum. The process draws from this interpretant only the relevant features that match the expressive forms present in the context of the iconic sign, and it may also add features that are not included in the type, but which are elicited by the image-object. Under the necessary but not sufficient impulse of a sign, a cognitive model is projected onto that sign, and this projection involves carrying out transformations on the type in order to produce, in working memory, a transitory and particular mental image—the token multimodal simulacrum—whose formation is guided by the perception of a semiotic event. This is how the heterarchical dialectic between the different semiotic and cognitive “entities” works.

This raises a further question: is the multimodal simulacrum simply the cognitive counterpart to semiosis, and therefore unquestionably a “mentalized” event in the broad sense?

6. The “Substrate” of the Multimodal Simulacrum

As a way of approaching this question, we can address, without exhausting it, the closely related question of the “substrate” of the multimodal simulacrum. The choice of the term *simulacrum* itself allows us to clarify this point. Rastier (1991, p. 207) chose this term in homage to Epicurus and Lucretius. In Epicurus’ theory of knowledge, simulacra imitate objects (those things that are perceived), but they are not of the same nature as them. With regard to the production of the multimodal simulacrum (whether type or token), we can maintain the hypothesis of a process of *imagization* (RASTIER, 1989, p. 279) of sensorialities, when, for example, we pass from the perception of the material sign, and thus from the semiotic, to the cognitive. In the

9. For convenience, I am using the typology of transformations proposed by Klinkenberg (1996, pp. 359-261), which is that of Groupe µ. For a metatypology, see Hébert (2021, pp. 144-152).

process of memorizing perceptual information, a “transcoding” of “matter” to the mind would then be carried out. If, as the work of cognitive psychology tends to show, the activity of mental imagery preserves the structure and initial contents of the activity of perception (DENIS, 2003, p. 225), and if (as also seems plausible) both perception and imagization engage the same neuronal mechanisms (DENIS, 1989, pp. 91-96), it seems reasonable to think that, in the passage from signs to multimodal simulacra, real sensorialities take the form of imaginary-analogical modal presentations. Without concluding, as Groupe μ (2015) does, that meaning (cognitive and/or semiotic) is amodal, we could suggest a form of “desensorialization” (in the weak sense) of real modalities within simulacra. This is undoubtedly the essential condition for the generation of an imaginary representation.

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