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Peirce's diagrammatic reasoning and the cinema: Image, diagram, and narrative in *The Shape of Water*

Abstract: This article aims to examine the relationship between image and narrative by means of Peirce's first trichotomy of qualisign-sinsign-legisign or, for the purposes of the current argument, image-diagram-metaphor. It is argued that narrative, as an extended metaphor, can be examined in three modes: in the image; schematically, in the imagination; and allegorically or in a thought experiment, through hypothetic interpretation. The article outlines two kinds of diagrammatic reasoning emphasized by Peirce: corollarial deduction in which the image is 'literally seen' and the reasoning steps are manifest in its conclusion; and theorematic deduction where the conclusion in a diagram is subject to a hypothesis which transforms the image into something new. Demonstrating the breadth of diagrammatic reasoning with reference to the 2018 film, *The Shape of Water*, the article seeks to explore how allegory and diagram are mutually cooperative, based on three ontological modes: the expressive, the cognitive, and the symbolic. Its primary focus, then, is not so much on the story events of the narrative, as the way that they are visualized and characterized as the fairy story unfolds. It is suggested that the interpreting activity involved in allegory and diagram ties interpretation to metacognition, ultimately (re)recognizing the image in *The Shape of Water* in an attempt to ascertain the meaning of love.

Keywords: narrative, image, diagram, metaphor, diagrammatic reasoning, corollarial reasoning, theorematic reasoning, allegory, *The Shape of Water*

1 Introduction

According to the World Economic Forum, we now live in the Fourth Industrial Revolution, by which we demand the revolutionizing of every sector of our lives in accordance with the new digital era of connectivity in a network society. Digitally created images construct augmented and virtual reality through and in virtual

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spaces. These are nothing like the rendering of nature by mimetic activity; instead, the situation is more akin to hyperreality or simulation. Nevertheless, this phenomenon is certainly associated with general understandings of semiosis, whose primary action is to stand "to somebody for something in some respect or capacity" (CP 2.228) according to Peirce's famous definition of the sign.

The ways in which humans apprehend a sign and interpret it to construct semiotic reality result in the production of meaning in life. When the sign is manipulated by human beings, the status of the sign is ideological in terms of the ossification into codes for communication by means of linguistic and symbolic signs. In contrast, when humans are engaged with semiotic activity both actively and passively in a semiotic *web* of signification, the status of the sign is mediological by dint of connectivity and by means of the iconic action of the sign. Thus, in the latter case, we are situated in a different semiotic environment where the sign's primary function amounts to representing itself, rather than denoting something and exchanging values or dispensing with most of the materiality of the sign. These mediological aspects of the sign lead to the emergence of iconic commutation, in which the very iconicity of the sign is emphasized.

In Peirce's semiotics, iconic signs constituted as a different mode of thinking are operative in learning processes in pursuit of qualities of ideas, that is, the rheme of an object. The process of learning is thus characterized by abductive inference, based on chance and habit, stressing creative love of learning. As Alin Olteanu argues, the philosophy of education in the semiotics of Charles Peirce lies in learning and knowing the self by means of loving the other in the direction of a developmental teleology (Olteanu 2015: ch. 8). This will be enabled by iconic signs; or, to put it another way, it embodies "the iconic turn" in learning activity. The relation between love, learning, and iconicity will be explored in what follows.

The ontology of iconic signs should first be outlined. Fundamentally, icons are representamens whose object is represented by a sharing of qualities that is sometimes equated to a degree of similarity. Icons stand in for their object according to three ontological modes of iconicity: images, diagrams, and metaphors. Following Peirce, the three are characterized, respectively, as images which are simple qualities, diagrams which are forms of relation, and metaphors which are general ideas (CP 2.277). In this sense, the notion of similarity and iconicity is at the center of attention in thinking with iconic signs. As Stjernfelt (2007: ch. 4) emphasizes, such thinking takes place through an operational function.

Sharing of qualities in common is the principle of connecting an icon with its object in semiosis. Therefore, images are too simple to comprehensively represent their object. Of course, images can be confounded with the object in part; moreover, the image appears to announce itself as representing the object. Diagrams, by contrast, represent their objects as a form of relation. As such, they do not rely on

Phenomenological or formal categories		Ontological or material categories		
		Firstness	Secondness	Thirdness
Firstness	A sign is:	a "mere quality"	an "actual existent"	a "general law"
		QUALISIGN(image)	SINSIGN(diagram)	LEGISIGN(metaphor)
Secondness	A sign relates to its object in having:	"some character in itself"	"some existential relation to that object"	"some relation to the interpretant"
		ICON	INDEX	SYMBOL
Thirdness	A sign's interpretant represents it (sign) as a sign of:	"possibility"	"fact"	"reason"
		RHEME(general idea)	DICENT SIGN	ARGUMENT

Figure 1: Adapted from Sheriff (1989): 67; after Peirce, 'Logic as semiotic' in Buchler (1955).

qualities to make the connection of representamen and object relatively obvious. Metaphors are less relatively obvious, still; they represent their objects as general ideas. In this way, the sharing of qualities that gives rise to general similarity in icons partakes of different modes of iconicity in respect of *ontological* categories of Firstness, Secondness, and Thirdness. Yet, at the same time, the three belong to *phenomenological* categories of Firstness (see Figure 1).

The categorical distinction between the phenomenological and the ontological is critical insofar as we can understand how iconicity is operative in the three *ontological* modes associated with the phenomenological category of Firstness: qualisign (image), sinsign (diagram), and legisign (metaphor). At the same time, it is possible to understand how iconicity is operative in three *phenomenological* modes from the ontological category of Firstness: qualisign (image), icon, and rheme (see Figure 1).

Now, as shown in Figure 1, the juxtaposing of the ontological or material category of image-diagram-metaphor – all of which reveal substantive, material aspects of iconic representamen and are called 'hypoicons' by Peirce (CP 2.276) – with the phenomenological or formal category of image-icon-rheme, corresponds to the operations of what, after Deely, himself drawing from the late Latin scholars' concepts of *ens reale* and *ens rationis*, called the mind-independent and the mind-dependent realms. 'Mind-independent being' entails existence which does not require a mind for it to exist; and 'mind-dependent being' denotes existence that is the product of, or sustained by, mind (Deely 2006: 13–14). Extending this idea, one

triad (image-icon-rheme) refers to logical, mental development of the sign, while the other refers to ontological development of the sign.

Based on this organized matrix of the categorical aspects of iconicity, iconic communication will be discussed with reference to the intermediality of the diagram and the occurrence of allegory in cinema. Peirce's notion of diagrammatic reasoning will be employed here in connection with allegory as a rhetorical device embracing the logic of the image for interpretation. Semiotics makes evident the borderline of phenomenology and ontology for aesthetic experience, a connecting arc that is made visible through the way in which both diagram and allegory are operative in abductive inference. With this in mind, the phenomenological iconic syntax of image-diagram-metaphor operates in parallel with the mental iconic syntax of thought image-icon-rheme. As these triads undergo metamorphosis, growing into larger phenomena and sometimes bleeding into each other, they need to be conceived in adaptive fashion. So, as metaphor is extended into a larger version of itself as allegory, it needs to be considered not as a single sign but as *narrative*, an extended metaphor. The interplay of the material and formal aspects of sign, then, will amount to forming an argument; but this requires abduction-deduction-induction at the textual level.

In this respect, diagrammatic reasoning entails not only iconic representation but also symbolic representation, along the middle line of Figure 1, by means of indexical representation. This heterogeneity implies that diagrammatic reasoning is performed by thought-experiment in experience. The study of the image does not belong to speculative metaphysics but to scientific metaphysics, showing an explanatory process of reasoning.

In what follows, the allegorical image will be explicated and analyzed by way of a thought-experiment with reference to the film *The Shape of Water* (2017 dir. del Toro). In Section 2, below, we address the characteristics of the icon with reference to fictionality. Following Fludernik (1996: 28–31), fictionality is understood as narrativity in respect of its structuring of life experience; it is not simply the 'fictive' or untrue; it inheres in sequences of true events, such as those in life experience, where a tendency toward the fictive is inevitable in those events' rendering in narrative. Such narrativized life experience, we would argue, necessarily incorporates imagistic representation. Based on the idea of iconicity in the categorical mapping, above, we will also examine the sign relation of icon and diagram, along with that of diagram and allegory.

In Section 3, we discuss the logic of the image by way of diagrammatic reasoning, through imagination, in respect of Peirce's theorematic deduction. Based on the three ontological modes of a diagram, we will consider the narrative image of a fairy story in which narrative allegory becomes operative, indeed functioning as the rhetoric of logic. The three modes in this case are termed the

expressive, the *cognitive*, and the *symbolic*, respectively (see Lee 2018). We will attempt to show how these three ontological modes of diagram and allegory in the icon work in a specific modern fairy story. *The Shape of Water* is analyzed in Section 5, in order to exemplify the rhetoric of logic in the cinema image in terms of forms of relation, narratives of the other and the way meaning might work with regard to allegorical images.

2 Icon and diagram

The diagram or icon is an imagistic representation. A primary function of the icon, therefore, is to *express* the quality of the object by exhibiting, rather than indicating, it in reality. An icon does not point to the qualities of its object; rather, it shares them with its object. As such, the icon's representative character is as one with the qualities that are in the image. According to Peirce (CP 1.313), the simplest embodiment of quality, as exhibited by the qualisign, is presentment – an almost overwhelming quality that can later open up to successive signs in the manner of the Proustian madeleine. In other words, quality is one harbinger of the need for interpretation of the image. In this way, the icon combines two different dimensions of reality: physical or external reality, owing to the incorporation of the qualities from that reality that it exhibits; and mental or internal reality, derived from the interpreter's store of impressions of those qualities. Thus, for iconic signs, the issue of whether an object exists or not is largely unimportant because the icon inherently appeals to the interpreter's apprehensions of quality rather than the real thing. Accordingly, iconic signs operate differently from indices and symbols with reference to the object since indexical reference involves a habit of thought arising from physical proximity of the object to the sign, while symbolic reference not only invokes law-like proceedings in the relation of sign and object, but also allows the mutability of those laws so that new signs can unfold in a way which is not available where signs require the proximity and quality of their objects. Of course, it is possible for an iconic sign of an imaginary object to exist: for example, a unicorn (cf. Liszka 1996: 116). In such cases, the icon represents the *qualities* of an imaginary object which does not exist in reality. These are expressed with a representamen that calls up the visual qualities of a unicorn. Yet, the icon can only act as such in these cases if the qualities of a unicorn exist in the mental imagery of the interpreter. The icon, entailing both the interpreter's capacity to visualize and the interpreter's capacity to impute qualities in acts that are simultaneous, encompasses, in the case of human interpreters, the oscillation between mind-dependent and mind-independent reality.

Block (1982) suggests that among the many types of mental imagery there are two distinct types of representation: the pictorial and the descriptional. These correspond to two approaches in cognitive science: Daniel Dennett, as a descriptionalist, argues that mental images represent largely in the manner of a natural language. When we see scenes, for example, we do not take in every detail; instead, we get an 'edited version,' much like we would receive in a written description of the scene. In contrast, Jerry Fodor argues that mental images carry out representation in the manner of photographs, that they are likely to be different from descriptions and, when they are like descriptions, this may only be one case. Of course, as Block points out, there are many different representations which have both pictorial and descriptional bearings. More importantly, for him, descriptional representation is not akin to that of a natural language (Block 1982: 16). Indeed, in Block's view, the two representation types are not mutually exclusive; they are dialogically interactive, producing a meta-level of cognition. This debate is germane to the issue of thinking in signs, particularly sign relations between icon, index, and symbol. In addition, the debate needs to be considered in respect of how signs operate on the basis of the phenomenological categories of Firstness, Secondness, and Thirdness in Peirce's theory of categories (CP 1.300–1.353).

The diagram or icon belongs to the category of Firstness, which is characterized by quality and by possibility according to Peirce (CP 1.527). Possibility also implies vagueness or indeterminacy. In this regard, a quality can only take on a definite character when it is embodied in another form. For instance, 'redness,' as a quality, exists in the form or shape of a thing in reality. This fact entails that there is a double consciousness in perceiving the object of the material image and of the mental image at the same time by way of imagistic representation. A diagram, as an icon, is projected onto the mental space in the diagrammatical mind. The diagrammatical image produces a conceptual image in cognition by way of diagrammatic reasoning. It is at this point that there is a morphing from Firstness to Secondness.

A diagram as an ontological category of Secondness is clarified when it is incorporated with an icon as a phenomenological category of Secondness. A diagram as an icon requires that we can understand the diagram by distinguishing 'a thing which is represented' from 'a thing which is representing' by using a kind of 'iconic syntax.' Similarly, an icon presupposes a diagram is comprehensible, such that the icon and its iconic reference are discerned in an image-to-be-interpreted even while they reside in the diagrammatic image as an exhibition of qualities. In this sense, an icon and a diagram are dialogical with relation to the attainment of a credible interpretation, phenomenologically and ontologically. Diagram and icon thus represent and determine each other. In other words, an icon is understood by means of a diagram and, conversely, a diagram is understood by means of an icon.
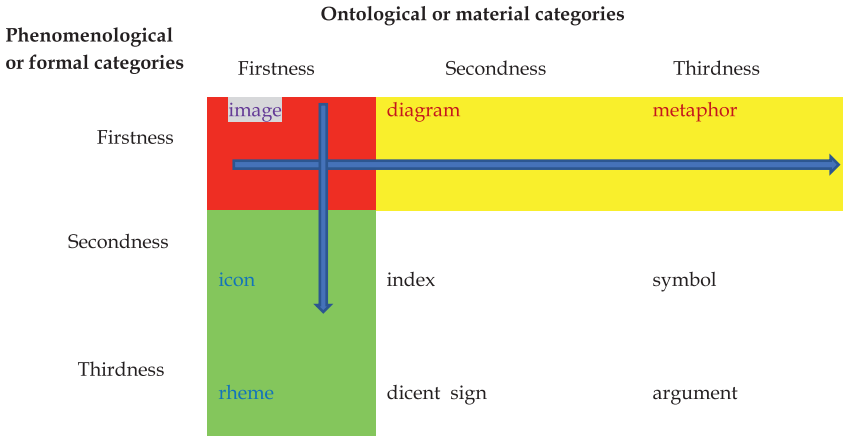
Figure 2: Mapping of ontological and phenomenological categories based on Sheriff (1989): 67.

Moreover, a diagram is connected with other modes of Firstness according to its ontological status. A diagram is imagistic. Yet, in being imagistic, it embodies a metaphor. The interrelation of the diagram, image and metaphor is understood as that simple quality which is embedded in a form of relation which in turn represents a general idea (see Stjernfelt 2007: ch. 4). Likewise, an icon seen ontologically as a Firstness is inextricably connected with the other phenomenological categories. Therefore, an image, as a quality, is embedded in an icon. The icon, in turn, represents a concept. Iconic reference, then, does not reside in external reality whence, putatively, the qualities came. Rather, it inheres in internal reality, in the mental imagery or the apprehensions of quality mentioned above.

Based on the complex sign relations in the matrix of phenomenological and ontological categories from Peirce offered above, we can consider the logic of image-diagram-metaphor on two axes (see Figure 2).

A formal/phenomenal axis proceeds from image to rheme and a material/ontological axis from image to metaphor. First, image to rheme is the dimension of operation in perceiving an image as a form of thought in the general apparatus concerned with this process in the mind. Second, image to metaphor is the dimension of operation in thinking through and imagining with respect to different significatory capacities of the iconic sign. The intertwined work of imagery on the formal axis and the significatory capacities featured in the material axis provides the parameters for imaginative thinking in logic by way of diagrammatic reasoning.

Diagrammatic reasoning is a prerequisite to any rhetorical device of allegory which is characterized by a continued metaphor as a narrative form. Put another way, the aim of diagrammatic reasoning is directed to the interpretation of an allegorical narrative image. Diagram and allegory share a similar structure in

which both are iconic signs in terms of an ontologically dialogical relation between expression and content on the phenomenological plane, which appears through what might be called 'iconic syntax.' The difference between the two is that allegory is a figurative phenomenon and the diagram is a schematic one. Yet, they are connected with each other by their internal similarity – the sharing of qualities between the representamen and the object. Thus, an allegory, as an icon in this respect, evokes a certain 'theme' to be interpreted in the process of perceiving an allegorical image. The allegory seen as a diagram is relevant to the process of reasoning. In this regard, an allegory and a diagram are mutually cooperative, based on the aforementioned three ontological modes: the expressive, the cognitive, and the symbolic. We will elaborate on these points in Section 4.

In sum, an allegory and a diagram, as an icon, are to be understood through an organized matrix of categories of phenomenology and ontology (or formal and material) and through the dialogical interaction of representing and being represented. This latter results in the production of a conceptual image, both graphically and diagrammatically. Perceiving an image diagrammatically will lead to imaginative activity within a logical framework with reference to interpreting an allegorical image.

3 The logic of the image and diagrammatic reasoning

In this section we consider the logic of the image by outlining the three ontological modes of diagram-allegory. It is hoped that this will provide an understanding of the structure of the image both schematically and rhetorically. The impetus for this derives from recent Peirce scholarship focusing on Peirce's themes of perception and diagram in respect to conduct in life. The so-called "iconic turn" (see Hull and Atkins 2017; Pietarinen and Bellucci 2017; Pombo and Gerner 2010; Stjernfelt 2007) has forged a paradigm in which the image, rather than just the word, is seen as a logical undertaking. As explained in Section 2, icon and diagram, with the shared character of Firstness, each function as a Second from the phenomenological category and the ontological category, respectively. Diagram and allegory, meanwhile, also share with regard to a Second from the ontological category of Firstness. Diagram, therefore, is the structure of the image in respect of the qualities in the relation embodying allegory, which is itself composed of a schematic image conveying a theme.

An allegory is tied to a metaphor in that allegories are often considered, classically (Crawford 2017: 17), as continued or extended metaphors. As such,

allegory is a form of thought in two different realms: words and figures, or the symbolic and the expressive, which are connected by narrative imagination. To illustrate this point, let us take an example of a tablet device or electronic notebook with software for drawing installed on it. Seemingly, the tablet is like a non-electronic notebook or sketchbook in its main functions. However, it features the digital interface of a computer. Therefore, any actual drawing performed on the device is transmitted to the computer screen of virtual space through being digitally coded. In this regard, the material image on the expressive plane is bound to the virtual image, but it is so with necessary modifications for the purpose of rendering the image in virtual space. Likewise, a material image of diagram and allegory, through the expressive mode, will be transformed into a mental image as a form of picture for the purpose of interpretation or description through a symbolic mode. Thus, the semiotic endeavour of interpreting the image necessarily demands a specific logic of relation between the two: the expressive mode of the material image and the symbolic mode of the mental image.

The process of interpreting the image is enacted in the matrix of diagram and allegory in the ontological and phenomenological categories. That is, the image is perceived iconically, through the expressive mode, by observation, thus rendering the image in cognition by way of imagining and diagrammatic reasoning. Eventually, in this process, there is the possibility of describing the image symbolically through the symbolic mode, as a mental image, for the purposes of argument.

While the diagram is relevant for analyzing the structure of the image as a form of relation, allegory is figurative in perceiving and imagining the image from the compound structure of words and figures so as to allow figurative and symbolic representation. This is not dissimilar to the way in which allegory has one dimension as a media form whilst also possessing an ideological dimension, both of which call for different kinds of reasoning. Allegory as a diagrammatic sign comprises two differing strands which are based on an interpreted relation so as to reveal the meaning of the figurative narrative. As a result, one strand functions as a pure image for quality of feeling and the other strand as a medium that connects the image with the mind through allegorical narrative, amplifying the affective dimension. Accordingly, images on screen can call up narrative competence which involves all the features of projection, sequence, inter-related signs, causality and the fluctuating but structuring force of an ending which prompts interpretation while assisting in rendering space and time (Cobley 2013). For this reason, a genuine allegory, as a rhetorical device, can be regarded as a narrative which necessarily invokes aesthetic experience and meaning.

The continuous metaphoric form, allegory, is tied to the diagrammatical mind in the formal category of Thirdness. In this way, allegory can serve as a conceptual image, a predicate. Allegory entails the icon or diagram; it ties up material signs on

the screen with mental signs in the mind. This point also bears on the interrelation of formal signs of thought and material signs of things. As the mental process develops, the complexity of allegory is operated on by heterogeneous thinking that can be iconic and symbolic. An allegorical image within diagrammatic reasoning thus produces a thought experiment for exploring how processes associated with different putative sign types are operative in image-interpreting activity.

4 The expressive, the cognitive and the symbolic

By way of a two-fold seeing, based on the diagram as a schema image in the mind and an allegory as figurative image on the screen, it should be possible to approach the reading of the allegorical image by considering the relationship between diagram and allegory. Accordingly, the combined operation of the allegorical diagram or diagrammatic allegory occurs within the realm of the three ontological modes: the expressive, the cognitive, and the symbolic. The components of these three modes, in a Peircean perspective, can be posed as similarity, structure, and purpose (Thagard 2011: 132, quoted in Popova 2015: 140).

Diagram and allegory, as icon, are expressive in their bearing, based on similarity, revealing a relation on that basis. While allegory has the same formal characteristics as the icon, its function rests on rhetorical purposes in respect of the ideological realm, where "rhetoric," here, in the Peircean understanding, covers both verbal and logical or both expressive and interpretive by way of cognitive process of reasoning. Allegory, like its non-extended confrere, metaphor, can be formulated in two ways. First, there is the scenario in which the meaning is 'other': it is "this *for* that," giving priority to "that." Second, there is the scenario in which 'other' appears in the form of "this *and* that," giving priority to "and" (Crawford 2017: 19–21). The former is ideological in the sense that hidden content is easily grasped through cultural significations, sometimes ossified into codes, as an allegorical story conveys a message of something other than the literal. In contrast, the latter is associated with the work of the medium, as in two stories like a parable existing next to each other, based on similarity, so that one formally figures the other. Consequently, reading an allegorical image involves diagrammatic thinking, comprising observation of the medium plus deciphering and describing how the allegory subsists in its environment.

For Peirce, mathematical reasoning is also diagrammatic (CP 5.148) and there are two kinds of diagrammatic reasoning: corollarial and theorematic. First, according to Peirce, a corollarial deduction "represents the conditions of the conclusion in a diagram and finds from the observation of this diagram, as it is, the truth of the conclusion" (CP 2.267). This is illustrated in the form of the classic syllogism:

> All humans are mortal;
> Socrates is human;
> Hence, Socrates is mortal.

The reasoning process is manifest even as the syllogism is literally *seen*. There is no latitude for reason; it must accept the reasoning steps, admitting the conclusion. This corollarial deduction is necessary reasoning, without deviation, operated by causal relations. Furthermore, according to Peirce, there can be a theorematic deduction which "having represented the conditions of the conclusion in a diagram, performs an ingenious experiment upon the diagram, and by the observation of the diagram, so modified, ascertains the truth of the conclusion" (CP 2.267). Theorematic reasoning is illustrated in the process of proving a mathematical theorem in geometry. For instance, proving that the sum of the three angles of a triangle equals two right angles involves a theorematic reasoning through a thought experiment, a use of the scientific imagination to show how the conclusion was reached. There exists more than one way, therefore, to reach the same conclusion (see de Waal 2013: 27). This last way is regarded as abductive reasoning: making a hypothesis.

The two types of reasoning are related to each other by determining each other. To illustrate this point, we can think of the relation of two stories in narrative allegory. One might be a fairy story featuring the expected structural elements that have been observed so often by narratologists and lay observers; the other is an allegorical bearing in which allusion is made to a further narrative or a further set of co-ordinates beyond the deceptive simplicity of the 'main,' structurally identifiable, narrative. A fairy story is understood as a general rule which governs the narrative. So, in a fairy story, necessary reasoning is operative through the story logic, determined by causality, revealing a kind of deterministic fate. Put another way, necessary reasoning is closely allied to the working of the *plot* or *muthos*. Consider the pattern of *Beauty and the Beast*: there have been versions of this story with slight variations and mutations yet, nevertheless, it remains a type. Its story logic is a corollarial deduction, maintaining the key elements, especially their sequence, without which the story would cease to be of the type.

In contrast, an allegorical narrative involves the structure of two-fold stories without the same inexorable, deterministic character that is to be seen in corollarial deduction. One story indicates the other based on similarity, contiguity and its embeddedness in cultural significations. So, allegorical narrative tries to enmesh the fairy story in the network structure of allegory, offering the opportunity for the logic of the plot to be subordinate to, or associated with, a cultural theme. How the opportunity is taken up relies on the hypothesis or abduction about what themes are invoked. So, it should be remembered that when a narrative features

visual communication, the general images (qualisigns) require the combination of corollarial deductive reasoning processes and interpretative, abductive process. Visual allegory contains the communicative intent of a parable, then, but its images necessarily partake of diagrammatic reasoning.

5 *The Shape of Water* and the aesthetic

The Shape of Water provides an example in which a fairy story, as an allegorical narrative, features corollarial reasoning (with causality) and theorematic reasoning (with thought experiment, hypothesis, abduction). An allegorical diagram will feature both the expressive mode and the symbolic mode. In this regard, *The Shape of Water* amounts to a metaphorical symbol, allowing the viewer to experiment on heterogeneous reasoning through both the expressive and the symbolic modes. What is particularly striking about *The Shape of Water* is the quality associated with its images. Its colour palette, the definition of its visual components, along with the fantastic bearing of the narrative creates the illusion, at times, that many of the film's images have been produced using CGI (computer-generated imagery). It is a look that is very reminiscent of the animations and quasi-animations of Jeunet and Caro or *The Adventures of Tintin* (2011 dir. Spielberg). In accounting for the semiotics of the film's visuals, the first operation to be considered is in the expressive mode by which the viewer will observe the image as iconic syntax and thus understand sign relations, abstracting forms of relation. The second operation concerns the viewer's performance of a thought experiment on that image, imagining and connecting ideas with relation to causality, thinking through the story events in a narrative perspective in relation to how those events are related. Third, based on the symbolic mode where the image is a mental one, the viewer can treat the image as an argument in relation to other features of mental functioning.

In Peirce's architectonic system of theory, logic is dependent on ethics which, in turn, is dependent on aesthetics (EP 2: item 14). For Peirce these three are called normative sciences. When we look at the relationship among them, Peirce's conception of aesthetics differs from the traditional one in that a work of art is taken to be communicable, being endowed with general ideas by means of logical analysis of interpretation of the work of art: abduction-deduction-induction. For this reason, logical analysis is required to bridge the gap between phenomenology and ontology. Peirce's logic is semiotic. The rhetoric of logic here demands an inquiry into how iconic communication works. Three points are crucial in this

respect, to the following analysis of the film: forms of relation, narratives of the other, and the allegory of love as an argument.

The cinema image of *The Shape of Water* is introduced to the audience by a voice-over narration simultaneous with the visual introduction of the protagonist, Elisa (Sally Hawkins), a woman who is mute and carries large scars on her neck. In classic fairy story style, Elisa is a lowly female who is (literally) without a voice. The initial visualization of the character is quite surrealistic. Elisa is mute, but not deaf, being able to hear and understand vocal utterances. Her ability and her disability are shared with a male amphibian creature that has been captured by a Cold War US government military agency and kept in the facility where Elisa works as a humble cleaner. The central story concerns the affinity of Elisa with the amphibian; the focus in the current essay, though, is not so much the story events of the narrative, as the way that they are visualized and characterized as the fairy story unfolds. C. S. Lewis suggests that a fairy story is like an abstract image that unfolds by way of a narrative structure (Lewis 1982: 19, 47). The key to the image, then, will be reached through a consideration of how the narrative imagination interacts in sign relations. In the film, the decisive semiotic relations are embodied by four main characters and their interrelations with the creature. The four characters are Elisa, the mute cleaner; Dr. Robert Hoffstetler (Michael Stuhlbarg), the Russian scientist who is also a Soviet spy; Richard Strickland (Michael Shannon), a sadistic American colonel in command of the lab examining the amphibian; and Giles (Richard Jenkins), Elisa's close friend, a neighbor who is an illustrator and provides the voice-over narration. In the barest possible terms – terms that are appropriate in considering a fairy tale – each character represents the following: feeling, knowledge, action, and thought, respectively. Semiotically speaking, Elisa is an icon for a degenerate symbol, representing a quality of feeling; she is the emotional pivot of the movie, representing where unprejudiced feeling overlaps with the non-human animal world. The scientist is a genuine index for a degenerate symbol, functioning like a weathercock which embeds an icon such that he is concerned with the quality of feelings but fails to interpret them for the purposes of meaning-making, limiting himself to attaining knowledge of things; as a Soviet spy, he is conflicted in his relationships in the US facility and in his complicity with Elisa's scheme to rescue the amphibian. The colonel is a degenerate index for a degenerate symbol, functioning like a pointing finger with no icon involved when he acts without feeling or sympathetic reason; he is pitiless, relentless, and remorseless. The illustrator/narrator is a genuine symbol with an interpreting mind; he changes in the course of the narrative and lives through the dilemma of making decisions between rationality and affect. Apart from Giles, and in common with other fairy stories, the characters possess qualities that are never developed or

transformed. The movie director himself has clearly indicated this point in interviews.[1]

As with narrative fiction in general, so with semiotics, it is through dialogical interaction between characters that their internal qualities are discovered. The creature himself is a being on the boundary, belonging to two realms, possessing properties from both: he is an aquatic animal and a land animal; partly anthropic but also non-anthropic; a mortal, subject to materiality, but also god-like, transcending materiality. Visually, the creature seems very real, but partakes of the general surrealism of much else in the film. The central allegorical image involves the relationship between Elisa and the amphibian. The mute cleaner encounters the amphibian at her workplace in the Baltimore research facility in 1962. The amphibian was taken there after being captured in the Amazon River. The mute cleaner and the amphibian man communicate with each other nonverbally by means including sound, sight, touch, and taste. She brings her lunch bags of eggs to share with him and they listen to music together. They are connected by feelings and emotions, not by the cold verbal language of logic. They look at each other, discovering themselves through each other's gaze. The mute cleaner realizes who she is through the amphibian man with whom she falls in love. He sees her in the way she is, with no prejudice in respect of her inability to speak. This makes her happy with what and who she is. She opines to Giles that she and the amphibian are the same kind, and that the amphibian man should not be treated as a monster just because his communication system is outside the norm. The qualities of relation between the amphibian man and herself offer an allegorical image of what love is.

Colonel Strickland and the amphibian "monster" are separated from the beginning in that the amphibian was captured by the soldier, a goal-oriented individual who conforms rigidly to orders and rules in life. His interactions with both the amphibian and Elisa involve treating them explicitly as inferiors. There is absolutely no affinity between the soldier and the creature. In Strickland there is no concept of self and other; he does not respond to external reality. Instead, he is a fairy tale flat character who learns nothing that is transformative in the course of the narrative.

Similarly, the relationship between Hoffstetler and the amphibian creature is also characterized by a lack of affinity between them, although the scientist treats the amphibian with at least some sympathy. Hoffstetler has some knowledge of the creature, thus saving him from being killed for anatomical research by Strickland. Hoffstetler's relationship with the amphibian creature is not interactive enough to have fostered any kind of intimacy. As a scientist, Hoffstetler fails; as a Soviet spy, he also fails.

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1 https://www.huffingtonpost.kr/entry/shape-of-water_kr_5a9cef0de4b0479c0254737e (accessed 23 June 2018).

By significant contrast, there is a substantial empathetic relationship between the illustrator, Giles, and the creature. This relationship, with some of the illustrator's creations depicting and punctuating the story, reflects the interaction between cinema image and audience, representing the relation between the allegorical image and its interpretation. Giles, who sees and participates in the fairy story, tries to find the meaning of the story by commenting on themes in the story of the mute princess and the amphibian prince. Unlike the classic fairy story frog, this amphibian is not transformed into a beautiful human. Indeed, the human in the relationship is compelled to take to the water. Nevertheless, what the audience is offered in the film is a fairy story with the added benefit of an allegorical image. In this sense, Giles is both a storyteller and the catalyst for percipient images.

Giles is an outsider – jaded, a gay man in the US in 1962, who is lonely and faces with trepidation the prospect of communicating with others. Instead, he indulges in sweet pies, the imaginary world of the TV that is constantly switched on in his apartment, amidst the outmoded accoutrements with which he is also surrounded. On encountering the amphibian creature that he sees as a godlike being, however, Giles is changed and rejuvenated. His hair grows back after being touched on his bald pate by the amphibian, as does a similarly touched wound on his arm, a minor diversion in the story that nevertheless suggests that the creature seems to possess supernatural power. Understandably, this changes Giles' view of the creature, even as it changes him as a physical being and a character. The creature's laying on of hands contrasts with the disaster of Giles' attempt to hold the hand of the man who served him pies at the diner and with whom he hitherto appeared to share some verbal rapport. For the audience, this configuration of characters, embedded in the distinctive imagery of the film, is where the aesthetic is to be sought in the quality of signs.

Sign relations become active in the cognitive mode of the allegorical image when the latter occurs in a dialectical structure. In fairy stories there is often the possibility that there are two stories under comparison with both determined, in the first instance, by their temporal bearing. One story comes from the remote past, as a form of fantasy; the other comes from the present, prompting reference to what is understood to be contemporary reality. The way in which this two-fold story makes the interpreting mind active and dynamic, we would argue, is through diagrammatization toward future conduct. In other words, the story from the past in the form of an icon and the story of the present in the form of an index are combined in order to produce an assertion. For instance, a fairy story alone cannot invoke qualities of relation; it requires another story, where one story is represented by the other, or conversely. With such allegorical meaning presupposed, diagrammatic reasoning as abductive inference will be performed by default.

The story of love between Elisa and the amphibian relies heavily on the quality of the visual image on the screen. 'The shape of water' represents 'the shape of love' – but water and love pertain to different realms: water is a physical substance; love is an abstract quality. Neither, strictly, should possess a shape. To discern what is being represented does not just involve visualizing; the discernment is, in the visualizing, a diagrammatizing process. As we have indicated, the heterogeneous reasoning in diagrammatizing comprises two types of communication: the iconic and the symbolic. This is exemplified in the relationship of Elisa and Giles. They understand each other iconically – both through signing and through emotion – and symbolically – through the shared assessment of the iniquities of the social world. They communicate by means of a combination of feeling and reason. Theirs is a narrative of otherness. Loving otherness, the narrative suggests, helps to discover the self in that to desire to love is consequently directed to loving the other. What is crucial for the film in this respect is that the relationship is forged through qualities, through the sharing of iconic communication – feelings, emotions and senses rather than verbality. The richness of the film's almost CGI-like or comic book images supports the forging of the narrative's character relation through qualities.

The main characters present their qualities through the expressive mode, through material signs or representamens whose sharing of qualities with objects sometimes seems to amount to similarity. However, the characters also represent their personality based on the cognitive mode, which is communicable because of its general characteristics. First, Elisa, largely iconic in moving towards an abstract symbol, belongs to the realm of sensation. Second, both Strickland and Dr. Hoffstetler, who possess an indexical quality in becoming singular symbols, are fixated on the success of the amphibian project. As such, they belong to the realm of action and simple causality. Third, Giles, who has symbolic quality as a genuine symbol, demonstrates his ability to describe the diagrammatical image, both by his sympathy for the situation of Elisa and the amphibian, but also through his illustrations. He thus belongs to the realm of thought and imagination combined. The sum of these characters represents what Peirce would identify as the prerequisite to engaging in phaneroscopy, his phenomenology. In his Harvard Lectures, Peirce (EP 2: 147) distinguishes the three necessary faculties by reference to 'the artist,' 'the hunter' and 'the mathematician.' Elisa, so attuned to her senses, provides an image of the artist – even more so than Giles, who executes actual illustrations. Strickland and Hoffstetler are clearly images of the hunter. Giles, on the other hand, with his combination of sympathy and understanding, assumes the image of the mathematician. Broadly, the images of these characters indicate Peirce's categories of Firstness, Secondness, and Thirdness, respectively.

The characters in this fairy tale movie, through the forms of their relations with the amphibian, can thus be shown to present particular qualities in their aesthetic images. Interestingly, the overall view offered by these characters, rather than just the view of the 'good' characters, is important to sustaining the allegory. For the purposes of diagrammatic reasoning, the brutal hunter (Strickland) and the conflicted one (Hoffstetler) are as important as the artist and mathematician in the audience's engagement with the allegory. Like Giles, who sees the creature with his eyes and describes him through painting and storytelling, the audience will observe sign relations from the iconic representation and will describe them in respect of symbolic representation in the interpreting activity in which they engage the allegorical image. In this way, again, interpreting the cinema image comprises both iconic and symbolic representation in diagrammatic thinking. Expressive features of the sign will be considered, in cognitive mode, for their narrative structure and will be evaluated as contributing a coherent 'argument' in their symbolic mode.

6 Conclusion

This heterogeneity of reasoning which is characteristic of the diagrammatical frame of mind is thrown into relief by the allegorical image. In the case studied here, the image has been concerned with the qualities involved in love. What is at the seat of the definition of love is the human's attitude towards the other. That, perforce, is an act of imagination, as well as being swathed in emotional motivation. It involves asking 'what it is like to be the other' and involves the (re)recognition of self. This is precisely the act that is dramatized in *The Shape of Water*, whose very title indicates a state of being that is not commonly taken to be a state of being. Yet, as has been argued, viewing the image of this act is not a matter of simple apprehension of it. Rather, the image embodies the potential for imagination, diagrammatization and allegorization (Johansen 2002: 337–338). Engaging with the image, as well as engaging in love, involves relating on different levels of reasoning in iconicity. While the expressive aspect of the iconic sign might be understood in its general impetus to represent qualities, it is in the development of the image's relations through the cognitive mode to a symbolic interpretation which suggests the way affect, narrative interpretation and reasoning are imbricated.

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