Icons and metaphors in visual communication:
The relevance of Peirce's theory of iconicity for the analysis of visual communication

Martin Thellefsen and Alon Friedman

Abstract: In this paper we adopt Charles Sanders Peirce's concept of iconicity to analyse pictural communication. While visual semiotics has a well-developed structural school, the concepts of visual semiotics stemming from Peirce's pragmatic sign theory are often overlooked. The specific purpose of this study is to explore the semiotics of visual signs, exemplified by two prominent pictures of former US President Donald Trump. We argue that Peirce's semiotic framework for iconicity in visual signs (the image, the diagram, and the metaphor) offers a useful framework for discussing how the meaning of visual signs is motivated. On this basis, we propose that Peirce's concept of hypoicons provides us with a richer understanding of how visual signs acquire meaning and how their interpretation varies across cultural habits, and collateral experience.

Keywords: hypoicons, image, diagram, metaphor, epistemic pluralism, collateral experience

1. Introduction

The literature on the semiotics of visual communication is often associated with the analysis of visual representations, dealing with topics like cultural context (Drechsel, 2010), pictures (Burford et al., 2003), the role and use of images in the media (Williams & Newton, 2009), and the role of iconography examining visual symbols and their meaning across time (Damisch, 2020). These discussions are often based on methodologies determining how to analyse visual representations from a linguistic perspective (e.g., visual expressions as communication or the rhetoric of visualization). They tend to focus on the colour palette, and the meaning of choices made by a visual design, i.e., a "grammar" of visual communication (Kress & van Leeuwen, 2002). Visual semiotics encompass a wide range of design topics, e.g., drawings, paintings, print ads, diagrams, maps, etc. On the other hand, some visually perceived signs (e.g., gestures and body language) are not generally considered part of visual semiotics. There are several schools, trends, or movements within the research in visual semiotics, and as stated by Nöth (2011), the research area is complex and includes subfields and approaches such as *visual rhetoric* (e.g., Barthes, 1977 [1964]), *semiotic studies in paintings and art* (Floch, 1985, 1990; Thürlemann, 1990; Fontanille, 1995), and *sociosemiotics* (Kress & van Leeuwen, 1996).

Generally, visual semiotics traces back to two common schools, namely the semiotics of Ferdinand de Saussure and the semiotics of Charles S. Peirce. Simply put, for Saussure, the meaning of signs is considered structural and relational, i.e., the meaning of a linguistic sign is determined by its relations to other signs in a sign system. Language is a self-contained system of relations that construct reality (Chandler, 2002). This is in stark contrast with Peirce's concept of *iconization*, a process by which a sign or *representamen* represents an object by resemblance or similarity. The meaning of a visual sign involves apart from the sign and its relation to other signs, also the situation or context of use, and the knowledge and experience of the sign user. Thus, the meaning of a sign is not simply determined by inherent features of the sign itself, but involves aspects of intentionality, context, and perception. A sign stands for something else and is successively related to more developed signs. In relation to meaning or mediation, the notion of *ground,* the link between representamen and object, plays a key role. Considering how a sign can become a sign of meaning for someone, the experience of a sign user or interpreter is essential. Understanding a sign is not simply a passive response (cause and effect) but is anchored in the

complex and dynamic relationship between the sign, the context of the signification process and the collateral experience of the sign user.

According to Peirce, any act of communication depends on an utterer's capability to create "intentional interpretants" and for the interpreter to create corresponding "effectual interpretants". However, the intentional interpretant may not be perceived correctly or have the intended effect, given the underspecification of all signs:

> There is the Intentional Interpretant, which is a determination of the mind of the utterer; the Effectual Interpretant, which is a determination of the mind of the interpreter; and the Communicational Interpretant, or say the Cominterpretant, which is a determination of that mind into which the mind of utterer and interpreter have to be fused in order that any communication should take place. This mind may be called the commens. It consists of all that is, and must be, well understood between utterer and interpreter at the outset, in order that the sign in question should fulfill its function. (Peirce, 1977, pp.196–197)

We base our understanding of visual signs and the analysis of our select examples on Peirce's semiotics. However, as Peirce did not propose an explicit theory of visual semiotics, our approach follows the developments of visual semiotics according to Jappy (2013), the semiotic analysis of the diagrammatic function of the *hypoicon* (Farias and Queiros, 2006) and the image in print (Sørensen et al., 2019b). The theoretical perspective of our paper follows four lines of thought.

The first concerns how meaning is mediated by visual signs. As pointed out above, icons are signs that resemble their object either in terms of appearance or function. A photograph of a person is an iconic sign that represents the appearance of that person in a recognizable form. A map is an iconic sign that represents spatial relationships between locations or geographical phenomena. Iconic signs are also commonly used in advertising and branding and can create visual associations between products and desirable qualities or characteristics. Thus, the icon is a type of sign that signifies its object by some kind of similarity and can support different communicative functions.

The second line of thought concerns hypoicons, as specific sub-types of icons that are distinguished as images, diagrams, and metaphors (Sonesson, 2016). As such the hypoicon support different communicative functions.

The third line of thought deals with how the meaning of visual signs relates to different aspects of the key notions of *significance effect* (Thellefsen et al., 2006, 2011) and *collateral experience*. This is an experience that is activated or involved in interpretation but is apart from the sign itself. It precedes the sign and serves as an experiential background. Peirce mentioned the term where he described collateral experience as the implicit knowledge shared in a conversation (CP 5.448, 1906). Peirce also used the term "collateral observation" (CP 8.179, 1903), to specify that previous acquaintances with what the sign denotes takes part in the meaning creation process.

The fourth line is that of epistemic pluralism, which is often confused with relativism, but unlike it is consistent with ontological realism.

On the basis of this approach, we address the following two research questions:

- What insights can Peircean visual semiotics provide us with when examining a visual representation, in our case two visual representations of Donald Trump?
- How does collateral experience account for different possible interpretations of hypoicons, in relation to the notion of epistemic pluralism?

The structure of the paper is as follows. In Section 2 we further discuss some key notions of Peircean semiotics, including those that were mentioned above. In Section 3 we address the concept of epistemic pluralism. Given this theoretical background, we delve into the analysis of a few political portraits, focusing on former US President Donald Trump in Section 4. Finally,

we sum up and point our contributions showing the relevance of Peircean semiotics for the analysis of visual communication.

2. Some key concepts in Peircean semiotics

2.1. The sign and the interpreter

Although Peirce made multiple attempts to define the sign, and the fact that later definitions are considered more in line with Peirce's pragmatic doctrine, by many Peircean scholars, we consider the following definition to be most relevant, partly because it is widely cited in the literature, and partly because it includes an important indication of context (the ground) and the process of interpretation:

> A sign, or a representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, its object (or referent). It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the ground of the representamen. (CP 2.228, 1887) [1]

Peirce's definition of the sign is based on his three well-known universal categories. The first pertains to the potential existence or possibility of something, also named *Firstness*. The second category, named *Secondness*, relates to the actual manifestation or being of something. The third category pertains to mediation and is named *Thirdness*: it presupposes the first two categories and combines them in different kinds of sign types. Firstness is the category of possibility, potentials and pure feeling that involve the sign types *qualisign*, *sinsign*, and *legisign*. Secondness is characterized by dyadic relationships in which one thing is directly related to another, e.g., similarity, brute force/reaction/causation and convention, that involve the sign types *icon*, *index*, and *symbol*. Thirdness is characterized by a triadic relationship where one thing is related to another through the mediation of a third, e.g., representation, meaning and interpretation, and involve the sign types *rheme*, *dicent sign*, and *argument* (Friedman & Thellefsen, 2011).

Peirce also introduces three kinds of interpretants (CP 5.484-546, 1902). The *immediate interpretant* is the actual representation or perception of the sign, while the *dynamic interpretant* is the effect that the sign has on the interpreter. The *final interpretant* is the ultimate goal or purpose of the sign. For our purpose, the dynamic interpretant, i.e., the effect of a sign on the interpreter, is of special interest. It includes the *intentional interpretant*: the communicational effect intended by a sign, and the *effectual interpretant*: the effect actualized in the mind of an interpreter (the significance-effect), that may differ from the intended effect due to factors such as misinterpretation, or biased perceptions. Understanding the meaning of (visual) signs is thus conditioned partly by the sign itself, the intentional interpretant, and partly by the shared conceptual parameters that makes it possible to identify and produce interpretations and to establish meaningful sign relations, the effectual interpretant.

The meaning of a sign is thus neither determinate, nor arbitrary (Kralemann & Lattman, 2013). Highly symbolic signs are determined by interpretive habits e.g., learned through social structures. Road signs are common examples of highly conventionalized visual signs, recognizable by motorists worldwide, despite some national variations. They have a highly specified meaning, and the room for interpretation is narrow.[2] An established "universe of

---

[1] As customary, CP refers to the *Collected Papers of C. S. Peirce*, followed by volume, paragraph and year.
[2] It is so narrow that they are recognizable by computer systems e.g., driving assistants in modern vehicles (see Sørensen et al., 2019a)

discourse" constraints interpretation, and for motorists, the degree of conceptual alignment is high.

This kind of determination of meaning in visual communication is also commonly experienced by users of *graphical user interfaces* (GUI) (Banerjee et al., 2013). Even though variances occur between different platforms, the visual signs (e.g., pictograms) specifying internet browser, mail, printer, preferences, etc., are highly conventionalized and recognizable. They are icons with a highly specified symbolic meaning, inscribed in the sign. However, highly symbolic visual symbols have a learning curve: their meaning must be memorized and learned, even though, when learned, the cognitive effort of interpretation is low. In these types of highly symbolic visual systems, the correct interpretation and thus action is essential. In other contexts of visual communication, the determination of the meaning of visual signs is low or undetermined (Worth, 1968). Some types of visual signs like paintings or other kinds of pictures can be vaguely determined, and open to various interpretations. Hence, (pure) icons, in contrast to the highly specified meaning of symbols, reveal less about their intended meaning and are open to interpretation.

In Peirce's theory, such variance is described as a gap in interpretation, i.e., the distance between the sign of reality (the object) and the sign of experience (the interpretant). As such, the sign that presents itself to our senses takes part in and relates to sign structures, or "sign games", paraphrasing Wittgenstein's famous notion of *language games* (Wittgenstein, 1953/1958). While Wittgenstein focused on how language is used and the actions into which it is woven, the meaning of icons, although not being linguistic, also draws on interpretive habits that restrict interpretation and direct attention in a certain direction. The concept of *sign games* is here understood as the shared conceptual parameters that make it possible to identify and produce signs, as well as the establishment of relations or significations of new representations found in language.

2.2. The interpreter and the visual sign

As reflected in Peirce's definition of the sign given above, a sign does not exist in isolation or separated from other signs. It is always explained by reference to other signs, and the process of interpretation reveals that meaning develops indefinitely, in a process of *unlimited semiosis* (Eco, 1990). In terms of iconic signs, the meaning of visual representations involves the different cognitive abilities of a sign user. An abstract painting or a piece of modern non-figurative art may be dominated by qualitative features, e.g., the material and fabric of the piece of art, the technique, and colour palette used by the artist. The meaning of a piece of art may be indeterminate and open for interpretation, and thus only reflects what the interpreter brings. In this case, the cognitive workload or meaning making (interpretation) rests on the shoulders of the perceiver: it is up to them to interpret the work of art. The abstract painting thus motivates emotions that connects to experience. The more the interpreter knows about modern art and the artist, the deeper and more sophisticated the experience can become. This knowledge held by an interpreter is a form of collateral experience, discussed by Peirce as follows:

> I point my finger to what I mean, but I can't make my companion know what I mean, if he can't see it, or if seeing it, it does not, to his mind, separate itself from the surrounding objects in the field of vision. It is useless to attempt to discuss the genuineness and possession of a personality beneath the histrionic presentation of Theodore Roosevelt with a person who recently has come from Mars and never heard of Theodore before. (CP 8.314, 1909)

Collateral experience is the actual knowledge shared by individuals taking part in a communication situation. It includes the background of personal and cultural knowledge we bring to any situation including all signs, in language or otherwise, that are interpreted and understood within this context (Colapietro, 2003). The quotation above expresses the fact that all signs are open for interpretation, and that the interpreter must be intelligibly equipped to grasp their

meaning. Furthermore, a sign does not emanate or exist in isolation. The interpretation of a piece of art, besides drawing on the experience of the sign user, also draws on the situation and discourse within which the interpretive act takes place. The related notion of "universe of discourse" also denotes this aspect of interpretation.

> If my companion calls beautiful a person I know to be undeniably ugly, I may infer, on the basis of this collateral knowledge (and perhaps, on the basis of knowledge of my friend's personality, past utterances, relation to the person spoken of, the nature of the conversational situation, the presence or absence of the person spoken of, etc. – in sum, the entire universe of discourse), that my friend is speaking ironically. (Pharies, 1985, p. 19)

2.3. Hypoicons

It is often said that a picture says more than a thousand words and that it is more demanding to describe a picture in language than simply showing the picture to someone. In semiotic terms, visual signs are icons (even if all icons are not visual signs), and the icon represents its object by virtue of similarity, at different levels of complexity. The notion of *hypoicon* is used by Peirce to distinguish between various kinds of iconic signs:

> A sign may be iconic, that is, may represent its object mainly by its similarity, no matter what its mode of being. If a substantive be wanted, an iconic Representamen may be termed a hypoicon. Any material image, as a painting, is largely conventional in its mode of representation; but in itself, without legend or label, it may be called a hypoicon. Hypoicons may roughly [be] divided according to the mode of Firstness which they partake. Those which partake the simple qualities, or First Firstness, are images; those which represent the relations, mainly dyadic, or so regarded, of the parts of one thing by analogous relations in their own parts, are diagrams; those which represent the representative character of a representamen by representing a parallelism in something else, are metaphors. (EP.2.273–74, 1903)

The simplest kind of hypoicon, the *image*, thus represents by virtue of qualitative similarity, e.g., colour on canvas corresponding to the colour in the object. However, the very attempt to describe a sense of Firstness related to an image quickly transcends into more developed signs. For example, Figure 1 displays an image that only vaguely represents an object. It is composed of black lines and forms, that may (at best) represent some generic bearded man. However, by collateral experience, we can recognize aspects of the image and even interpret it as an icon depicting a specific person. The collateral experience and thus recognition, (or similarity of iconic features), depend on the knowledge and experience already held by the interpreter.
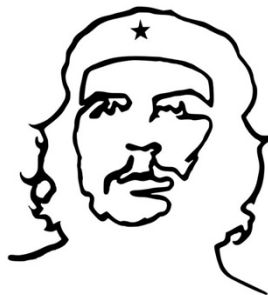

Figure 1. Man with beret, Che Guevara.[3]

---

[3] Source: https://openclipart.org/image/800px/315419 (Verified 9. Marts 2023)

The second hypoicon, the *diagram*, represents its object by means of structural relationships and similarities. For instance, geometrical figures like Venn diagrams give rise to diagrammatic reasoning (Hoffmann, 2005). A map, dynamical like GPS navigation maps or fixed like a subway station map, though different in visual expression, functionality, and abstraction, enables navigation in the real world. Pictograms like toilet gender signs are also diagrammatic signs. As is the case with the image, besides its visual expression, the diagram involves interpretation of indexical as well as symbolic aspects. A GPS navigation map, besides being visual and diagrammatic, is also indexical in its reference to certain functions as e.g., the precise location of my parked car, the distance between a point of departure and point of arrival, and the experienced correspondence between the representation of the map and the actual road. The distance is measured in kilometres or miles and time which of course are symbolic signs.

The third hypoicon, *metaphor*, represents its object by means of parallelism, or similarity to something else. Farias and Queiros (2006) provide the example of visual metaphor (incorporating diagrams) shown in Figure 2, where the parallel between Nazism (represented indexically with help of the swastika) and trash is expressed. [4]

Figure 2. Examples of the function of the diagrammatic hypoicon and the metaphorical hypoicon. (from Farias and Queiros, 2006, p. 295)

But as argued in Section 2.2, all signs, and thus also hypoicons, derive their meaning from the complex interrelations of the sign itself, and the sign user's interpretation. Thus implies a degree of epistemic pluralism, discussed in the following section.

---

[4] Sahakyan (2021) offers a somewhat different interpretation and suggests that metaphors establish conventional parallelisms, which fits the definition of a symbol. However, he acknowledges that Peirce's idea of metaphor is difficult to grasp since there are very few instances of the term in his writings.

3. Epistemic pluralism

3.1. Defining the notion

Epistemic pluralism is a philosophical position that considers the possibility of different theoretical views that produce equally valid outcomes. It is outside the scope of this paper to go into greater detail in terms of outlining the philosophical foundation for Peirce's notion of truth and the status of epistemic pluralism (see Rosenthal, 1994; Howat, 2011; D'Oro, 2018). However, we need to briefly discuss two issues that are relevant for our approach to visual semiotics.

The first is to point out that epistemic pluralism is meaningful only if it is conceived of as the idea that something can be understood or experienced differently. Consequently, we must understand epistemic pluralism relative to a situation where a phenomenon is being interpreted. Epistemic pluralism is often confused with relativism, which is in opposition to absolute truth and realism, whereas the pluralist stance acknowledges that there are different views and epistemic systems that may be incommensurable but valid according to certain standards or structures. Thus, epistemic pluralism is consistent with ontological realism and the possibility of obtaining true knowledge.

Our position can be illustrated by the following example, where Heidegger demonstrates how a table (or in principle any material phenomenon) can be described by its features, e.g., by what material it is made of, how high it is, how many legs it has, its colour, the brand, its age, its intended position in a room, its intended use, etc., but is also "something more":

> However, when seen closely, the table is also something more – it is not only a material thing in space, but in addition is furnished with definitive valuative predicates: beautifully made, useful – it is a piece of equipment, furniture, a part of the room's décor. The total domain of what is real can accordingly be divided into two realms: things in nature and things of value – and the latter always contain the being of a natural thing as the basic stratum of their being. (Heidegger, 1923, p. 68)

In Heidegger's example, the table may be described by its material features, it may be classified as a particular type of table, and often we are lured into thinking these features are objective and true features of the table. However, even though the table encountered is real, our description of it is based on normative values. Consequently, there is a difference between the object as it is by itself, and the object described as a table.

The second issue deals with the relevance of epistemic pluralism in current social reality and visual media. In the field of information science, theories and definitions of information have been tied to views based in rationalism, empiricism, or historicism (Brier, 2004; Capurro & Hjørland, 2003; Thellefsen et al., 2015). Even though these views are paradigmatically different and even incommensurable, they each contribute to a diverse understanding of information as a complex and irreducible phenomenon. In terms of describing an object of information, including visual information, different knowledge interest can motivate different interpretations and understandings. For example, a stone in the field can have a particular knowledge interest for the geologist, which is different from the archaeologist or the palaeontologist. Epistemic pluralism acknowledges the diversity of different knowledge interests that may be directed towards the same object. From the perspective of art, Ørom (2003) investigated knowledge organization in the domain of visual art and found that different socially and historically discourses on art, including scholarly paradigms pervade knowledge organization in art institutions.

3.2. Epistemic pluralism and "visual grammar"

The examination of visual representations in terms of semiotics and epistemic pluralism can be traced back to the works of Kress and van Leeuwen (Kress & van Leeuwen, 2002, 2006). On their

approach, images[5] can represent objects and their relations in a world outside the representational system. Images, and other visual objects, can form different texts, defined as complex systems of signs that cohere internally as well as externally, in the context for which they were produced. According to Kress and van Leeuwen, images and other visual objects represent a particular social relation between the producer, the viewer and the object represented. Kress and van Leeuwen's examination is based on a semiotic epistemology that investigates what distinguishes justified belief from opinion through visual reading. They define "semiotics" as a way for people to produce and communicate meaning in social settings. Thus, to illustrate their theory, they draw examples from many domains, such as websites and advertisements, to show how meaning-making occurs in social practices. Based on the structuralist semiotic paradigm, Kress and van Leeuwen analyse the sign in terms of "semiotic vectors". A semiotic vector refers to the directional force that visual elements in an image exert on an interpreter. According to Kress and van Leeuwen, visual elements as lines, shapes, colours, and textures can be used to create different vectors, that guide the sign user's attention and interpretation of an image.

Kress and van Leeuwen's concept of semiotic vectors is related to the idea of "visual grammar," which suggests that visual elements can be organized into grammatical structures that convey meaning (Kress & van Leeuwen, 1996). Thus, by understanding the function of semiotic vectors in images, the information conveyed in images is said to be derived. While these authors may lay the foundation for a "visual grammar" akin to the structure of language, their view does not account for the iconic features of visual signs. As pointed out in Section 2, the meaning of the hypoicon – image, diagram or metaphor – cannot be accounted for using descriptive features alone. Collateral experience and the universe of discourse play an active role in determining the meaning of a sign. The strength of Peircean semiotics lies in its ability to transcend descriptive sign features and apply semiotic logic to visual expressions.

To illustrate this point, let us consider a simple road sign, such as the STOP sign. For the motorist on the highway, it has a very specific meaning: it has become a symbol that can be quickly decoded by an educated and experienced motorist (or by a computer system). Take the same road sign and place it in an art museum. Even though the visual structure remains the same, the intentional and effective interpretants of it will be completely different. Looking at a STOP sign in an art museum, the spectator may stop, and reflect on how and why this sign is placed in this context. What is the intention of the artist? Is it a joke? Or a comment on the rush of society? What is at stake here is that the meaning of a given phenomenon (e.g., a road sign) is not determinable without taking the context and collateral experience into account (Thellefsen et al., 2014). Hence, epistemic pluralism is explained by relation to different world views, interests, expectations, and activities and practices of the sign user. The sign itself exists independently of the sign user, but the meaning of a visual sign cannot be determined only by describing the image itself but must include how the image is contextualized and interpreted by a human agent.

4. Analysing political portraits

After the lengthy theoretical background in the previous two sections, we can proceed to investigate how visual semiotics, particularly in terms of Peirce's definition of the hypoicon, can provide for a non-structural, but pragmatic and pluralist view of how the meaning of visual representations is recognized. As demonstrated by Farias and Queiros (2006), the hypoicon follows different modes of reasoning, and these modes of reasoning are what separates our analysis from descriptive analysis. Jappy (2013) provides several examples of different non-verbal communicative functions in visual reprsentation, and in the context of politics and power, discusses features in the "body language" of the former US president George W. Bush compared

---

[5] It is important to note that the term "image" is used by Kress and van Leeuwen to denote all visual signs, whereas Peirce uses it for as a particular kind of iconic representation, as described in Section 2.2

to that of the Russian president Vladimir Putin (Jappy, 2013, p. 43). Our analysis follows these lines, but our focus is on the functions of the hypoicons.

In Figure 3 below, we have a photograph of a person facing towards us. Considering the photo as an image hypoicon, it represents by mere quality, such as colours, proportions, lines, and facial expressions. The relation between the image and what it represents is qualitative. The image simply resembles something or somebody. It may, however, invoke recognition and thus feelings by interpretation. However, this recognition is a matter of the viewer's experience rather than any inherent quality of the image itself.

In terms of a diagram hypoicon, the photograph functions as an index, and thus represents something else, namely in our example, the person represented. The facial expression exhibited by the person represented in the picture, i.e., the gaze, frown, lips, nose, chin, and haircut (the immediate object), corresponds with the real person, which is the dynamical object represented. Furthermore, the photograph also includes three icons that act as cultural symbols due to collateral experience: (a) the American flag, (b) The White House and (c) the suit and red tie, which taken together indicate that the dynamical object is the President of the USA.

The photograph also bears resemblance to photographs of former presidents of the United States, thereby creating a parallelism between the person depicted and the genre of the photograph. Before becoming the 45th President of United States, Donald Trump was a well-known businessman, and a TV-star known for the popular TV-show 'The Apprentice'. Therefore, the photograph establishes a parallelism, and the metaphor hypoicon, between Trump as businessman and reality TV star, and Trump as the President of USA and "leader of the free world".

In summary, the image in Figure 3 represents its object by qualities and aesthetic nature; the diagram represents its object by being analogous or by mapping the object represented, and as such function as an index; the metaphor represents by parallelism and function by combining culturally accepted visual forms and genres, creating new meanings.

Figure 3. Former President Donald Trump's official White House portrait. *WhiteHouse.gov.*

Revisiting the photograph in Figure 3, one could say that it may be unclear whether it is "Trump the entertainer" or "Trump the businessman" we are exposed to. However, the facial expression involves iconic signs that resembles a predator: the gaze looking directly at the viewer, in an

intimidating way, the slightly forward tilted body position and the almost snarling mouth. Therefore, the picture can be interpreted as a metaphor, e.g., Trump "draining the swamp", etc. The picture thus invokes different possible interpretations, depending on the collateral experience and values of the interpreter.

On the other hand, Figure 4 captures Trump facing outward; however, even though it paraphrases the original photograph in Figure 3, it differs significantly from the former in composition and visual expression. For example, in Figure 3 we identified three culturally stable iconic symbols that grounded the photograph of the celebrity person and businessman, replying on the visual expression forms of the photograph. Figure 4 uses the face of Trump and is characterized by the colours of black, red, blue, and grey that generates shadows. The identification of the person depicted as the President of the USA is recognized in its similarity with the picture in Figure 3. However, whereas the latter is the official White House photograph of President Trump, Figure 4 is a manipulated version, using the same photograph but rendering it only in silhouette. In fact, it is paraphrasing the famous Obama poster that was used in his 2008 presidential campaign, shown in Figure 5.

Figure 4. Trump/Dope poster.

Figure 5. Obama/Hope poster.

In Figure 4, the meaning of the picture, although exhibiting the same facial qualities as in Figure 3, is supported not by using cultural symbols (Flag and White House), but by reference to the word *Dope*. One of many possible interpretations is: "Dope to have a predator in the White House". Another is: "Trump is Dope, a drug that satisfy his followers". We thus have a picture that both functions as an ironic comment to the presidential photograph above and gives us a cross-reference to the similar Barack Obama poster with the text *Hope*, designed by artist Shepard Fairey, which came to represent Obama's 2008 presidential campaign.

Figure 4 thus combines several metaphorical meanings. The use of colours and the clear division between blue and red (a reference to the party colours of the republicans and democrats), suggest that Trump is a divider rather than a unifier. The text *Dope* instead of *Hope* is, besides the reference to the Barack Obama poster, a word game, using irony to express a new meaning. The words *Dope* and *Hope* are similar in sound and spelling, thus forming a word play (paronomasia) and anagram. The wordplay of this kind, however, is only effective if the viewer knows both pictures. Thus, the irony expressed in Figure 4 may only be fully recognizable to those who are familiar with the Obama poster, thus sharing the same collateral experience.

Additionally, the two posters differ in terms of the direction of the gaze of the object (i.e., the referent): while Trump appears to be looking directly at the viewer, Obama's gaze is directed upwards with an air of openness and invitation, which is reinforced by the meaning of *Hope*. As a result, the messages conveyed by the two posters are diametrically opposite. The picture can therefore be interpreted as a metaphor with political significance. Where the photograph represented in Figure 3 refers to generalized cultural visual symbols anchoring its meaning, the use of metaphors in the poster in Figure 4 motivates emotional effects. In contrast to the narrower interpretive grounding of Figure 3, Figure 4 is more open-ended and plural because its meaning is determined by the interpreter's collateral experience, and their ability to connect the metaphorical references in the picture.

5. Summary and conclusions

The main objective of this paper has been to demonstrate, by example, how Peirce's concepts of hypoicons and collateral experience can enrich the field of visual semiotics and offer novel perspectives into deciphering the meaning of visual representations, ranging from ambiguous visual expressions to intricate diagrammatic and metaphorical references. Peircean semiotic theory is dynamic, relational and fundamentally pluralistic.

The meaning of a sign relates to other signs, and understandings of phenomena based on sign interpretation is literally endless. The sub-types of hypoicon: the image, the diagram, and the metaphor can be applied to the same visual representation, as shown in our analyses of public pictures of Donald Trump. Also, our analysis has shown that a picture demands much from its interpreter. The meaning of a picture is not ingrained in it itself but connects to the knowledge and experience of the interpreter, or what we called, following Peirce, collateral experience.

Therefore, even though a picture may seem straightforward in its visual expression, it can motivate different (plural) interpretations. As demonstrated in our examples, the meaning of the pictures is not stated by the pictures themselves, nor by a ledger. Rather, they must be inferred by the viewer. Understanding the subtleties of the picture demand collateral experience about Donald Trump and the political environment in USA in the second and third decades of the new millennium. A particular visualization can convey different meanings depending on different epistemic or culturally motivated views, and visual signs may be interpreted differently if placed in different surroundings. By exemplification we have argued that the two examined representations of Donald Trump can motivate different meanings, e.g., depending on political views. The metaphorical expression used in Figure 4 is a powerful tool for expressive and emotional effects.

We hope to have demonstrated that the three functions of the hypoicons are prominent in the examples. Naturally, more studies in visual semiotics using Peircean semiotics as the analytical framework are needed to draw more general conclusions. However, we hope to have shown the potential of this approach for the field of visual semiotics.

Acknowledgements

References

Anderson, D. (1984). Peirce on Metaphor. *Transactions of the Charles S. Peirce Society*, 20(4), 453-468.

Banerjee, I., Nguyen, B., Garousi, V., & Memon, A. (2013). Graphical User Interface (GUI) Testing: Systematic Mapping and Repository. *Information and Software Technology, 55*(10), 1679-1694. https://doi.org/10.1016/j.infsof.2013.03.004

Barthes, R. (1977). Rhetoric of the Image. In S. Heath (Ed.), *Image - Music - Text* (pp. 32-51). Hill and Wang.

Brier, S. (2004). Cybersemiotics and the Problems of the Information-Processing Paradigm as a Candidate for a Unified Science of Information Behind Library Information Science. *Library Trends*, *52*(3), 629-657.

Burford, B., Briggs, P., & Eakins, J. P. (2003). A Taxonomy of the Image: On the Classification of Content for Image Retrieval. *Visual Communication, 2*(2), 123-161. https://doi.org/10.1177/1470357203002002001

Capurro, R., & Hjørland, B. (2003). The Concept of Information. *Annual Review of Information Science & Technology*, *vol. 37, Chapter 8*, pp. 343-411. https://doi.org/10.1002/aris.1440370109

Chandler, D. (2002). *Semiotics: The Basics*. Routledge.

Colapietro, V. (2003). Translating Signs Otherwise. In *Translation Translation* (pp. 189-215). Brill. https://doi.org/10.1163/9789004490093_012

Damisch, H. (2020). *Semiotics and Iconography* (Vol. 1). Berlin: Walter de Gruyter.

D'Oro, G. (2018). Why Epistemic Pluralism Does Not Entail Relativism: Collingwood's Hinge Epistemology. In: Dharamsi K, D'Oro G. and Leach S. (eds) *Collingwood on Philosophical Methodology,* pp.151-175. Cham, Switzerland: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-02432-1_7

Drechsel, B. (2010). The Berlin Wall From a Visual Perspective: Comments on the Construction of a Political Media Icon. Visual Communication. *Visual Communication 9*(1): 3-24. https://doi.org/10.1177/1470357209352947

Eco, U. (1990). Drift and Unlimited Semiosis. *Distinguished Lecture Series, Vol. 1.* Bloomington, IN: Indiana University Press

Farias, P. & Queiros, J. (2006). Images, Diagrams, and Metaphors: Hypoicons In the Context of Peirce's Sixty-six-fold Classification of Signs. *Semiotica, 162*(1/4): 287-307. https://doi.org/10.1515/SEM.2006.081

Floch, J.-M. (1985). Petites Mythologies de l'œil et de l'esprit. Pour une Sémiotique Plastique, (Coll. « Actes sémiotiques »). (1986). *Droit et société, 2*(1), 148-148. https://doi.org/10.1075/as.1

Floch, J.-M. (2002). *Sémiotique, Marketing et Communication. Sous les Signes, les Stratégies*. Presses Universitaires de France.

Fontanille, J. (1995). *Sémiotique du Visible : Des Mondes de Lumière*. Presses Universitaires de France.

Friedman, A., & Thellefsen, M. (2011). Concept theory and semiotics in knowledge organization. *Journal of Documentation*. https://doi.org/10.1108/00220411111145034

Heidegger, M. (1923) *Ontology - the Hermeneutics of Facticity.* Bloomington, IN: Indiana University Press.

Hoffmann, M. H. (2005). Signs as means for discoveries: Peirce and his concepts of "diagrammatic reasoning,""theorematic deduction,""hypostatic abstraction," and "theoric transformation". In *Activity and sign: Grounding mathematics education*, 45-56. Springer

Howat, A. W. (2011) Regulative Assumptions, Hinge Propositions and the Peircean Concept of Truth. *Erkenntnis* 78(2): 451-468. https://doi.org/10.1007/S10670-011-9351-6

Jappy, T. (2013). *Introduction to Peircean Visual Semiotics*. London: Bloomsbury.

Kralemann, B., & Lattmann, C. (2013). Models as Icons: Modeling Models in the Semiotic Framework of Peirce's Theory of Signs. *Synthese, 190*(16), 3397-3420. https://doi.org/10.1007/s11229-012-0176-x

Kress, G., & van Leeuwen, T. (1996). *Reading Images: The Grammar of Visual Design*. London: Routledge.

Kress, G., & van Leeuwen, T. (2002). Colour as a Semiotic Mode: Notes for a Grammar of Colour. *Visual Communication,* 1(3): 343-368. http://dx.doi.org/10.1177/147035720200100306

Kress, G., & van Leeuwen, T. (2006). Visual Interaction. In A. Jaworski & N. Coupland (Eds.) *The Discourse Reader* (pp.362-384). London: Roudtledge.

Nöth, W. (2011). 16 Visual Semiotics: Key Features and an Application to Picture Ads. In E. Margolis & L. Pauwels (Eds.), *The SAGE Handbook of Visual Research Methods* (pp. 298-316). Sage Publications.

Marty, R., Thellefsen, T. & Sørensen, B. (2005) *Semeiotik - 75 tegndefinitioner af Charles Sanders Peirce.* Aalborg Univesitetsforlag.

Peirce, C. S. (1958-1966). *Collected Papers* (Vol. I-VIII). Belknap Press of Harvard

University Press.

Peirce, C. S. (1977). Semiotics and Significs: The Correspondence Between C. S. Peirce and V. Welby. C. Hardwich (ed.). Bloomington: Indiana University PressPeirce, C. S. (1992). The Essential Peirce: Selected Philosophical Writings. In *The Essential Peirce: Selected Philosophical Writings*. Bloomington IN: Indiana University Press.

Pharies, D. A. (1985). *Charles S. Peirce and the Linguistic Sign.* Amsterdam: John Benjamins.

Rosenthal, S. B. (1994). *Charles Peirce's Pragmatic Pluralism.* New York: State University of New York Press.

Sahakyan, I. (2021). Metaphor, Induction and Innovation: Getting Outside the Box. *Σημειωτική-Sign Systems Studies, 49*(1-2), 166-190. https://doi.org/10.12697/SSS.2021.49.1-2.07

Sørensen, B., Thellefsen, T., & Thellefsen, M. (2019a). A Peircean semiotics of technological artefacts. In T. Jappy (red.), *The Bloomsbury Companion to Contemporary Peircean Semiotics* (s. 253-275). London: Bloomsbury Academic.

Sørensen, B., Thellefsen, T., & Thellefsen, M. (2019b). The Image in Print Advertising and Comments to Val Larsen's Research Program. In I. R. Management Association (Ed.), *Brand Culture and Identity: Concepts, Methodologies, Tools, and Applications* (pp. 48-65). IGI Global. https://doi.org/10.4018/978-1-5225-7116-2.ch004

Sørensen, B., Thellefsen, T., & Thellefsen, M. (2017). Clues as Information, the Semiotic Gap, and Inferential Investigative Processes, or Making a (very small) Contribution to the New Discipline, Forensic Semiotics. *Semiotica, 215*: 91-118. https://doi.org/10.1515/sem-2016-0063

Sonesson, G. (2016). The phenomenological semiotics of iconicity and pictoriality–Including some replies to my critics. *Language and Semiotic Studies, 2*(2), 1-73. https://doi.org/10.1515/lass-2016-020201

Thellefsen, T., Sørensen, B. & Andersen, C. (2006). Significance-effects, Semeiotics and Brands. *Cybernetics & Human Knowing 13*(3-4): 111-134.

Thellefsen, T., Sørensen, B., Thellefsen M., & Andersen, C. (2006). Formal Conditions for the Significance-effect. *Semiotica, 158*(1-4): 401-406. https://doi.org/10.1515/SEM.2006.016

Thellefsen, T., Sørensen, B. & Thellefsen, M. (2011). The Significance-effect is a Communicational Effect: Introducing the DynaCom. *Sign Systems Studies, 39*(1): 209-222. https://doi.org/10.12697/SSS.2011.39.1.07

Thellefsen, T., Sørensen, B., & Thellefsen, M. (2014). The Information Concept of Nicholas Belkin Revisited – Some Semeiotic Comments. *Journal of Documentation, 70*(1): 74-92. https://doi.org/10.1108/JD-08-2012-0101

Thellefsen, T., Thellefsen, M., & Sørensen, B. (2015). The Concept of Information in Library and Information Science: A Field in Search of its Boundaries [review]. *Cybernetics & Human Knowing*, *22*(1), 57-80.

Thürlemann, F. (1990). *Vom Bild zum Raum : Beiträge zu einer Semiotischen Kunstwissenschaft*. DuMont Buchverlag.

Williams, R. and Newton, J. (2009). *Visual Communication: Integrating Media, Art, and Science.* London: Routledge.

Wittgenstein, L. (1953/1958). *Philosophical Investigations, 2nd Edition.* Trans. G.E.M., Anscombe. Oxford: Blackwell.

Worth, S. (1968). Cognitive Aspects of Sequence in Visual Communication. *AV Communication Review*, 121-145.

Ørom, A. (2003) Knowledge Organization in the Domain of Art Studies - History, Transition, and Conceptual Changes. *Knowledge Organization, 30*(3/4): 128-143.

Author addresses
martin.thellefsen@hum.ku.dk
alonfriedman@usf.edu

About the authors
Martin Thellefsen is an Associate Professor at the Department of Communication, University of Copenhagen. He has a strong background in information science and knowledge organization and holds a Ph.D. from the Royal School of Library and Information Science. His research is interdisciplinary, and his primary focus lies in the semiotics of information, knowledge organization and technology. At present, he is engaged in research that explores the semiotics of technology, thus investigating how signs are embedded in various technological artifacts that influence human perception, behavior, and culture. Furthermore, he focuses on the semiotics of digital communication, shedding light on the intricate processes through which meaning is conveyed, shared, and interpreted in online environments.

Alon Friedman is an Associate Professor at the School of Information, University of South Florida, and holds a Ph.D. in information science. He is an interdisciplinary researcher, and his primary area of focus lies in visualization theory and the visualization of data. By employing diverse theoretical perspectives, he explores the intricate relationship between information and its visual representation. Currently, he is engaged in several projects, one of which delves into the exploration of Peirce's sign theory in relation to the analysis of data. The aim is to uncover novel ways to interpret and understand information in its visual form.