

Art Theory as Visual Epistemology

Edited by

Harald Klinke

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INTRODUCTION: THE IMAGE AND THE MIND

HARALD KLINKE

In the 1990s, a movement from art history and philosophy postulated an “iconic turn”. This movement was comparable to the “linguistic turn” in claiming a new approach to the question of how humans constitute reality, but focused on images rather than language. The core question of what was subsequently called *Bildwissenschaft*, or visual studies, is the fundamental ontological question: “What is an image?” This question draws attention to the particular logic of images.¹

It has been a constant belief of scientists, poets and artists alike that an illustration alongside a text is more than just another representation of the same idea.² Not only does a picture say more than a thousand words; compared to text, images show different things differently. The way images represent something obviously follows a different kind of logic, and how this logic fundamentally differs from that of linguistics is under continuous investigation.

In his *Politeia*, Plato described the highest goal for a philosopher: to discover the ideas behind apparent nature. For Enlightenment authors, these ideas were abstract concepts that were best communicated by the written word. Epistemic images, on the other hand, are images that contain more than just the visible, but also a processed higher understanding of the world: in short, knowledge. It has been disputed for centuries how far images are also able to communicate ideas. Since Plato claimed artists are twice removed from ideas and can only produce likenesses of nature,³ art theory has striven to prove that pictures are also capable of representing higher ideas. In addition, scientists have for a long time used images not

¹ Gottfried Boehm, “Die Bilderfrage“, in: *Was ist ein Bild?*, edited by Gottfried Boehm, Munich 1994, 325-343.

² Jonathan Miller, “The Mind's Eye and the Human Eye”, in: *Daedalus*, Vol. 114, No. 4, *The Moving Image* (Fall, 1985), 185-199

³ Plato: “*Politeia*” 597a-598a, in *Plato: Werke in 8 Bänden*, ed. Gunther Eigler, Vol. 4 (Darmstadt: Wiss. Buchges, 1990), 797.

just to illustrate what has been said in texts and equations, but as a means to directly communicate ideas.⁴ Moreover, the process of image production is often seen as a process to *develop* ideas.⁵

The image and its potential as an epistemic medium is a central and current field of research. It is obviously an important part of research in art history, visual studies and other humanities disciplines, but is also growing in importance in the natural sciences. This whole field can be encompassed by the term “visual epistemology”.

What is visual epistemology? Epistemology, or the theory of knowledge and justified belief, deals with questions such as “What is knowledge?” and “How can we know?” Plato’s “Allegory of the Cave” describes a system of epistemology in which there are three stages of understanding—from interpreting mere shadows to understanding that these are shadows only and grasping the ideas behind the apparent world.⁶ For Plato, those ideas, not the material world, are the highest form of reality and constitute real knowledge.

Immanuel Kant’s *Critique of Pure Reason* (1781) describes how knowledge can be acquired by empirical means and discusses the limits of reason. To draw the line between what humans can and cannot know is the task of epistemology. Kant traces back all knowledge to empirical experience, including visual experience (*Anschauung*),⁷ processed by means of *a priori* knowledge and categories, but transforms them into abstract concepts (*Begriffe*) rather than “inner images”.⁸

On the other hand, his contemporary Joshua Reynolds, the British artist and president of the Royal Academy in London, developed a principally *visual* epistemology. In 1771, Reynolds gave a concise account of how ideas are developed by an artist. In the first step, the artist examines nature and forms an idea of it by comparison and contemplation (i.e., mental labour) to extract an archive of idealized mental images. After having formed a number of such ideas, the artist is then able to bring a combination of them to canvas and is thus able to depict an abstraction of nature, instead of merely copying it. The history painter, for example,

⁴ Lorraine Daston and Peter Galison, *Objectivity* (New York, N.Y.: Zone Books, 2010).

⁵ Horst Bredekamp, *Galilei der Künstler: der Mond, die Sonne, die Hand*, 2nd ed. (Berlin: Akademie-Verl., 2009).

⁶ Plato, “Politeia”, 514a-521b, op. cit., 554–567.

⁷ Immanuel Kant, *Kritik der reinen Vernunft* (Riga: Johann Friedrich Hartknoch, 1787), B 33.

⁸ Heidegger discussed Kant’s concepts of „Bild“ and „Schema“ in: Martin Heidegger, *Kant und das Problem der Metaphysik* (Bonn: Cohen, 1929), 84-91.

forms a “mental picture” after reading an ancient history and turns that into a painting:

Whenever a story is related, every man forms a picture in his mind of the action and expression of the persons employed. The power of representing this mental picture on canvass [sic] is what we call Invention in a Painter.⁹

That mental picture should be brought to canvas as it is; that is, without “minute peculiarities”—just what Reynolds calls the “general idea”.¹⁰ That general idea is focussed on the most important parts, such as the head and hands of the depicted in a portrait.¹¹ It might be said that ideas can be both abstract and visual, and that they can be communicated accordingly in words or images.

The aim of such paintings is to target the mind of the beholder and communicate these mental pictures by visual means. Since ancient artists have already performed such mental labour, a contemporary artist, Reynolds said, can study the works of the Old Masters and add their ideas to his mental archive. He is allowed to make use of those visual ideas along with making his own contribution to the public domain of knowledge that is communicated visually. Reynolds’ theory makes heavy use of concepts of his compatriot, John Locke.¹² However, when it comes to images (the realm of artist), he deviates from Locke in his valuation of visual thinking. While philosophers publish their ideas in written words, artists, according to Reynolds, are in a similar way able to communicate their visual ideas in a visual medium.

The word versus image debate has been a preoccupation of philosophers for centuries. So have the questions: What is mental representation? In what sense does visual thinking take place? How could ideas be stored visually in the mind?¹³

⁹ Joshua Reynolds, “Discourse IV,” in *Sir Joshua Reynolds: Discourses On Art*, ed. Robert R. Wark (San Marino: The Huntington Library, 1959), 58.

¹⁰ Ibid.

¹¹ The artists Benjamin West explained to his colleague John Singleton Copley the “General Affect” as “Due Subordination to the Principle Parts, viz they head and hands” (*Letters & Papers of John Singleton Copley and Henry Pelham, 1739-1776*, ed. C. F. Adams, Guernsey Jones, and W. Chauncey Ford (Boston: The Massachusetts Historical Society, 1914), 57).

¹² Harald Klinke, “Joshua Reynolds teaching art history: Learning from the past for the future,” in *Art History Supplement* 3, no. 1 (January 2013), 17-29.

¹³ Descartes wrote in 1640 that ideas are “like” images of things (René Descartes, *Meditationes De Prima Philosophia, In Quibus Dei Existentia, & Animae A Corpore Distinctio, Demonstratur* (Paris: Michaellem Soly, 1641), VII 35/36). See also

It is remarkable that today's psychology has not yet developed a coherent opinion on the nature of mental images, that is experiences that resemble the experience of perceiving an object when this object is not actually present, but is imagined.¹⁴ In the 1970s, the imagery debate that sparked in cognitive neuroscience centred around two opposing ideas. Zenon Pylyshyn stated that if there are different codes such as verbal, visual etc., there has to be a super-code as an overreaching concept. He suggested that mental images just like other sensory data are stored by decomposing them into mathematical propositions that make the brain work like a serial computer.¹⁵ Stephen Kosslyn, on the other hand, stated that the phenomenon of the mental image cannot be fully explained by the propositional theory. He showed that a mental image is neither a calculated mathematical model of an object nor a picture as such, but the brain handles mental images of objects as image-like wholes that simulate principles of visual perception.¹⁶

In fact, Hermann von Helmholtz had stated in the nineteenth century that visual perception is a process that starts with the camera obscura-like eyes and the retina's ability to transform light rays into neural signals that are unconscious before they are "seen".¹⁷ Today's brain science shows that nerve signals are transferred from the eye to the brain over the optic nerve and the optic radiation pre-processed by the retinal layers and the metathalamus (*lateral geniculate nucleus*)¹⁸. We can even show that these signals are in fact transmitted from the eye to the visual cortex in a "retinotopic" manner. This means a mapping of retinal cells to brain cells

Andreas Kemmerling, "Das Bild als Bild der Idee," in *Bilder in der Philosophie und in anderen Künsten und Wissenschaften*, ed. Jakob Steinbrenner and Ulrich Winko (Paderborn: Schöningh, 1997), 184.

¹⁴ Nigel J. T. Thomas, "Mental Imagery, Philosophical Issues About," in *Encyclopedia of Cognitive Science*, ed. Lynn Nadel, Vol. 2 (London: Nature Publishing/Macmillan, 2003), 1147–1153.

¹⁵ Zenon W. Pylyshyn, "What the mind's eye tells the mind's brain: A critique of mental imagery," *Psychological Bulletin* 80, no. 1 (July 1973), 5.

¹⁶ Stephen M. Kosslyn and James R. Pomerantz, "Imagery, propositions, and the form of internal representations," *Cognitive Psychology* 9 (1977), 56. See also Keith M. Opdahl, *Emotion as meaning: the literary case for how we imagine* (Lewistown, Pa.: Bucknell University Press, 2002), 34.

¹⁷ Hermann von Helmholtz, *Ueber das Sehen des Menschen: Ein populär-wissenschaftlicher Vortrag, gehalten zu Königsberg in Preußen am 27. Febr. 1855* (Leipzig: Leopold Voss, 1855) and *Handbuch der physiologischen Optik* (Leipzig: Leopold Voss, 1856–1866).

¹⁸ Hans-Otto Karnath and Peter Thier, ed. *Kognitive Neurowissenschaften*, 3rd ed. (Berlin: Springer Medizin, 2012), 36–37.

and is shown in brain scans by means of functional magnetic resonance imaging (fMRI).¹⁹ However, in the neocortex these signals are stored, processed and retrieved in several neuronal layers, with increasing abstraction.²⁰ In short, in relation to the nervous system, information from the senses (hearing, vision, etc.) is nothing but signals similar in nature that are stored and processed in different parts of the neocortex.²¹ How exactly they are stored and accessed is still a matter of debate.

It should be noted here that it was an art historian who first bridged the spheres of the natural sciences and the humanities and their shared interest in the visual. In his book *Visual Thinking* (1968), Rudolf Arnheim put forward the idea of the close integration of visual perception with cognitive processes and in this respect also came to speak of the “mental image”. For him, it is (unlike the perceived external picture) a representation of “the mental grasp of an object from the physical nature of that object itself”.²² Arnheim links this to abstraction in modern paintings. In his view, “seeing” is not a one-way process, but incorporates feedback from experience and prediction-making. It is, thus, rather a critical aspect of humans’ cognitive capability. Visual perception involves thinking, and thinking makes use of visual imagery.²³

For Reynolds, picture-making was only a subsequent, technical execution issue following the formation of the ideal design in the mind. For his contemporary William Blake, however, the production of images was not only a simple process of externalization of internal pictures—the process of drawing and painting was central to the process of thinking.²⁴ It is not perception alone, but the complex process of picture-making that grasps reality and gives ideas about the world some sort of order. Ernst Cassirer developed that notion into a broad theory in the twentieth century. Cassirer’s *Philosophy of Symbolic Forms* (1923-1929) stretches to encompass all human cultural expressions, including artworks. Cassirer,

¹⁹ Stephen A. Engel, et. al., “fMRI of human visual cortex,” *Nature* 369, no. 525 (June 16, 1994), 525.

²⁰ Brian A. Wandell, Serge O. Dumoulin and Alyssa A. Brewer, “Visual Field Maps in Human Cortex,” *Neuron* 56 (October 25, 2007), 374.

²¹ Jeff Hawkins and Sandra Blakeslee, *On Intelligence* (New York: Owl Books, 2005), 56.

²² Rudolf Arnheim, *Visual thinking* (Berkeley: Univ. of Calif. Press, 1969), 107. See also Monroe C. Beardsley, “On Arnheim’s ‘Visual Thinking’,” *Journal of Aesthetic Education* 5, no. 3 (July, 1971), 183.

²³ Arnheim, op. cit.

²⁴ Hazard Adams, “Revisiting Reynolds’ Discourses and Blake’s Annotations,” in *Blake in His Time*, ed. Robert N. Essick and Donald Pearce (Bloomington: Indiana University Press, 1978), 128-144.

who developed his theory at the Hamburg Library for Cultural Studies founded by Aby Warburg, stated that humans give sense to the world by symbolizing their experience in a process of perception and representation.²⁵

Eventually, in 2001, Hans Belting used this theory as a foundation to draw attention to the relation of internal and external images. He concluded that the question of images and their epistemic content ultimately points back to the human, who perceives, imagines and creates pictures. Picture-making is thus central to being human. The power of images stems not from the images themselves, but from humans, who give them meaning. Human picture-making represents a short-circuit of internal and external images, of seeing and producing.²⁶

Still, the question of what mental images are and how exactly images can represent worldviews remains open. Visual epistemology, then, becomes a central field of research that is best investigated using an interdisciplinary approach. Such research must address a range of interconnected areas, asking questions about internal and external images and the interplay of producer and perceiver of images:

1. Visual perception and feedback processes
2. Cognitive processes and mental images
3. The process of transformation into external pictures
4. Visual thinking
5. Pictorial logic and the epistemic potential of pictures

Philosophy, neuroscience, psychology, computer science and visual studies can contribute much to this debate. And since art history has a long tradition of dealing with pictures, and art theory has developed concepts on this subject for centuries, these disciplines are an important foundation for this new interdisciplinary field of study. It was therefore a pleasure to assemble many distinguished scholars of many ranks and nations at the Art History Conference NORDIK 2012 in Stockholm, where three sessions were exclusively dedicated to the topic: “Art Theory as Visual Epistemology”. This publication intends to outline the territory of this field of research by gathering several such approaches presented at the conference.

²⁵ Ernst Cassirer, *Philosophie der symbolischen Formen* (Berlin: Bruno Cassirer, 1923-1929).

²⁶ Hans Belting, *Bild-Anthropologie: Entwürfe für eine Bildwissenschaft* (Munich: Fink, 2001), 11. See also Konrad Fiedler, *Der Ursprung der künstlerischen Thätigkeit* (Leipzig: Hirzel, 1887).

For the understanding of visual perception and mental images, it makes much sense to look into the cognitive processes that take place if *nothing* is to be seen, that is, to look into how blind people experience the world. Georgina Cole's essay in this volume investigates concepts of blindness in seventeenth and eighteenth century philosophy. It was believed that the blind are able to "see" what is obscured to people with the ability of sight. In fact, the blind man became a symbolic figure representing truth, as vision was believed to deceive. That sparked a discussion on how perception (in particular visual perception) works and on how far it is a reliable source of information on which knowledge can be based upon. To doubt eyes as the primary source of sensory data was not, however, a phenomenon that occurred in the eighteenth century alone. Romana Schuler looks at twentieth century experiments in art and science that investigated optical illusions in order to help evaluate the difference between reality and its subjective appearance.

If art should be a kind of visual philosophy that rivals poetry, as many artists have claimed (*ut pictura poesis*), it has to be able to convey knowledge.²⁷ The lingering scepticism towards vision, however, leads directly to a questioning of the epistemic status of pictures. Ioana Măgureanu has described the crisis of "ocularcentrism" in the seventeenth century. This crisis was notably not limited to the realm of art, but included scientific depictions as well. Here, the function of the mind comes into play, and reason became the prime force to process sensory data and to generate truth. So, if the content of the mind is the decisive factor in the production of epistemic images, how does the mental process involved actually work? Elisabeth Oy-Marra consults Bellori's concept of cognitive preparation that occurs before executing a painting: the "Idea" that is fundamentally visual plays a central role in this theory and drawing is considered a form of visual thinking that helps develop that idea.

It is often said that an image has to be "read" and we have to understand its "language". These are words borrowed from linguistics that serve the function of placeholders until we find other, more appropriate terms that describe how images make us understand their meaning in their own pictorial logic—a logic that is obviously fundamentally different from the logic of texts. Karolina Uggla examines images that at first sight seem to be far from art and discusses whether they are being looked at or "read". Maps serve as a helpful example for the investigation into pictorial logic. Contrary to, say, satellite imagery, they are not only able to show reality as it is, but by making use of pictorial logic they are able to represent certain

²⁷ Harald Klinke, *Amerikanische Historienmalerei: Neue Bilder für die Neue Welt* (Göttingen: Graphentis, 2011), 40.

topological insights and contexts in the real world. They have the capability to make visible concepts and ideas by the use of imagery.

If ideas are generated by sensory data processed by reason, how can such mental images be transferred into pictures that communicate these ideas by means of a pictorial “language”? The academic discipline of art history has developed a procedure with which to decipher the meaning of pictures on three levels. Michael Ranta, therefore, revisits in his essay Erwin Panofsky’s iconography. To approach a picture using this method means to systematically uncover layers of meaning. This might also show the capability and limits of pictures to actually communicate ideas or worldviews to a recipient.

This leads to the core question of visual epistemology: how far are pictures able to communicate knowledge at all? Jochen Briesen looks at this question from a philosophical point of view. He reviews the term “knowledge”, in order to evaluate different approaches to answering the question. If art is then limited in its ability to convey knowledge, he suggests, it can at least help with an understanding that is fundamentally based on a visual system to mentally organize reality.

If this means picture-making is an act of symbolizing—in Cassirer’s sense—we have to take a closer look at the action of the body in the process of image production. Consequently, Riikka Niemelä has investigated performance art and its non-verbal physical expression of thoughts. She points out that the individual’s body becomes the epistemic medium that is the source and centre of our images and becomes an image itself. Being in the world is the prerequisite for a system of meaning that gives sense to the world.

This broad selection of essays outlines the territory of visual epistemology and points to fruitful future research on the topic. The initiator of the sessions and the contributors would like to thank the organizing committee of the NORDIK conference and their financial supporters for the opportunity to come together in Stockholm in order to exchange ideas. We also would like to thank Cambridge Scholars Publishing for their willingness to make these talks available to a wider audience by publishing this volume.

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PICTORIAL ART AND EPISTEMIC AIMS

JOCHEN BRIESEN

Introduction

The question whether art is of any epistemic value is an old question in the philosophy of art. Whereas many contemporary artists, art-critics, and art-historians answer this question affirmatively, many contemporary philosophers remain sceptical. If art is of epistemic significance, they maintain, then it has to contribute to our quest of achieving our most basic epistemic aim, namely knowledge. Unfortunately, recent and widely accepted analyses of knowledge make it very hard to see how art might significantly contribute to the quest of achieving this aim. Hence, by the lights of recent epistemology, it is highly questionable whether art is of any epistemic value.

In order to hold on to the epistemic value of art, one has three options: (a) reject the recent analyses of knowledge that make the epistemic value of art questionable, (b) accept the recent analyses of knowledge but argue that they are compatible with the epistemic value of art, or (c) find another epistemic aim (besides knowledge) and show that art is of significant help in achieving this aim.

In this paper, I will consider option (c). I will argue that, at least with respect to pictorial art, this option seems promising. By reconsidering some basic insights and ideas from Nelson Goodman, we can identify (*objective*) *understanding* as an epistemic aim to which pictorial art makes a significant contribution. Thus, I will claim that, even (or especially) in the lights of recent developments in epistemology, everybody interested in the epistemic significance of pictorial art should concentrate on the epistemic aim of understanding, rather than knowledge.

The rest of the paper, is organized as follows. In section 2, I explain which condition on knowledge makes it hard to believe that art might be helpful in achieving it. In section 3, I discuss the notion of understanding and outline how the notion of understanding has to be characterized, if understanding is supposed to be an epistemic aim apart from knowledge. In section 4, I introduce Nelson Goodman's theory of symbols. Finally, in

section 5, I attempt to show how the epistemic significance of pictorial art can be defended, when the characterization of understanding given in section 3 is combined with certain insights of Goodman's theory.

Knowledge

The term "knowledge" can mean different things. As a preliminary, however, it may be useful to differentiate between objectual, practical, and propositional knowledge. Objectual knowledge is expressed by sentences of the form "*S* knows *X*", where "*X*" stands for a name or a definite description—for instance, "*S* knows Cher" (in German this kind of knowledge is expressed by the verb "kennen", rather than "wissen"). Practical knowledge or know-how is the knowledge involved in being able to do something—for instance, knowing how to ride a bike. Finally, propositional knowledge is expressed by sentences of the form "*S* knows that *p*", where "*p*" can be substituted by any assertoric sentence. Since the contents of such sentences are called propositions, this kind of knowledge is called "propositional knowledge". Whether and how these different kinds of knowledge are interrelated is controversial, but it is uncontroversial that from an epistemic perspective propositional knowledge seems especially important. It is mostly propositional knowledge, which we seek to achieve in our various scientific projects. Thus, it is propositional knowledge, which should be considered one of our genuine *epistemic* aims. So if we are going to claim that the epistemic significance of art has something to do with knowledge, we should focus on propositional knowledge rather than these other forms of knowledge.

Traditionally, propositional knowledge (henceforth simply "knowledge") has been defined as justified, true belief:

An epistemic subject *S* knows that *p*, if and only if

- (1) *S* believes that *p*,
- (2) *S*'s belief that *p* is true, and
- (3) *S*'s belief that *p* is justified.

Today this definition of knowledge is widely dismissed. Various thought experiments (so-called Gettier-cases)¹ seem to show that the con-

¹ These cases are called after Edmund Gettier, who presented two effective counterexamples against the mentioned definition of knowledge, see: Edmund Gettier, "Is Justified True Belief Knowledge?" *Analysis* 23 (1963): 121-123. For a helpful overview with respect to the discussion that followed this paper, see Jonathan Jenkins Ichikawa and Matthias Steup, "The Analysis of Knowledge", *The Stanford*

ditions (1)-(3) are not sufficient for knowledge. Imagine the following case:²

Fake-Barn Case. Henry drives through an area in which almost all things that appear to be barns are not real barns but merely barn facades—that is, things that exactly look like barns from the road Henry is driving on but in fact are nothing but construction of paper-maché painted to look like barns. Henry looks out of the car window and by sheer luck, he happens to be looking at the one and only real barn in the area. He thereby believes that there is a (real) barn over there.

Henry's belief is true, and in a certain sense the belief also seems to be justified—in other words, conditions (1)-(3) are satisfied. But even though conditions (1)-(3) are satisfied, we are hesitant to call Henry's belief that there is a (real) barn over there an instance of knowledge.

Many philosophers think that cases like this do not only illustrate that conditions (1)-(3) are not sufficient for knowledge, they think that these cases also illustrate what is missing: In order to know that *p*, the process that led the subject to believe that *p* has to be reliable—that is, it has to be a process that leads to true beliefs most of the time. In the fake-barn case Henry's belief forming mechanism—which can be described as the process of looking out of the window, having the visual experience of a barn, thereby forming the belief that there is a barn—is not reliable. In the area through which Henry is driving, this process will easily lead to false beliefs. Thus, by considering scenarios like the fake-barn case many philosophers have come to hold that a necessary condition for a belief to count as an instance of knowledge is that the belief is formed by a reliable belief-forming mechanism.

However, as soon as one accepts this condition for knowledge, the epistemic significance of art in general and pictorial art in particular becomes questionable. To be sure, the serious and detailed involvement with works of art might reliably lead to true beliefs concerning the works themselves, i.e., their structure and form, who created them, when they were created, etc. However, do we thereby come to know propositions that are not concerned with specific works of art? With respect to matters over and above a particular work of art, it seems obvious that involvement with art is not a *reliable* belief forming mechanism. For instance, the involvement with art does not reliably produce true beliefs concerning the chemical structure of

Encyclopedia of Philosophy (Winter 2012 Edition), edited by Edward N. Zalta, URL = <<http://plato.stanford.edu/archives/win2012/entries/knowledge-analysis/>>.

² Cf. Alvin Goldman, "Discrimination and Perceptual Knowledge", *Journal of Philosophy* LXXIII, (1976): 771-791.

certain liquids, the cause of certain diseases, the orbit of certain planets, or other matters concerning the world we might be interested in.³ Hence, if our epistemic aim is knowledge and if knowledge is reliably-formed true belief (together with other knowledge-conditions), then we are ill-advised to turn to art in order to achieve our epistemic aim.

But maybe there are other epistemic aims besides knowledge and maybe some works of art play a significant role in achieving these other aims. Could understanding be an epistemic aim of this kind? If it were, then we could accept that art does not contribute to our quest of achieving knowledge without thereby losing its epistemological significance. However, in order to spell out this idea in detail, we first have to specify what understanding is. At least with respect to pictorial art, this will eventually put us in a position to explain in detail why involvement with art is conducive to understanding.

Understanding

Since understanding is a very complex matter, the recent literature on the nature of understanding is filled with controversies. One major controversy is over whether understanding should be analyzed in terms of knowledge. In this vein, some philosophers maintain that understanding is nothing but knowledge, namely knowledge of causes.⁴ If such a knowledge-based account of understanding were correct, then the insinuated defence of the epistemic significance of art would be doomed to fail. After all, if such an account were correct, then understanding would be nothing but an instance of knowledge. And if understanding were nothing but knowledge, then it would be inconsistent to accept that art is *not* conducive with respect to knowledge, but nevertheless claim that art is conducive with respect to understanding. Thus, if the insinuated defence of the epistemological significance of art in general and pictorial art in particular is supposed to have any chance of success, such a knowledge-based account of understanding must be wrong.

³ Note that I do not want to claim that involvement with art never results in a true belief with respect to matters like that. All I want to claim is that involvement with art does not constitute a particularly reliable belief-forming process regarding beliefs of this sort.

⁴ See for example: Peter Lipton, *Inference to the Best Explanation* (London: Routledge, 2nd ed. 2004), 30. Some claim that such a knowledge based account of knowledge in fact is dating back as far as Aristoteles, see John Greco, *Achieving Knowledge* (Cambridge: Cambridge University Press, 2010), 9.

Unfortunately, within the context of this paper I will neither be able to argue in detail that knowledge-based accounts of understanding are wrong, nor will I be able to give a full fledged alternative theory of understanding. But I will at least give a few reasons to think that strong knowledge-based accounts of understanding are false. More precisely, I will give reasons for thinking that knowledge is at least not *sufficient* for understanding.⁵ Furthermore, even though I will not give a full-fledged theory of understanding, I will at least identify some aspects of understanding that distinguish understanding from knowledge and that strike me as especially important. Fortunately, these aspects will later prove useful in specifying how exactly pictorial art might be conducive to understanding, even though it is not conducive to knowledge. Thus, I will at least clarify and to a certain extent motivate the assumptions one is committed to, if one puts forward the insinuated defence of the epistemic value of (pictorial) art.

As with respect to knowledge, we should first differentiate between objectual and propositional understanding. Objectual understanding is expressed by sentences of the form “*S* understands *X*”, where *X* can be substituted by a singular term—for instance, the understandings of persons, phenomena, processes, or theories. Propositional understanding, on the other hand, is expressed by sentences of the form “*S* understands that *p/why p*”, where “*p*” is substituted by an assertoric sentence—for instance, understanding why my house is on fire, etc. For both kinds of understanding there are reasons to think that understanding is not identical to knowledge insofar as knowledge is not sufficient for understanding.

With respect to propositional understanding, Duncan Pritchard invites us to consider the following case:⁶

Young-Child Case. Sarah discovers that her house is on fire. One of the fire fighters, who is very competent and never lies, tells Sarah that faulty wiring caused the fire, which is actually true. Sarah believes what she has been told. Sarah’s young child asks her why the house is on fire and Sarah, who

⁵ We can differentiate between strong and weak knowledge-based accounts of understanding. A strong account claims that understanding is identical to knowledge—that is, it claims that knowledge is necessary and sufficient for understanding, whereas a weak account claims that knowledge is merely necessary for understanding. Whether weak accounts are correct is not discussed in the context of this paper. It will turn out that for specifying the insinuated defense of the epistemic value of art, it is enough to show that strong knowledge-based accounts are wrong.

⁶ Duncan Pritchard et al., *The Nature and Value of Knowledge* (Oxford: Oxford University Press, 2010), 81.

also never lies, tells the child that the house is on fire due to faulty wiring. Thereby the child comes to believe that the house is on fire because of faulty wiring.

According to Pritchard, it seems reasonable to think that the child's belief in this case qualifies as knowledge.⁷ However, at the same time, the child might have "no conception of how faulty wiring might cause fire"⁸ and thus it also seems reasonable to say that the child lacks an *understanding* of why the house is on fire. Hence, the case seems to prove that knowledge is not sufficient for propositional understanding. Furthermore, the case illustrates that in order to understand that *p/why p*, one has to appropriately correlate the belief that *p* to other beliefs. For instance, in order to understand why the house is on fire, one has to correlate the belief that the house is on fire because of faulty wiring with the belief that faulty wiring might lead to a short-circuit and with the belief that short-circuits might generate heat, etc.

The same line of thought can be put forward if understanding concerns not a single proposition but a whole body of information, as in some cases of objectual understanding—for instance, the understanding of a certain theory. Let us assume that a theory is in part constituted by a set of information. An epistemic subject *S* might well know all these individual items of information, but it seems reasonable to suppose that as long as all these individual items of information are not pieced together in the right way by *S*, *S* does not understand the theory. Hence, knowledge of individual pieces in a set of information is not sufficient for understanding a theory or a complex phenomenon. What understanding a theory or a complex phenomenon requires is the awareness of explanatory or other coherence-inducing relationships concerning individual pieces of information.⁹

Thus, an epistemic subject achieves propositional and some kinds of objectual understanding, only if the subject organizes and systematizes a certain subset of her beliefs by grasping inferential and explanatory relationships between them. But presumably not only the systematization of *beliefs* is relevant, but the systematization of *concepts* as well. For instance, it is plausible to suppose that if a person understands a certain

⁷ This is admittedly a controversial claim. For a critical discussion of Pritchard's case, see: Stephen R. Grimm, "Understanding as Knowledge of Causes." In *Virtue Scientia: Essays in Philosophy of Science and Virtue Epistemology*, edited by Abrol Fairweather. Special Issue of *Synthese*, forthcoming.

⁸ Duncan Pritchard et al., *The Nature and Value of Knowledge* (Oxford: Oxford University Press, 2010), 81.

⁹ Cf. Jonathan Kvanvig, *The Value of Knowledge and the Pursuit of Understanding* (Cambridge: Cambridge University Press, 2003), 192.

process—say, the process of photosynthesis—the person has identified and classified the entities involved in that process by the use of concepts, sub-concepts, sub-subconcepts, etc. Furthermore, it is also plausible that the person has classified the process itself in subprocesses, sub-subprocesses, sub-sub-subprocesses, etc. These systematic classifications eventually enable the person to discover and identify the process, even if it is realized differently. For example, photosynthesis is performed differently by different species of plants. And as far as it is a necessary condition for understanding a process to identify the process over a wide range of instances, this form of classifying the inventory of the world by systematizing *concepts* that refer to reality seems to be a precondition for objectual understanding as well.

If we accept that beliefs and concepts are both mental representations of certain aspects of reality, we can summarize the results of our short discussion of understanding as follows: First, understanding is not identical to knowledge. Second, an essential feature of understanding is organizing our mental representations in a certain way. With respect to beliefs, the systematic organization consists in grasping inferential, explanatory and other coherence-relevant interrelations between them. And with respect to concepts, the systematic organization consists in a hierarchical organization of our concepts in generic terms, subconcepts, sub-subconcepts, etc. In short: An important and essential feature of understanding reality is systematically organizing the representations that refer to reality.¹⁰

It may be helpful here to consider another idea concerning understanding introduced by Thomas Nagel. In his influential book “The View from Nowhere”, Nagel is interested in the notion of objectivity, where by his lights objectivity should be considered a method of understanding.

To acquire a more objective understanding of some aspect of life or the world, we step back from our initial view of it and form a new conception, which has that view and its relations to the world as its object. In other words, we place ourselves in the world that is to be understood. The old view then comes to be regarded as an appearance, more subjective than the

¹⁰ Note that this is compatible with different metaphysical views on the nature of reality. Those who wish to reject a Goodman-style Irrealism, have good reason to believe that the systematic organization of our mental representations at least in part reflects a structural organization with regard to the things those representations refer to. However, those who are sympathetic to Goodman’s Irrealism will claim that the systematic organization of our mental representations does not reflect but rather constitutes the structure of the world.

new view, and correctable or confirmable by reference to it. This process can be repeated, yielding a still more objective conception.¹¹

For Nagel the ideal endpoint of such a process is a maximally objective standpoint, which he calls the “View from Nowhere” because this ideal endpoint would be detached from any particular perspective. We can build on this idea as follows: A perspective is constituted by our conception of the world, that is, by the concepts we use and how we systematically organize those concepts—or in more general terms, in the way we represent the world and how we systematically organize those representations. As soon as we incorporate our system of representation into the world, we seek to understand, we get a more objective perspective, which results in more objective understanding. The reason why we thereby achieve a more objective understanding is that the resulting perspective on the world is not as restricted as the old one. The new perspective is supposed to incorporate different perspectives and should therefore be less restrictive and more accessible. In other words: If our view on the world is not constituted by just one perspective (that is, by one mode of systematically organized representation) but rather incorporates different perspectives (that is, different modes of systematically organized representations), a more objective—and in a certain sense deeper and more robust—understanding will emerge.

This idea is reflected by the fact that we sometimes experience a more robust and deeper understanding of a certain complex phenomenon *X*, as soon as the phenomenon is represented in different modes of representation. For instance, it is helpful when a text about *X* is accompanied by a diagram, and it is even more helpful if different sorts of diagrams are used simultaneously (tree diagram, three-dimensional diagram, pie chart, etc.). A reason for this might be that the view we extracted from Nagel’s basic idea is right: by using and correlating different modes of representation, we achieve a more objective perspective on reality and thereby a more objective and robust understanding of it.

Even though much more needs to be said in order to spell out this idea in more detail, let us for now assume that something along those lines is correct. We can summarize our short discussion of understanding as follows: An important and essential feature of understanding consists in systematically organizing our representations that refer to reality. With respect to the language-system of representation, concepts and beliefs are the things we systematically organize. By taking various systems of repre-

¹¹ Thomas Nagel, *The View from Nowhere* (Oxford: Oxford University Press, 1986), 4.

sensation into account, more objective forms of understanding can be achieved. Why? Perspectives on the world are in part constituted by our systems of representing the world. By correlating and systematically inter-relating different systems of representation we achieve a view on the world that is able to incorporate different perspectives, thus resulting in more objective understanding.

Goodman's Theory of Symbols – The Basics

In the book “Languages of Art”, Nelson Goodman argues that, like language, art in general and pictorial art in particular constitute a specific system of symbolic representation.¹² Based on his symbol-theoretic account we can perhaps explain in what way pictorial art is conducive to understanding: Involvement with pictorial art is conducive to understanding at least insofar as it fosters cognitive abilities indispensable for (objective) understanding.¹³ Before this idea can be spelled out in detail, we first have to introduce Goodman's theory of symbols. Since Goodman's theory is very rich and detailed, I will only discuss those aspects of the theory here that will later prove directly relevant to explain the epistemic significance of pictorial art.

For Goodman, the essential feature of a symbol is reference—to be a symbol means to be a symbol for something, to stand for something, to refer to something.¹⁴ In other words, symbols are representations. There are two important ways a symbol can refer: denotation and exemplification.¹⁵

¹² Nelson Goodman, *Languages of Art – An Approach to a Theory of Symbols* (Indianapolis: Hackett, 1976).

¹³ Nelson Goodman and Catherine Z. Elgin also argue that involvement with art is conducive to understanding, see for example: Nelson Goodman and Catherine Z. Elgin, *Reconceptions in Philosophy and Other Arts and Sciences* (London: Routledge, 1990). Catherine Z. Elgin, “Art in the Advancement of Understanding”, *American Philosophical Quarterly* Vol. 39 No.1, (2002): 1-12. But even though their arguments also depend on symbol theoretic insights of Goodman, their arguments are nonetheless different from mine. The main difference lies in the fact that their view eventually depends on strong metaphysical assumptions (e.g., on Goodman's Irrealism), whereas my view does not.

¹⁴ Goodman, *Languages of Art*, 5.

¹⁵ These are the two most important conventional ways a symbol might refer to something. But not every form of reference involves denotation or exemplification. Some symbols, namely so-called *signs*, might refer less conventionally by being caused by what they refer to.

Denotation is the relation that holds between, for example, a word and what it applies to. Words denote single objects—as, for instance, the name “Cher” denotes a unique individual—or they denote several individuals—as for instance the predicate “_ is red” denotes all red things. Goodman believes that pictures (i.e. paintings, drawings, photographs, etc.) are like words in this respect. Like words, pictures refer to something conventionally and not because of certain resemblance relations.¹⁶ In addition, like words, pictures may either denote single objects—as, for example, a portrait denotes a specific person—or they may denote several things—like a picture of a tiger in an encyclopedia, which does not denote a specific tiger but stands for tigers in general.

The other important way of referring is exemplification. We can illustrate exemplification by considering tailors’ swatches of cloth. These swatches are samples that exemplify certain properties of the cloth (the colour, the texture, etc.). Thereby these swatches are used as symbols that refer to certain properties that they instantiate. The difference between denotation and exemplification is simple: A symbol can *denote* anything whatsoever, but it can only *exemplify* properties that it instantiates.¹⁷ There could be a convention by which a specific swatch *denotes* a certain person, but a swatch can only *exemplify* properties it possesses (e.g., being red and blue, being soft, etc.). By Goodman’s lights, exemplification is especially important and widespread in the realm of art. Exemplification allows Goodman to consider abstract paintings or other abstract works of art as symbols that refer to something: by exemplifying some of its own properties, an abstract painting refers (at least) to these properties or to the class of things that instantiate these properties.¹⁸

So far, we have only considered the literal use of symbols. For Goodman, however, symbols can denote and exemplify metaphorically as well. A painting of a rainy landscape can exemplify sadness. But in order to exemplify sadness, the painting has to instantiate sadness—that is, the painting has to be sad. Of course, it is literally false that the painting is sad,

¹⁶ In fact, many pages of “Languages of Art” are devoted to the detailed critique of resemblance-theoretic accounts of pictorial reference, see: Goodman, *Languages of Art*, 3-30. See also: Robert Schwartz, “Representation and Resemblance”, *The Philosophical Forum* 7, (1975): 499-512.

¹⁷ Since Goodman commits himself to a strong version of Nominalism what actually is exemplified in his view are not properties but predicates and other labels.

¹⁸ The other reason why the notion of exemplification is especially important in Goodman’s theory of art, is the fact, that Goodman analyses the important concept of aesthetic expression by recourse to exemplification, see: Goodman, *Languages of Art*, 85-95.

only sentient beings can be sad, but it can nevertheless be metaphorically true that it is sad. Thus, the term “sad” can *metaphorically denote* a picture and a picture can *metaphorically exemplify* sadness.

By Goodman’s lights, whether something is literally or metaphorically true is a matter of degree. In part, it depends on how accustomed we are to the application of a predicate to certain objects. Some applications of predicates may have started out as metaphorically true but became literally true due to extensive use. Take for example our talk of “large numbers”: we apply the predicate “large” to numbers without being aware anymore that numbers are not literally large.¹⁹ Thus, Goodman thinks that a powerful and interesting metaphor has to be relatively new. In Goodman’s words: “Metaphor, it seems, is a matter of teaching an old word new tricks—of applying and old label in a new way.”²⁰ What happens in a metaphorical use of a predicate is that a classification device (e.g., the predicate “sad”) is transferred from one realm (e.g., human emotions) to another (e.g., paintings). Thus, a metaphor is powerful and interesting insofar as it groups things of different realms together that were not grouped together before, and thereby makes us realize new relations between objects that we have not realized before.

Besides constituting direct reference-relations, denotation and exemplification can also work together in long and complicated chains of reference. A simple example is the case in which a picture of a bald eagle refers to the United States of America: The picture *denotes* a certain class of birds, these birds *exemplify* “independence and freedom”, while these terms in turn are supposed to *denote* the United States.²¹

We have discussed two ways in which a symbol might refer to something, denotation and exemplification. We have seen that both ways of referring can occur literally or metaphorically and that both ways of referring can work together in chains of reference. However, what determines to what a given symbol refers? For Goodman, there is nothing internal to the symbol that determines what it stands for. This is instead determined by the symbol-system to which the symbol belongs. This is why one and the same physical mark (sound, inscription, picture, etc.) can refer to very different things. For instance the physical mark “chat” can either refer to a certain kind of conversation in the symbol system of written English or to cats in the symbol system of written French; or the mark in Fig. 1 might in

¹⁹ Cf. Daniel Cohnitz and Marcus Rossberg, *Nelson Goodman*, (Chesham: Acumen, 2006) 147.

²⁰ Goodman, *Languages of Art*, 69.

²¹ Nelson Goodman, *Of Mind and Other Matters* (Cambridge, MA: Harvard University Press, 1984), 62.

a certain system refer to a specific mountain range, but in another system it might refer to the development of car sales over a specific period of time.



Fig.1

To what a certain symbol refers and what kind of symbol it is (whether it is a word, a picture, a diagram, etc.) is determined by the system to which the symbol belongs, where an identical physical mark might belong to different symbolic systems. Goodman suggests different syntactic and semantic parameters by which symbolic systems can be characterized. The specific parameters of *syntactic and semantic density*, as well as *repleteness*, are of special importance for the purposes of this paper, as it is the combination of these parameters that will prove essential to the symbolic system of pictorial art.

The syntactic part of a symbol system is called the “symbol scheme” that consists of characters, where a character is a class of marks. In the symbol scheme of written English, for instance, we find the character “a”, where all sorts of different marks belong to this character: “A”, “*A*”, “*a*”, etc. Of course, not just any scribble, noise or other mark belongs to a character, but marks that do belong to a character are called “inscriptions”.

So what does it mean for a system to be syntactically dense? Simply put, a system is *syntactically dense*, if we are unable to decide in finite steps to which character a certain inscription belongs—so that given any two inscriptions, no matter how small the difference between them, they could belong to different characters. The symbol scheme of written English is not dense. However, let us consider a symbol scheme that has as different characters straight lines that differ in length. If any difference in length, no matter how small it might be, is relevant to determining the character, then we cannot decide to which character a certain inscription belongs—after all, measurement is only precise to a certain degree. So if we measure that a certain line is 2,55 mm long, then we can determine that the mark does not belong to the characters that correspond to 2,54 mm or 2,56 mm. Nevertheless, we cannot conclude that the mark really belongs to the character that corresponds to 2,55 mm, because our measurement is not precise enough to determine whether the mark might in fact be 2,551 mm long. However, the character corresponding to 2,551 is different from the

character corresponding to 2,55, so our measurement does not determine which character the line belongs to. Since between any two rational numbers there will be a third one, the situation will be the same no matter how precisely we measure.

The parameter of *semantic density* can be characterized analogously as follows: A symbolic system is *semantically dense*, if given any two characters, no matter how small the difference between them, may have different referents.

A pressure gauge with an unmarked circular face and a single pointer that smoothly moves clockwise as the pressure rises can serve as an example for a system that is *syntactically* as well as *semantically* dense. Any difference in the position of the pointer, no matter how tiny and unrecognizable, may correspond to a different character in the system scheme, thus the system is syntactically dense. Furthermore, any difference in the character (the position of the pointer), no matter how tiny and unrecognizable, may stand for a different correlation to the field of reference (amount of pressure), thus the system is also semantically dense. On Goodman's view, the system of pictorial art is semantically and syntactically dense as well.²² But if pictorial works of art are likened in this way to things like ungraduated instruments of measurement, they also need to be distinguished from them.

Goodman explains the difference by recourse to the parameter of *repleteness*. The difference between works of pictorial art and ungraded instruments of measurement or various forms of diagrammatic depiction is that, of these, only works of pictorial art are *relatively replete*. That is, for the interpretation of a work of art typically a larger number of features is relevant than for the interpretation of a diagram or a measuring device. Goodman illustrates the difference with the curve of an electrocardiogram that is indistinguishable from a drawing by Hokusai:

The difference is syntactic: the constitutive aspects of the diagrammatic as compared with the pictorial character are expressly and narrowly restricted. The only relevant features of the diagram are the ordinate and the abscissa of each of the points the center of the line passes through. The thickness of the line, its color and intensity, the absolute size of the diagram, etc., do not matter; whether a purported duplicate of the symbol belongs to the same character of the diagrammatic scheme depends not at all upon such features. For the [Hokusai] sketch, this is not true. Any thickening or thinning of the line, its color, its contrast with the background, its size, even the quality of the paper—none of these is ruled out, none can be ignored.²³

²² Goodman, *Languages of Art*, 226-227.

²³ Ibid, 229

From an aesthetic perspective, the density and repleteness of pictorial works of art are especially interesting. Both features explain the fact that works of art provide a wide and almost never-ending variety of discoveries, continually resulting in new interpretations of the work. Thus, the notions of density and repleteness allow Goodman to account for what Kendall Walton²⁴ has referred to as an “open-endedness” in the investigation and interpretation of pictures.²⁵

Pictorial Art and Understanding

Based on the characterization of understanding in section 3 and on Goodman’s theory of symbols outlined in section 4, we now have the resources to specify in what way involvement with pictorial art is conducive to our epistemic aim of (objective) understanding.

Our discussion of understanding has revealed the following: An important and essential feature of understanding consists in systematically categorizing and organizing reality by systematically organizing our representations that refer to reality. With respect to the language-system of representation, concepts and beliefs are the things we systematically organize. To achieve more objective forms of understanding, various systems of representation have to be taken into account and systematically connected. Since perspectives on the world are partially constituted by our systems of representing the world, by correlating and interrelating different systems of representation we achieve a view on the world that is able to incorporate different perspectives, thus resulting in more objective understanding.

If we accept this characterization of understanding, we can combine it with the following claims based on Goodman’s theory of symbols:

- (a) Pictorial works of art are symbols embedded in a specific symbolic system. Concepts and beliefs are symbols embedded in other symbolic systems, namely systems of natural languages.

²⁴ Kendall Walton, *Mimesis as Make-Believe* (Cambridge, MA.: Harvard University Press, 1990).

²⁵ Furthermore, these features explain why as far as works of art are concerned we have to pay close attention to the physical symbol (the painting, sculpture, etc.) itself. With works of art we cannot so to speak look through the symbol and concentrate on what it refers to, as we do it with traffic lights or scientific texts. Cf. Goodman, *Of Mind and Other Matters*, 69.

- (b) The symbolic system of pictorial artwork is syntactically and semantically dense, whereas systems of natural languages are not.
- (c) The symbolic system of pictorial artwork is relatively replete, whereas systems of natural languages are not.
- (d) Pictorial works of art often refer indirectly via complex chains of reference in which exemplification plays a crucial role. This is not the case in systems of natural language. The constituents of language systems primarily refer directly and the mode of reference is primarily denotation.

Each of the claims (a)-(d) speaks of an interesting feature of pictorial art, which in a certain sense can be considered conducive to our quest of achieving the epistemic aim of (objective) understanding as we have characterized it above.

If claim (a) is true, then pictorial works of art function as devices of classification. As such a device, a piece of art is particularly effective and interesting if it somehow provides a “fresh look” on the object it refers to, e.g. if it depicts a common object in a new and insightful manner. Goodman compares pictorial works of art in this respect with metaphors. We have already specified that successful metaphors help us discover new relations between objects or realms of objects, thereby opening up new ways to classify reality, which might be helpful and can eventually lead to new insights. For Goodman the same is true of works of pictorial art: “The marking off of new elements or classes, or of familiar ones by labels of new kinds or by new combinations of old labels, may provide new insight.”²⁶

Our classification of objects is based on commonalities and resemblances between objects. Instead of resting on existing resemblance relations, pictorial works of art have the power to influence existing standards of resemblance—think of some cubist paintings, for instance. In this sense, new movements and styles of depiction can question our established classification of the inventory of the world. Pictorial works of art literally make us see that our established system of categorization is restricted, insofar as it highlights certain relations and commonalities between objects at the cost of ignoring others. By highlighting alternative and maybe useful ways of (re-)categorizing reality, pictorial works of art can be considered to be at least potentially conducive to understanding. After all, understanding in part consists of categorizing and systematically organizing the inventory of the world.

²⁶ Goodman, *Languages of Art*, 33.

If claims (b) and (c) are correct, then the symbolic system of pictorial art is syntactically/semantically dense and relatively replete. We have already noted that density and repleteness together account for the potential open-endedness with respect to the investigation and interpretation of pictorial artwork. Since an attempt to interpret a picture is an attempt to verbalize its meaning—e.g., an attempt to correlate a symbol of one system of representation to symbols of another system of representation—entering such a potentially open-ended interpretative process will train abilities, which are indispensable for objective understanding. After all, an essential feature of objective understanding as we have characterized it consists precisely in combining and relating different systems of representations.

If claim (d) is right, then in order to understand what a painting refers to demands following a chain of reference comparable to the chain of reference in the case where the picture of a bald eagle refers to the United States of America. Chains of reference by which works of art refer can be even longer and more complex. Thus, understanding what a pictorial work of art possibly refers to presupposes correlating constituents of different systems of representation. Given our characterization of objective understanding, we can again conclude that involvement with pictorial works of art will train abilities, which are indispensable for gaining more objective forms of understanding.

Thus, if the given characterization of (objective) understanding and some of Nelson Goodman's symbol-theoretic views on pictorial art are correct, then involvement with pictorial art is at least indirectly conducive to understanding. Involvement with art does not guarantee that we achieve more (objective) understanding. However, if claims (a)-(d) are correct, then we have seen that pictorial art at least has the potential to do so (see (a)). More importantly, we have seen that serious involvement with pictorial works of art will train exactly those cognitive abilities we need in order to achieve objective forms of understanding (see (b)-(d)).

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TRACING OUT SPACE IN VIDEO PERFORMANCE

RIIKKA NIEMELÄ

Knowledge is commonly understood as mental processes, as operations of the mind. Yet, knowing it is tied to the embodied courses of action as well. The lived body, as it was conceived by some phenomenologists, knows where it is and where it is aiming at. It knows how to do things and how to perform its routines. And it remembers. This article touches upon the notion of embodied knowledge. It suggests that performance art's engagement with mediating technologies heightens the importance of the issue of bodily processes of signification. The moving image captures, represents and highlights the particularity of the embodied expression, but elucidates also how the performer's body relates to its surroundings.

In this article I advance an interpretation on two video performances by two different Finnish artists, an early videotape *Kreisel* (1978, eng. "Spinning Top") by Mervi Deylitz (b.1948)¹ and a video projection *Attempt to retrieve the past* (2009) by Eeva-Mari Haikala (b.1974).² They both highlight on the moving body and the embodied experience. The corporeal aspects of knowledge become of interest in video performances for the emphasis recurrently put on the non-verbal, bodily expression, rather than on narrative structure or the text-based method characteristic of traditional theatrical drama. They often focus on self-presentation or a set of gestures, acts or movements exhibited to the camera highlighting, not scripts or scores, but the strategies and the modalities of the performance itself. Yet, the mediation of the body through technological means also reconfigures the corporeality of the performance.

¹ The artist is currently known as Mervi Buhl-Kytösalmi.

² The two works make part of a larger research material of my dissertation project regarding video performances in Finland. The ongoing research is conducted at the Art history department in the University of Turku and supported by Jenny and Antti Wihuri Foundation. I have had a possibility to collaborate with The Central Art Archives at the Finnish National Gallery and The Distribution Centre for Finnish Media Art AV-arkki.

My focus is on the notion of space, a philosophical question in itself related to our understanding of the world. I will approach the issue from the point of view of the embodied topographies of knowledge pursued by French philosopher Maurice Merleau-Ponty (1908-1961), among some other thinkers and writers in the first half of the 20th century. While empiricist philosophers, such as John Locke in the 17th and David Hume in the 18th century, emphasized sensory experience instead of an innate idea as the origin of human knowledge, it was the philosophy of late modernity that acknowledged the formative and meaning-giving capacities of the embodied subject.³ Phenomenological questions of perception and intentionality of human consciousness brought to the fore the particularity of the perceiving subject. Following the footsteps of his predecessor, Edmund Husserl Merleau-Ponty outlined an idea of the lived body as a core of living meaning. The concept of *motor intentionality*, referring to the motility (*la motricité*) of the body making *sense* of the world it inhabits, plays an important part in this notion, and comprises also the theoretical frame for my analysis of the video works.⁴

Towards spatial agency

The performing body is a gesturing body, a body constantly on the move. Movement also characterizes many of the recording technologies. Capturing the moving body has allured numerous artists ever since the early experiments on chronophotography by Muybridge and Marey or on cinematography by for example Edison and Lumières. From the dawn of “the age of mechanical reproduction”, what Walter Benjamin defined in his well-known essay of the 1936, art has had recourse to a variety of image-technologies, from film and photography to analogue video and television, and a whole spectrum of digital technology of today such as the Internet, motion capture or computer games, to depict the moving body and to play and experiment with the gestural.

Gestural meanings have been a concern for many contemporary artists as well, starting with the 1970s performance artists taking up video to record and represent the bodily expression. Compared to, for example painted portraits, the moving image records and reproduces sequences of

³ Edward S. Casey, *The Fate of Place. A Philosophical History* (Berkeley, Los Angeles: London: University of California Press, 1998), 236.

⁴ Merleau-Ponty treats the subject in his early work *Phénoménologie de la perception* published in 1945. See English translation *Phenomenology of Perception* (London: New York: Routledge, 2011). I will discuss Merleau-Ponty’s insights more in detail in the following.

movements and repertoires of gestures. Even though the act before the camera might be unassuming and minimal, the non-verbal language, of postures, facial expressions, movements, sounds and alike, influence considerably the interpretation of the artwork. The movements of the performing body are vital components in the signification process allowing to consider them as an aspect of agency. This aspect of agency has intrigued some recent writers in their approaches on art. Art historian Julian Stallabrass, for instance, suggests that although artist behind the camera often chooses the subject, arranges the composition and frames the image, self-presentation before the camera permits the agency also to the subject who is posing.⁵ The agency understood as embodied acts has also preoccupied Carrie Noland who conceives the gestural as active manifestations of individual agency, not only a product of social conditioning or some anonymous power structures. Gestures, in her view, allow variation and resistance to occur.⁶ In video performances artist usually possess a double-agency of being both the performer and the author shooting the piece. Self-imaging means exposing oneself to the objectifying gaze, but can also be understood as a site of negotiation.⁷

Despite the empowering prospects of self-presentation, embodied signification processes have only recently gained stature within art history and performance studies. Amelia Jones, among others, has repeatedly criticized the exclusion of the body, which she conceives a crucial source of meaning and value in the visual arts, from the dominant art discourses.⁸

⁵ Julian Stallabrass, "What's in the Face? Blankness and Significance in Contemporary Art Photography," *October* 122, (Fall 2007): 71, 84-85; on performativity of posing, see also Amelia Jones, "Performing the Other as Self. Cindy Sherman and Laura Aguilar Pose the Subject," in *Interfaces: Women / Autobiography / Performance / Image*, ed. Sidonie Smith and Julia Watson (Ann Arbor: University of Michigan Press, 2012), 79-82.

⁶ Carrie Noland, *Agency and Embodiment: Performing Gestures/Producing Culture* (Cambridge, MA: Harvard University Press, 2009), *passim.*, see particularly 1-4. Also my argumentation on Merleau-Ponty's conception of motor intentionality is informed by Noland's line of thought.

⁷ See e.g. Jones, "Performing the Other as Self", 82.

⁸ See e.g. Amelia Jones, "Live Art in History: a paradox?," in *Performance Studies*, ed. Tracey C. Davis (Cambridge: New York: Cambridge University Press, 2008), 151-155. Modernist aesthetics build on Kantian philosophy led in Jones' opinion to a reduced aesthetics that ignored the role of the body and senses in determining the meaning of art. These pretensions, adopted into art history, art criticism and museum practice, were later strategically destroyed by the mobilization of the live body in art. In her earlier writings Jones addresses also other political aims, such as feminist's claims for antiessentialism, or postmodernism's focus

With a conceptual framework drawn from the phenomenological and post-structuralist philosophies of subject, she interrogates performative, bodily acts of self-display that negotiate normative subjectivity.⁹ In her opinion it is through the pose that the subject opens to the performativity. She suggests that a representation of an embodied subject in art works such as photographed self-portraits, is not a site of stasis, but a passage where subjectification takes place as a process.¹⁰

The Merleau-Pontian view of human intentionality as embodied provides a way to conceptualize corporeal signification processes. The union of mind and body in his philosophy resulted in a possibility to conceive intentional consciousness in relation to bodily movement. Motility is the basic intentionality, a matter of 'I can' instead of 'I think', as he contends.¹¹ In *Phénoménologie de la perception* (1945, eng. transl. *Phenomenology of Perception* in 1962) he explains the movement through space to be initiated by 'my intention' conceived as a germ of movement.¹² To understand how the world is known requires a return to the embodied experience. For Merleau-Ponty, the imposition of meaning is not the work of universal constituting consciousness, but the body must be acknowledged as the meaningful core.¹³

Studying the embodied expression in video performance one must acknowledge that unlike the spoken word the gestural communication, as Leslie Ferris points out, is also a spatial language.¹⁴ It is constituted on bodily motion in relation to space, movement entangled with the world. In this respect it is prolific to consider how motor intentionality in Merleau-Ponty's writings coalesces with the notions of space and spatiality. Understanding body as linking the subject to the world conveys to a conception that the embodied possession of space, the spatial existence of one's own

on strategies of production, rather than on questions of subjectivity, as the cause for the dismissal of the body later in the 1980's art discourse. Amelia Jones, *Body Art/Performing the Subject* (Minneapolis: London: University of Minnesota Press, 1998), 21-25, 29-30.

⁹ Jones, *Body Art/Performing the Subject*, passim.

¹⁰ Jones, "Performing the Other as Self", 79.

¹¹ Maurice Merleau-Ponty, *Phenomenology of Perception* (London: New York: Routledge, 2011), 158-159, see also 164.

¹² Ibid., 107-108.

¹³ Ibid., 170.

¹⁴ Leslie Ferris, "Cooking Up the Self": Booby Baker and Blondell Cummings 'Do' the Kitchen," in *Interfaces: Women / Autobiography / Performance / Image*, ed. Sidonie Smith and Julia Watson (Ann Arbor: University of Michigan Press, 2012), 205.

body, is the primary condition of all perception, and thereby all knowledge as well.¹⁵

My approach to the video works examined in this article is informed by Merleau-Pontian insights allowing for a consideration of spatial aspects of agency of the embodied subject. The readings I suggest are based on an understanding of bodily movement as generative of meaningful places: the motility of the performing body constantly affecting and hence constituting its space.¹⁶ Before examining the works themselves, it should be pointed out in more detail how Merleau-Ponty conceives the notion of space.

Heterogeneity of spaces

For Merleau-Ponty the spatiality of the body is not about spatial sensations, that is spatiality of position, but *spatiality of situation*. He conceives the body as an attitude directed to certain existing or possible tasks. In his account, the word ‘here’ applied to the body refers to body’s existence towards its tasks, and therefore to an active, situated body.¹⁷ The spatiality of our body is brought into being in action and by considering the body in movement, we understand how it actively inhabits space and time.¹⁸

It is the situated body we encounter in performance art as well. A performance is a mode of self-portraiture, making art with my own body and its experiential history.¹⁹ The performer displays herself/himself in flesh-and-blood and enacts her/his lived presence in gestures and postures, in facial expressions, in the sequences of movements or in the stillness alike. Merleau-Ponty explains what is here referred as “experiential history”,

¹⁵ Merleau-Ponty, *Phenomenology of Perception*, 125-126. Merleau-Ponty considers the immediate presence to the world, “the first opening upon things”, to be a prerequisite to all objective knowledge as well. See *ibid.*, 111.

¹⁶ A pivotal study to point out the formation of space “by way of the body” is Edward S. Casey’s *The Fate of Place*, a survey of the notion of place in the history of Western philosophy. Casey highlights the ambiguousness of place as it is not positional, but experienced and known by the lived body. See Casey, *The Fate of Place*, 231, *passim*. He concludes that it is “in the undelimited localities of our concrete bodily movements, [- -] in our most engaged experiences of being-in-the-place” that we shall see the limitless openness of space. *Ibid.*, 342.

¹⁷ Merleau-Ponty *Phenomenology of Perception*, 114-115, see also 163.

¹⁸ *Ibid.*, 117.

¹⁹ Sidonie Smith and Julia Watson, “Introduction: Mapping Women’s Self-Representation at Visual/Textual Interfaces,” in *Interfaces: Women / Autobiography / Performance / Image*, ed. Sidonie Smith and Julia Watson (Ann Arbor: University of Michigan Press, 2012), 5-7.

with an account of embodied consciousness subtended by an “intentional arc” projecting our past and future, and our physical, ideological and moral situation.²⁰ The performing body plays constantly out its own personal history through bodily movement, actively taking its place in the world.²¹ Performance is thus both a self-representational and autobiographical act.²² It is not merely a passive making of oneself an image, but a productive act by the situated body.

In Merleau-Ponty’s philosophy, it is not only bodies that are situated differently in a universal space, but also space varies accordingly. He distinguishes bodily space from external space, the latter conceived as objective and homogenous. It is, in his view, from a body’s orienting spatiality that external space receives its meaning.²³ The body, for Merleau-Ponty, is the origin of space: movement of the body constitutes space, brings it into being, resulting in it being ever different.²⁴ In the place of the traditional, the Euclidian idea of single, uniform space given to the disembodied subject, Merleau-Ponty suggests a *heterogeneous* notion of space: spatiality consisting of different regions and having particular directions related to our bodily features and to our situation as beings in the world. There is, he notes, “as many spaces as there are distinct spatial experiences”.²⁵

The universal constituting consciousness yields in Merleau-Ponty’s description to the notion of consciousness as corporeal, as extension. The orientation of the body constantly gives shape to its surroundings, generating around itself a meaningful world. Merleau-Ponty’s philosophical view has epistemic implications that could also have ethical corollary conveying to politics of location. For Edward S. Casey, for example, his writings

²⁰ Merleau-Ponty, *Phenomenology of Perception*, 157.

²¹ Throughout her book *Body Art / Performing the Subject* Amelia Jones (1998) stresses the importance of acknowledging subjectivities as embodied and contingent, as raced, gendered and sexualized identities, that are not inherent but processual. The corporeal signification was the basis also for the concept of performativity set forth by Judith Butler (by whom Jones argumentation is informed), who stressed specificity of identities not expressed, but constantly produced through repetition of embodied acts and gestures. Judith Butler, *Gender Trouble* (New York: Routledge, 1990), 136.

²² See Smith and Watson, “Introduction: Mapping Women’s Self-Representation at Visual/Textual Interfaces”, 5-7.

²³ Merleau-Ponty, *Phenomenology of Perception*, 115-116.

²⁴ Casey, *The Fate of Place*, 235, see also 229-230; Merleau-Ponty, *Phenomenology of Perception*, 293.

²⁵ Maurice Merleau-Ponty, *The World of Perception* (London: New York: Routledge, 2008), 43; Merleau-Ponty, *Phenomenology of Perception*, 340.

have offered a ground to conceive place as a specific setting for material bodies.²⁶ Casey puts forward a concern of exclusion: “Once space [in philosophical thinking] is dissociated from the particular bodies that occupy it, it is bound to be emptied of the peculiarities and properties that these same bodies [--] lend to the places that they inhabit.”²⁷ Drawing upon Merleau-Ponty he stresses that the space in which the lived body moves, becomes expressive space, having its own physiognomy and mood, its affectivity and style.²⁸

The ethical weight in the conception of space lies also on how the body is conceived to be related to other bodies in space. The phenomenological model of orientation has served Sara Ahmed to re-theorize the spatiality of sexuality, gender and race. Drawing on feminist, queer, and critical race philosophers, she shows social differences as matters of orientation and disorientation, as effects of how bodies inhabit spaces with others.²⁹

Video art and spatiality

Spatiality has also been central to video art in many respects. It defines different genres starting from the three-dimensional quality of video sculptures or closed-circuit video installations engaging viewers on a spatial level by encouraging to move around them and experience them from different angles.³⁰ The audience interaction is even more weighted in immersive video installations creating environments of sensory involvement for the viewer merging with the projected image. Margaret Morse emphasized in her 1990 analysis the “space-in-between” the screens and the role of the spectator “performing” the art work.³¹ A multi-channel installation,

²⁶ Casey has traced the track of the notion of place in the history of Western philosophical thinking, a concept according to him bypassed, hidden from the view and for most parts forgotten as something too ordinary and not so controversial. Casey *The Fate of Place*, ix–x.

²⁷ Ibid., 197.

²⁸ Ibid., 230.

²⁹ Sara Ahmed, *Queer Phenomenology. Orientations, Objects, Others* (Durham: London: Duke University Press, 2006), passim, see e.g. 5, 118, 120–121, 128.

³⁰ On the spectatorial engagement with sculptures, see e.g. Rosalind E. Krauss, *Passages in Modern Sculpture* (Cambridge, MA: London: The MIT Press, 1981), 229, 266–267; see also Jones, “Live Art in History: a paradox?”, 15.

³¹ Margaret Morse, “Video installation Art: The Body, the Image, and the Space-in-Between,” in *Illuminating Video. An Essential Guide to Video Art*, ed. Doug Hall and Sally Jo Fifer (New York: Aperture & Bay Area Video Coalition, 1990), 155.

adds Chris Meigh-Andrews, allows freedom to choose the viewing position, order of the images and the relative relationship of the multiple screens.³² On stage, video projections or monitors have also been seen to theatricalise the space, or even function as surrogates of the performers.³³

Video performances, on the other hand, display an event of self-presentation taking place, as the artist exposes her body to the camera. In this regard they deviate from video art genres characterized by the relationship between the art object and the audience in a gallery space in two ways.³⁴ First, the performance is framed into a virtual place engendered by electronic image. Instead of a 'real' stage of a theatre, the performer is rimmed into a space constituted by the video signal. The multiplicity of simultaneous places indeed constitutes one of the central problematics of mediated performances. Samuel Weber has addressed this spatial complexity with a threefold definition of places where the televisual takes place: the place of the recording, the place of reception and the place in-between.³⁵ The second departure is a shift of focus from audience/art work -interaction towards the space of performance itself: by delivering a particular subject to the viewer, a documented performance, as Jones points out, reverts back to the performing subject as the meaningful 'origin' of the artwork.³⁶

Spatiality is central in both examples I have chosen to examine in this article. Yet, they offer two quite different approaches: Haikala's piece puts bodily space explicitly forth as a theme of her performance, while Deylitz's work in turn experiments with the possibilities that video editing in the end of 1970's had to offer to yield a tiny study of a body in electronic space. The recording methods applied in the two works are unlike, re-

³² Chris Meigh-Andrews, *A History of Video Art. The Development of Form and Function* (Oxford: New York: Berg, 2006), 245.

³³ Krauss, *Passages in Modern Sculpture*, 204.

³⁴ This of course does not mean to suggest, that video performances would not have been approached from the viewpoint of spectatorial engagement.

³⁵ Samuel Weber, *Mass Mediauras: Form, Technics, Media* (Stanford, Ca: Stanford University Press, 1996), 117. Quoted in Nick Kaye *Multi-Media. Video – Installation – Performance*. London: New York: Routledge, 2007, 106-107. Among the early analyses of multiple spaces of video performance was the influential characterization of video art as an aesthetics of narcissism by art critic Rosalind Krauss in 1976. According to her, video positions the body of the performer between the camera and monitor, while the quality of instant feedback ensue a mirror reflection of the performer looking at her/his monitored self. See Rosalind Krauss, "Video: the Aesthetics of Narcissism." *October* 1 (Spring 1976): 52.

³⁶ See Jones "Performing the Other as Self", 69.

sulting in different visual manners of articulating spatiality. What is common, nonetheless, is the constant crosshatching of live and mediated spaces. The following chapters take a closer look at the works from the offset of the Merleau-Pontian model of the moving body generative of space.

Spatial poetics of Mervi Deylitz's *Kreisel*

In Merleau-Ponty's times, not only was philosophy, but also the theatre attracted to the generating power of the body. Critical letters and manifests by French director Antonin Artaud were published in 1938 as *Le Théâtre et Son Double*. He laid claim for theatre to renew itself by forsaking the domination of text and turning, instead of written drama, to the concrete, physical language of gestures and postures, dance, sounds and aspects of scenography or *mise-en-scène*. What Artaud had in mind was "thoughts" that escape spoken language, a corporeal significance of a performance and a material, spatial language of staging, and hence a poetic stage expression affecting all senses. It would lead, as he suggested, to "thought adopting deep attitudes which might be called *active metaphysics*".³⁷

Since then the material, embodied expression – what Artaud also called spatial poetry³⁸ – has become one of the stylistic traits of certain tendencies in contemporary theatre that Hans-Thies Lehmann has defined as "post dramatic", based more on body, space and time, than on illustrating the drama-text on stage. His book *Postdramatisches Theater* (1999) aimed at defining the aesthetic logic of new forms of theatre and providing conceptual tools for articulating and specifying the new theatrical paradigm. Lehmann stresses the "authentic presence" as one of the key elements of post-dramatic manner: performers presenting their own embodied logic instead of theatrical script or the director's vision dictated from the outside.³⁹ In his opinion, the whole conception of producing signs has changed. The body is no more going about as a carrier of meanings, or its gestures interpreted like a text. Instead, the body is central for the sufficiency of its own physicality and gestures. On the stage, the body performs its function as a reservoir of collective history.⁴⁰

In most cases, this is the body we come across also in performance art. Mervi Deylitz frequently reflects on the embodied experience in her

³⁷ Antonin Artaud, "Production and Metaphysics," in *Collected Works, Vol.4* (London: Calder & Boyars, 1974), 25-26, 31.

³⁸ *Ibid.*, 25-26.

³⁹ Hans-Thies Lehmann, *Postdramatic Theater* (London: New York: Routledge, 2006), 32.

⁴⁰ *Ibid.*, 95, 97.

works. Her early pieces were often artistic studies of for example slow meditative movement, as in the video performance *Kopfbewegung* (1978, eng. "Motion of the head") examining the duration of turning her head from one side to the other, or in *Rot-Weiß* (1978-79, eng. "Red-White") concentrating on the act of walking on the lines drawn onto the ground with red and white powder in colour. Alongside recording her performances on video Deylitz also performed live. The performing body is central focus in her video works in which we encounter images suggesting subjective worlds of the embodied experience.⁴¹

The video performance *Kreisel* (1978) is one of Deylitz's earliest solo pieces for the camera. In the late 1970s, both performance and video art were still emergent forms of artistic expression. Marina Abramović, for example, performed her first piece in 1973. Feminist artists such as Lynda Benglis, Martha Rosler and Joan Jonas had gradually combined video to their performances in the advance of the decade. Deylitz was taught by video art pioneer Nam June Paik in the multicultural and experimental atmosphere of Düsseldorf Art Academy in Germany where her artistic work was preceded also by video performances by artists such as Ulrike Rosenbach, Friederike Pezold and Rebecca Horn. Video in the 1970s offered a medium with plenty of charm of novelty, executable particularly for performative documenting practices and self-reflective art processes.⁴²

The work *Kreisel* (Fig. 2) is an example of the particular strains that the medium of video with its new editing possibilities brought on depictions of spatiality. The videotape shows the artist standing in a bare room. The dim, somewhat poor quality image displays a female figure spinning around in monotonous, repetitive moves. She turns around her axis in a mechanical manner, a quarter at a time, changing direction after the whole

⁴¹ Documentary theorist Bill Nichols outlines in these terms an epistemic shift in the documentary tradition of film: what counts as knowledge is not what it used to be, but alternative voices rising from the perspectives of specific, embodied knowledge blur with the objective representations. Bill Nichols, *Blurred boundaries. Questions of Meaning in Contemporary Culture* (Bloomington: Indianapolis: Indiana University Press, 1994), 1-2.

⁴² Video was also used as a tool for identity politics and critical approaches to social problems. Martha Gewer has for example pointed out that low-cost, portable video equipment became available approximately at the same time as the women's liberation movement was effectively gaining scale in the United States, resulting in feminist artists producing video work challenging the objectified representations and normative, naturalized "truths" about women. Martha Gewer, "The Feminist Factor: Video and its Relation to Feminism," in *Illuminating Video. An Essential Guide to Video Art*, ed. Doug Hall and Sally Jo Fifer (New York: Aperture and Bay Area Video Coalition, 1990), 229-230.

circle is filled. Her body is later overlapped by an image of a spinning top, a traditional child's toy, with a rattling noise of it being pumped up. The image layers merge, associating the movement of the body with the spinning top.

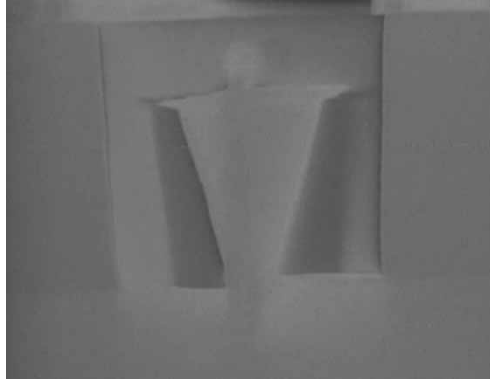


Fig. 2: Mervi Deylitz, *Kreisel*, 1978, a still from video © Mervi Buhl-Kytösalmi.

Rather than three-dimensional theatrical stage or studio space, the editing of the black and white image results in an impression of a perspectival picture. Deylitz exploits spatial characteristics of the medium very much in the manner of traditional painterly device. It could be compared, for example to spatial arrangement in Futurist or Cubist paintings: overlapping geometrical forms, plains and facets, a movement annihilating materiality of objects, and the dissolution of spatial illusion when the figure and background become merged. The perspectival depth in the image is visible, and then again not, turning Deylitz's video performance into a curious, electronic tableau-objet.

Each movement of her body, however, leaves a trail behind, tracing out space into what otherwise seems to be a two dimensional image, restoring corporeality to the electronic space of the video image – a lived body indwelling space, shaping it, orienting in it. The continuous movement of the artist's body generates space constantly in a curious, forced and controlled manner. The intermitting sections with colour show the spinning figure dressed up in a skin colour leotard with pink and lustrous sleeves on the sides. The frequent alternation of realist shots and electronically edited cluster of images elucidates the spatial complexity of mediated performances.

The objective of the work, according to Deylitz, was to “fit” her moving body inside the revolving toy. Merleau-Ponty’s assertion that we are not in the space and time, but inhabit them, becomes illustrative at this part. He emphasizes that we do not conceive space and time, but belong to them: “My body combines them and includes them.”⁴³ The female figure in Deylitz’s work seems to be drawn into the spinning, pumping machinery, settling into it by adjusting to its forceful rotation, yet constantly re-negotiating and re-making its own space.

Layered spaces in Haikala’s *Attempt to retrieve the Past*

In *Phénoménologie de la perception* Merleau-Ponty elucidates his view on the embodied aspect of knowing the place: “when I move about my house, I know without thinking about it, that walking towards the bathroom means passing near the bedroom, that looking at the window means having the fireplace on my left”.⁴⁴ In Merleau-Ponty’s writings the embodied knowledge of the places we are attached with, is knowledge by acquaintance, by familiarity.⁴⁵

The intimacy of inhabiting the world arises in another example examined in this article, Eeva-Mari Haikala’s video performance *Attempt to retrieve the past* (2009). Haikala is an artist of the digital age of the 21st century weaving her way through the multiplicity of mediums, traditions, imageries and ideologies available for the art makers of today. She was trained first as a photographer before turning to film and video in her later education. Posing for the camera has been a typical feature of her work all the way. Her lense-based performances often show some absurd act or the artist just being before the camera for the length of the film. The *Attempt to retrieve the past* [Figs. 3 & 4] makes an exception providing a further angle on how video mediates spatial experience.

The work starts by itemizing, in written words, different species of space – a citation from the opening of the *Especies d’espaces* (1974) by novelist Georges Perec – and thereby explicitly conducts to the thematic of spatiality from the beginning. On the second take, the image opens to a nearly empty apartment, a homely place, yet with an appearance of being uninhabited. The method of filmmaking differs from that of Deylitz’s in that the camera seems to be attached to the performer’s body showing its movements through the room. It also contrasts with most of Haikala’s other oeuvre, as we do not see the artist at all – just a glimpse of a hand or

⁴³ Merleau-Ponty, *Phenomenology of Perception*, 161-162.

⁴⁴ Merleau-Ponty, *Phenomenology of Perception*, 149.

⁴⁵ Casey, *The Fate of Place*, 232.

foot, or a shadow on the wall every now and then indicating a performer dancing in the scenery provided by the apartment.⁴⁶

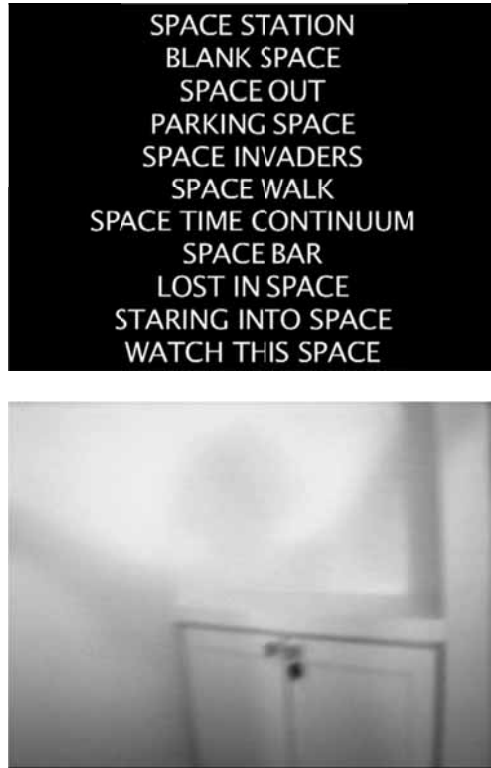


Fig. 3 and 4: Eeva-Mari Haikala, *Attempt to retrieve the past*, 2009, stills from video © Eeva-Mari Haikala.

She describes the piece as “an attempt to retrieve one memory from my past and bring it to a space in my current life. ‘Space is yours, do what you want,’ said one dance teacher to me a long time ago”.⁴⁷ Although her per-

⁴⁶ Curious about the work, in this respect, is that although we might read it in the framework of artists' other works, the strategy of indicating the performer only metonymically leaves the identity indefinable. The recording method capturing the bodily movements in space results rather in a representation that puts an emphasis on the embodied, kinesthetic aspects of the viewing experience.

⁴⁷ Eeva-Mari Haikala's homepage. Last modified December 10, 2010.
<http://www.eeva-mari.net/>

formance is a reworking of a memory and hence tensely autobiographical, she does not enact the subject as a representation⁴⁸ or reiterate the convention of likeness typical of traditional self-portraiture. Instead, the video image adjusts to the lines and rhythms of the performer's movements, delivering the phenomenal presence of the lived body in place. It is mediated for the audience by the firmly embodied experience offered by video recording, not being merely a visual encounter. Throughout the audiovisual work, spatiality is constituted also by the acousmatic soundscape, a voiceover originating outside of the image. Even though the source is invisible, we hear the off-screen sound of the puffed out artist breathing and moving in the room.

Understanding space as a setting for co-existence Merleau-Ponty's notion highlights the constant deployment of bodily being in a reciprocal relation with the world.⁴⁹ On the one hand, the body's motility carving out within the world, a zone of subjectivity, superimposing upon physical space a subjective one.⁵⁰ On the other, orientation is reliant on the world and the objects we relate to.⁵¹ Motor intentionality is "being-towards-the-thing" through the lived body, and movement a specific way of entering into relationships with objects.⁵² For the duration of 30 minutes of Haikala's work the video image denotes each of the performer's movements, relating the viewer too, to the embodied situation of the artist exploring the space, orienting towards its objects, and becoming familiar with it. The reciprocal relation of the body and the world is emphasized by the sounds of the performer interacting with space: the groaning of the floorboards or the noises of stamping on them.

The concept of space in Merleau-Ponty does not indicate an already-established objective location, but is characterized by eventuality. The moving body generating space is the centre of *possible* actions.⁵³ It is, according to Merleau-Ponty, an open system of infinite number of positions available to *choose*.⁵⁴ In his account the body, although dovetailed into the present, retains past experiences expressed as its temporal structure.⁵⁵ What is noteworthy in Haikala's performance from this perspective,

⁴⁸ Jones, "Performing the Other as Self", 77.

⁴⁹ Merleau-Ponty, *Phenomenology of Perception*, 172, 257.

⁵⁰ *Ibid.*, 128.

⁵¹ See e.g. Ahmed, *Queer Phenomenology*, 111, 116.

⁵² *Ibid.*, 159.

⁵³ Casey, *The Fate of Place*, 232; Merleau-Ponty, *Phenomenology of Perception*, 291.

⁵⁴ Merleau-Ponty, *Phenomenology of Perception*, 163.

⁵⁵ *Ibid.*, 162.

are the sediments of personal past with which the present is invested. As the title of the work reveals, it is an effort to bring along with a physical space, a temporal horizon of past experiences. By retelling a memory, her performance becomes a ritual-like event of redeeming the past affecting the present.

In summary: electronic spaces and embodied poetics

In Merleau-Ponty's writings having the world or being in the world in the first place means sustaining round about oneself a system of meanings.⁵⁶ His account of consciousness as motor intentionality is consequently an epistemic insight. Inhabiting the space with the intermediary of the lived body is not about a location at certain point of the empty space, but refers to spatiality as phenomenal experience constantly generated in intercorporeal exchanges. The notion of space Merleau-Ponty offers is thereby dynamic and heterogeneous.

This view means acknowledging the differences of perspective and enables thus an embodied politics of location. Both Deylitz's and Haikala's video performance shift attention from knowledge apprehended as universal facts to a more autobiographical horizons of embodied experience. Instead of suggesting recorded representations of the performer as fixed or stable, they seem rather to illustrate a diversity of possible meanings constantly generated through the bodily movement. Approaching video performances, often typically self-presentations captured by the moving image, in terms of Merleau-Pontian insights allows thus considering the embodied poetics of the screened subject.

Video offered performance artists a medium that threw the spatial complexity of recorded and technically reproduced performances into relief. Not only did it multiply places of performance through repetition, but the means of post-production also enabled playing with spatial illusion of the recorded "reality", exemplified by the flattening of space or merging multiple spaces in Deylitz's *Kreisel*. Moreover, the portable recording device, as illustrated by Haikala's *Attempt to retrieve the past* in turn, permits delivering the formation of the phenomenal space of the performer, often bypassed in approaches to video's spatiality. Examining the works with the notions that Merleau-Ponty's writings endow, we are confronted in these video performances with a complex co-existence of physical, virtual, social and lived spaces. They provide images opening to mul-

⁵⁶ Ibid., 149.

tuple spaces brought forth in lived situations, spaces that are not stable or stationary, but layered, heterogeneous and dynamic.

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RETHINKING VISION IN EIGHTEENTH-CENTURY PAINTINGS OF THE BLIND

GEORGINA COLE

The spectre of blindness looms large in the visual art of the early modern period. With the prevalence of disease, accident, and congenital disorders, blindness was a common condition in seventeenth and eighteenth century France, but one also charged with symbolic meaning.¹ In the philosophical and religious writing of the period, “to see” is a pervasive metaphor for understanding and clarity of judgement, and to be blind, a metaphor for wilful ignorance, stupidity, or misfortune.² While eighteenth-century French literature and philosophy remains predominantly vision-centric, for a brief period beginning in the 1750s blindness is radically reconceived within the radius of Enlightenment thinking, as is the relationship between the five senses. Informed by the sensationalist philosophy of John Locke and the popular success of cataract operations, philosophical and social attitudes to the blind and the nature of blindness at mid-century are significantly diversified. From an external marker of transgression, ignorance, or misfortune, blindness was increasingly understood as a philosophically intriguing and medically curable condition linked to sensation, epistemology, and morality.

Blindness excited the curiosity of many Enlightenment thinkers and medical practitioners, and engaged the imaginations of a number of prominent eighteenth-century artists. Shifting perceptions of blindness and its ramifications for the visual art of painting can be detected in two mid-century paintings by Jean-Baptiste-Siméon Chardin and Jean-Baptiste Greuze. Chardin’s *The Blind Man* (Fig. 5), a tiny canvas exhibited at the Salon of 1753, depicts a solitary blind figure standing with his dog, stick and cup by a dark passageway. Greuze’s *The Blind Man Deceived* (Fig. 6),

¹ See Zina Weygand, *The Blind in French Society: From the Middle Ages to the Century of Louis Braille* (Stanford: Stanford University Press, 2009), 1-12.

² On the vision-centric nature of early modern thinking see Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought* (Berkeley: University of California Press), 21-82.

exhibited at the following Salon in 1755, is a multi-figure scene that puts blindness in the context of a moral narrative. Both paintings represent blindness as a condition that reveals insights into the nature of perception, reception and the pitfalls of an over-reliance on vision.



Fig. 5. Jean-Baptiste-Siméon Chardin, *Blind Beggar*, c.1753, oil on canvas, 29.8 x 23 cm Harvard Art Museums/Fogg Museum, Bequest of Grenville L. Winthrop, Photo: Katya Kallsen © President and Fellows of Harvard College

While the cultural and social meanings of blindness in the eighteenth century have received substantial scholarly attention, these two paintings have not yet been fully examined in relation to the subject.³ Indeed, little scholarship has addressed the representation of the blind in art. Notable exceptions are Moshe Barasch's *Blindness: the history of a mental image in western thought*, of 2001, a study of general trends in the depiction of vision impairment, and Jacques Derrida's catalogue essay for the exhibition *Memoirs of the blind: the self-portrait and other ruins*, at the Musée du Louvre in 1993.⁴ While Barasch's book identified the key tropes asso-

³ Three excellent recent studies are Weygand, *The Blind in French Society*, William Paulson, *Enlightenment, Romanticism and the Blind in France* (Princeton, N.J.: Princeton University Press, 1997), and Kate Tunstall, *Blindness and Enlightenment: An Essay* (London: Continuum, 2011).

⁴ Moshe Barasch, *Blindness: the History of a Mental Image in Western Thought* (New York: Routledge, 2001); Jacques Derrida, *Memoirs of the Blind: the Self-*

ciated with blindness, its scope was limited to the period from classical antiquity to the seventeenth century, excluding the major attitudinal shifts toward blindness that effect eighteenth-century art and thought. Derrida's work, on the other hand, dealt specifically with the "blindness" of the self-portrait—the moment of turning away from the self in order to make marks on paper. Although Derrida touched upon Greuze's and Chardin's paintings in the context of his larger argument, the philosophical nature of the enquiry necessarily omitted any study of their relationship to changing social, cultural, and philosophical ideas about sensation and sensory impairment.

The present work seeks to fill the gap in current scholarship, and in so doing, examine key issues of perception, sensation, and representation in early modern art. In this sense, it draws chiefly upon Jennifer Milam's examination of feigned blindness in eighteenth-century paintings of play.⁵ Milam's analysis of Jean-Honoré Fragonard's representations of the popular aristocratic pastime "blindman's buff" demonstrates the ways in which blindness, in this case momentary and deliberate, engages with wider eighteenth-century debates about love and courtship. In addition, her work explores the ways in which blindness can elicit an interactive, embodied response from the viewer that activates the senses and the imagination. This article incorporates Milam's methodologies, particularly her examination of the playful treatment of the senses and the shaping of the viewer's response, into the study of representations of real blind people in eighteenth-century art. The Enlightenment rethinking of cognition and sensory perception temporarily democratises the senses, effecting a lateral rather than hierarchical organisation of sight, hearing, touch, taste, and smell. As a multi-sensory art form that exercises both vision and touch, painting is uniquely positioned to renegotiate the relationships between the senses, knowledge, and social identity. This essay explores the connections between Chardin's and Greuze's depictions of blindness and contemporary philosophical debates about sensation, sensory deprivation, and the acquisition of knowledge. It proposes that for Chardin and Greuze blindness is a subject and a methodology for painting that undermines the power and authority of sight and promotes touch and hearing as valuable alternative epistemologies.

Portrait and Other Ruins, trans. Pascale-Anne Brault and Michael Naas (Chicago: Chicago University Press, 1993). See also Nicolas Mirzoeff, *Bodyscape: Art, Modernity and the Ideal Figure* (London: Routledge, 1995), 35-49.

⁵ Jennifer Milam, *Fragonard's Playful Piantings: Visual Games in Rococo Art* (Manchester: Manchester University Press, 2006), 19-51.



Fig. 6. Jean-Baptiste Greuze, *Blind Man Deceived*, 1755, oil on canvas © The Pushkin State Museum of Fine Arts. Photo: Ekaterina Abramova

Blindness, in the Judeo-Christian tradition, has traditionally symbolised supernatural insight, divine punishment, and heavenly reward.⁶ In biblical episodes such as the healing of Tobit, the conversion of St Paul, and the healing of the blind of Jericho, it announces the interpenetration of the divine and earthly realms, and offers evidence of spiritual power acting upon the mortal world. In seventeenth-century French art, the blind are typically depicted either as biblical figures healed as a reward for faith, or as colourful characters in the “Cries of Paris” tradition. In Nicolas Pous-sin’s *Christ Healing the Blind* of 1650 (Musée du Louvre), a pair of blind figures, linked by touch, kneels to receive Christ’s healing blessing. The blue-robed figure in contact with Christ is bathed in the light that seems to emanate from Jesus, while the figure behind him is less brightly lit, suggesting the connection between light, sight, and salvation. This painting, celebrated by the professors of the Académie Royale de Peinture et Sculpture for its expression, composition, and treatment of light, informed other representations of the subject, such as Antoine Coypel’s *Christ’s Healing of the Blind at Jericho* (1684) and Francois Lemoyne’s *La Guérison de*

⁶ Paulson, *Enlightenment, Romanticism and the Blind*, 5-9. See also Michael E. Monbeck, *The Meaning of Blindness: Attitudes Toward Blindness and Blind People* (Bloomington: Indiana University Press, 1973).

l'Aveugle-né, which similarly depict the blind as generalised recipients of mercy and the healing of the blind as a miracle that served to “enlighten” the Jews.⁷

Particularised representations of the blind in seventeenth and early eighteenth-century graphic art, however, emphasise the poverty, ignorance, and moral degradation of the blind. For example, Jacques Callot's drawings of blind beggars in the *Les Gueux* series of 1622-25 (Fig. 7) draw attention to their ragged clothing, wrinkled faces, and ungainly postures. The etching in the British Museum shows a blind figure in rags clutching the hand of his companion, who holds out a hat to passers-by, his face creased with uncertainty.⁸ Likewise, George de la Tour's paintings of a blind hurdy-gurdy player (c. 1624-50, Musée des beaux-Arts, Nantes, Fig. 8; 1610-1630, Museo del Prado) focus on the awkwardness and distorted features of the street musician, his brow wrinkled and mouth stretched open in song.⁹ The strange disposition of limbs and discomposure of the face here suggest the musician's inward focus and lack of external awareness. La Tour depicts blindness with confronting, repellent realism. His fine, almost invisible brushstrokes clarify every awkward detail of the hurdy-gurdy player's appearance, making it almost impossible to respond sympathetically to the boldly constructed and highly finished figure. In these seventeenth-century examples, the blind are primarily shown to be generalised recipients of Christian mercy, or contemporary roguish unfortunates scraping a living in the streets and cabarets. These paintings and prints are not so much about the nature of blindness in and of itself, but use it either to demonstrate Christ's miraculous healing powers, or the curiosity and disability of marginalised and poverty-stricken urban dwellers.

By contrast, mid-eighteenth-century paintings of the blind tend to explore the personal experience of blindness and its impact on cognition within a larger system of social relationships. Informed by changing attitudes to the senses and the growing humanitarian culture of *sensibilité*, they suggest a new set of social and philosophical attitudes to the blind.¹⁰

⁷ André Félibien, *Seven Conferences Held in the King of France's Cabinet of Paintings*, anon. trans. (London: T. Cooper, 1740), 129-164.

⁸ On their relationship to Rembrandt's depictions of blind beggars, see Julius Held, “A Rembrandt ‘theme’”, *Artibus et Historiae* 5, no. 10 (1984): 22-25.

⁹ Seventeenth-century representations of hurdy-gurdy players are discussed in Hellerstedt, “A Traditional Motif in Rembrandt's Etchings: the Hurdy-Gurdy Player”, *Oud Holland* 95 (1981): 16-30.

¹⁰ On *sensibilité*, see Anne Vincent-Buffault, *The History of Tears: Sensibility and Sentimentality in France* (Basingstoke: Macmillan, 1991).



Fig. 7. Jacques Callot, *Blind Beggars*. c. 1622/23 Etching, 13.7 x 9.1 cm, from a series of twenty-five plates called *Les Gueux*. © Trustees of the British Museum



Fig. 8. Georges de La Tour, *The Blind Hurdy Gurdy Player*, c.1624-50, oil on canvas, 162 x 105 cm, Musée des Beaux-Arts des Nantes. Artwork in the public domain.

In Enlightenment writing of the mid-eighteenth-century, particularly that of Denis Diderot and the Encyclopédistes, blindness is desacralized, stripped of its spiritual relationship to sin, conversion and reward, and subjected to the empirical methodologies of science and philosophy. As cultural historians such as William Paulson and Zina Weygand have argued, blindness becomes a topic of philosophical investigation and medical experiment in the Enlightenment. For the scientists, thinkers and artists of this period, it is increasingly considered a physical condition with medical causes and epistemological effects.¹¹

The two most powerful forces affecting this change were the spread of Lockean sensationalism from the 1690s onward and William Cheselden's successful cataract operations in the late 1720s. Locke's philosophy, which transformed epistemology by arguing for the crucial role of the senses in generating human understanding, brought blindness into the spotlight by considering its effect on the acquisition of knowledge and the recognition of objects. In 1694, Locke introduced a discussion of blindness into the second edition of *An Essay on Human Understanding* by publishing his answer to a question posed to him by the Dublin lawyer William Molyneux.¹² Molyneux had asked the philosopher whether a blind man, having his sight restored, would be able to differentiate a cube from a sphere without touching them. Locke answered in the negative, arguing that because the blind man had no innate knowledge of which was the cube and which the sphere, and because he had no prior experience of the sense of sight, he would not be able to distinguish them.¹³ Through Molyneux's question, blindness allowed Locke to demonstrate the absence of innate ideas and the vital interdependence of the senses in generating knowledge. This suggested that it was the interplay between all perceptive faculties that produced knowledge and that the senses could be laterally organised, rather than hierarchically.

Cheselden's operations, on the other hand, showed that blindness was, in many cases, a reversible medical condition that could be cured by mod-

¹¹ Paulson, *Enlightenment, Romanticism and the Blind*, 5; Weygand, *The Blind in French Society*, 7.

¹² There is extensive scholarship on Molyneux's question and its relation to Lockean sensationalism; see Michael J. Morgan, *Molyneux's Question: Vision, Touch, and the Philosophy of Perception* (Cambridge: Cambridge University Press, 1977) and Marjolein Degenaar, *Molyneux's Problem: Three Centuries of Discussion on the Perception of Forms*, trans. Michael J. Collins (Dordrecht: Kluwer Academic Publishers, 1996).

¹³ John Locke, *An Essay Concerning Humane Understanding; the second edition, with large additions* (London: Printed for Awnsham and John Churchill, 1694), Book II, chapter IX.

ern science.¹⁴ His operations were widely publicised in France by Voltaire in his *Elements of Newton's Philosophy* of 1737 and emulated by surgeons such as Réaumur in the 1740s, though often with rather mixed results.¹⁵ But when successfully performed, “couching” or the removal of cataracts, demonstrated the physical nature of blindness, and enabled Molyneux’s question to be tested.

While cataract operations and Molyneux’s question dominated the discourse on blindness in the first half of the century, in 1749 Denis Diderot anonymously published a text that significantly shifted the terms of the debate. Diderot’s *Letter on the Blind for the Use of those who see* is an ostensibly fictional piece written in the epistolary mode that ruminates extensively on the nature of blindness and its implications for society, morality and understanding.¹⁶ The vital difference of Diderot’s text lies in its interest in the *blindness* of the blind, their culture and community.¹⁷ Diderot found Molyneux’s question distinctly uninteresting by contrast to empirical observation of the perceptual abilities of blind people, and used the *Letter* to describe the experiences of two real blind men, a man from Puiseaux and the Cambridge mathematician, Nicholas Saunderson.

The first, the blind man of Puiseaux, is portrayed as intelligent and confident, capable of complex abstract thought, and living contentedly with his wife and son with little sense of his own disadvantage. Using his other senses and the application of rational intelligence, he negotiates his environment skilfully, and in answer to Diderot’s questions, reveals a sophisticated theoretical understanding of vision and optical devices.¹⁸ Indeed, as Weygand has pointed out, the *Letter* takes the form a dialogue that, instead of rendering the blind man the *object* of scientific spectacle, explores his *subjectivity* through a conversation about his experiences and

¹⁴ See William Cheselden, “An Account of Some Observations Made by a Young Gentleman, Who Was Born Blind... and Was Couch’d between 13 and 14 Years of Age”, *Philosophical Transactions of the Royal Society* 35 (1727-28): 447-450.

¹⁵ See Jessica Riskin, *Science in the Age of Sensibility: the Sentimental Empiricists of the French Enlightenment* (Chicago: University of Chicago Press, 2002), 19-68.

¹⁶ Denis Diderot, *Lettre sur les aveugles, a l’usage de ceux qui voyent* (London, 1749). English trans., Denis Diderot, “Letter on the Blind for the Use of Those Who See” in *Thoughts on the Interpretation of Nature and Other Philosophical Works*, ed. David J. Adams, trans. Margaret Jourdain (Manchester: Clinamen Press, 1999), 149-172 (all subsequent references are to this edition). The fictional nature of Diderot’s letter is underlined by Tunstall, *Blindness and Enlightenment*, 17.

¹⁷ Weygand, *The Blind in French Society*, 62.

¹⁸ Diderot, “Letter on the blind”, 151.

sensations.¹⁹ As a result, it constitutes a crucial rethinking of the nature of blindness and the identity of the blind.

Throughout the text, Diderot consistently emphasises the blind man's abilities by stressing that, through his other senses, he can interpret the world comprehensively. Diderot observes that "he judges his proximity to the fire by the degrees of heat; the fullness of vessels by the sound made by liquids which he pours into them; the proximity of bodies by the action of the air on his face. He is so sensitive to the least atmospheric change that he can distinguish between a street and a closed alley".²⁰ In emphasising the compensatory capabilities of the other senses, Diderot reveals an essential ambivalence toward the authority of sight, rendering it less and less significant in the negotiation of the external world. Rather, he stresses its heavy dependence upon the other senses, particularly touch, which qualifies and verifies it.²¹ This reworking of the hierarchy of the senses into a lateral system of equally vital perceptual apparatuses is fundamental to Diderot's conception of blindness and leads to a reconsideration of its disadvantages.

While Diderot is clearly impressed by the blind man's abilities, he cannot help but imagine the social consequences of blindness and its impact on morality. He speculates that the blind man's moral code is characterised by an abhorrence of theft, a lack of concern for modesty and a lack of sympathy due to an inability to be affected by the sight of someone in distress (an idea that he later recanted). He even proposes that in a society of the blind, wives would be held in common in order to do away with the powerful threat of adultery.²² Despite his differing social priorities, however, Diderot stressed the blind man's intelligence and sociability. Indeed, instead of rendering the blind man the object of scientific spectacle, Diderot's *Letter*, by taking the form of a dialogue, explored his subjectivity through a conversation about his experiences and sensations. Diderot's letter is a significant document in the history of attitudes to the blind. Not only does it suggest the crucial interdependence of the senses in the acquisition of knowledge, but it also treats the blind as individuals with their own particular tastes and interests and blindness as a condition that demands a different way of perceiving the world.

¹⁹ Weygand, *The Blind in French Society*, 63.

²⁰ Diderot, Diderot, "Letter on the blind", 154.

²¹ On the significance of touch in eighteenth-century philosophy and aesthetics, see Ewa Lajer-Burcharth, "Pompadour's Touch: Difference in Representation", *Representations* 73, no. 1 (2001), 54-88.

²² Diderot, "Letter on the blind", 154-56. In a later addendum to the letter, Diderot recanted these views. See Riskin, *Science in the Age of Sensibility*, 60-68.

This attitude toward the blind as individual subjects worthy of contemplation can likewise be identified in Chardin's *Blind Man* of 1753 (Fig. 5). *The Blind Man* is a remarkably small and apparently simple painting. Despite the date of 1753, the year of its exhibition at the Académie Salon, the small size of the painting suggests that it was probably painted in the late 1730s, around the time Chardin produced other small canvases of single figures at work, *The Draughtsman* and *The Embroiderer* of 1738.²³ The painting depicts a blind man dressed in a brown woollen cloak and a tricorne hat holding a cup, a staff, and dog on a leash. He stands in a shallow space against the stone exterior of a grand building beside a set of stairs that disappear into a gloomy passageway. While the blind man is turned away from us and seemingly oblivious to our presence, the dog, curled up on the ground beside him, makes a mute appeal to viewers' sympathies. Focusing on these key aspects of the composition, Michael Fried has interpreted Chardin's *Blind Man* as the ultimate image of absorption, arguing that blindness is a guarantee to the viewer that the figure will remain unaware of her presence.²⁴ For Fried, blindness is the culmination of absorptive structures and themes in Chardin's work. Fried's generalising interpretation, however, neglects Chardin's specific interest in the subject of blindness and its relationship to alternative epistemologies of touch and emotional feeling.

Pinned to the blind man's cloak, just above the sleeve of his right arm, is the insignia of the Quinze-Vingts, the Parisian blind hospital established in 1260. This identifies him as a resident and thus allowed to beg for alms in the streets and churches of Paris.²⁵ For contemporary viewers, the specificity of the blind individual was important. One critic praised the painting because "His pose, the tilt of his head and the way he moves his stick are truly the movements of a blind man. His dress, both in its shape and in its grime, clearly identifies the figure as an inmate of the Hôpital des Quinze-Vingts".²⁶

Unlike La Tour's blind hurdy gurdy player, who is similarly depicted in profile, Chardin's figure is not physically deformed by blindness. Rather than depicting the bodily impact of visual impairment, the signifiers of his condition are more politely deferred to his clothing and attributes.

²³ Marianne Roland Michel, *Chardin* (New York: Abrams, 1996), 208.

²⁴ Michael Fried, *Absorption and Theatricality: Painting and Beholder in the Age of Diderot* (Berkeley: University of California Press, 1980), 70.

²⁵ Weygand, *The Blind in French Society*, 18-23.

²⁶ Abbé Laugier, *Jugement d'un amateur sur l'Exposition des Tableaux* (1753), Georges Widensten, *Chardin* (Paris: Les Beaux-Arts, 1933), 87. English trans: Roland Michel, *Chardin*, 208.

Through the use of these key motifs, Chardin's painting can be connected to seventeenth-century engravings by Callot and Abraham Bosse, where the insignia, cup, stick, and dog are the primary visual attributes of the blind. In Callot's blind beggar, a broad brimmed hat covers his face, preventing the viewer's identification with the figure, but the dog, stick and cup function as essential visual markers of his blindness. Bosse's *Blind Beggar*, from an edition of the Cries of Paris from the 1640s (Fig. 9), shows a man standing at a gate with his stick, cup and dog, wearing long robes and a wide brimmed hat. The insignia of the Quinze-Vingts is pinned upon his breast and he is shown, like Chardin's figure, soliciting charity within the public space of the town. Despite the outward markers of blindness, Bosse's beggar seems to look back at the viewer with eyes wide open and a surreptitious smile, unabashedly admitting, perhaps, his cunning deceit. A closer analogue for Chardin's *Blind Man* can be found in a drawing by his contemporary, Edme Bouchardon, for a print set of the Cries of Paris from 1737 (Fig. 10). Bouchardon depicts a blind beggar dressed in heavy woollen robes, holding a staff and cup. Drawn in profile, his shaded eyes are a strange milky white and his mouth slightly agape. Bouchardon's blind man, turned away from the viewer, seems to lack a sense of orientation in relation to the picture plane. While the blind man strains to perceive the world around him, his cheeky guide smiles directly out at the viewer, adding a roguish element to the scene.

While Chardin adapts both dress and attributes from prior depictions for his *Blind Man*, he depicts him in a much more sympathetic way that allows viewers' emotional engagement, and goes further in making blindness a theme within the composition.²⁷ By eliminating the guide and reducing the background to solid and shallow architectural space, Chardin focuses on the nature and experience of blindness. This is carefully articulated within the painting by the emphasis on the sensation of touch and the treatment of light and dark. As one of the primary perceptual faculties of the blind, touch is repeatedly emphasised in Chardin's painting, most obviously in the relationship between the figure's eyes and hands. The two hands, representative of the sense of touch, are made the compositional hub and organising motif of the image. All forms radiate from them: the stick and cup on the right hand side, and the leash that draws the viewer's eye down to his canine companion on the ground. While the his eyes are shaded beneath the brim of his hat, leaving them in darkness, the slanting beam of light entering the picture from the top right illuminates the hands,

²⁷ On the origins of this figure in sixteenth-century Northern genre painting, see Kahren Jones Hellerstedt, "The Blind Man and His Guide in Netherlandish Painting", *Simiolus* 13, no. 3-4 (1983): 163-181.



Fig. 9. Abraham Bosse, *Un Aveugle*, engraving, 17th century. Image in the public domain.



Fig. 10. Edme Bouchardon, *Blind man leaning on a stick, holding a cup, and walking to the right, led by a boy*. From *Cris de Paris*, 1730s. Red chalk; pasted on brown paper, within brown wash border © Trustees of the British Museum 23 x 17.4 cm

and also highlights the rim of the pewter cup, and picks out the long line of his stick. Clutching the top of the staff, and positioned directly below his shaded eyes, the hands initiate a strong compositional line that, together with the stick, connects his body with the surrounding space. This line, connecting eyes, hands and ground, visualises the substitution of sight for touch and the other sensory capacities in the condition of blindness.

In addition, the presence of darkened voids enacts the condition of blindness within the painting by limiting the power of sight to penetrate its spaces.²⁸ Facing right, the blind man is turned away from the source of light at the upper left and toward the dim passageway on the right, which opens up a black void that takes up the right hand edge of the painting.²⁹ This darkened passageway takes up a significant part of the right hand side of the painting and is consistently drawn to the viewer's attention by the orientation of the blind man's body. Bathed in light, the beggar faces the shadowy recess, waiting for a passer-by to petition. In its relationship to the figure, the void seems to represent the darkened world of the blind. Indeed the shadow of the stick, which links eyes and hands with the ground, disappears into this darkened area, reinforcing its role as the means by which the blind man negotiates a lightless environment. The void calls upon the viewer to sympathetically experience blindness in this part of the composition, extending the condition of sightlessness beyond the frame.

Chardin's painting also directs the beholder's attention to touch through the materiality of paint and the handling of the brush. The extremely small scale of the painting requires close up looking and compels the spectator to draw near. In so doing, it forces an encounter with the painting's surface and the use of touch to apply its thick, grainy impastos. At this level of intimate proximity, the viewer is also invited to enter into a

²⁸ Chardin is acknowledged as an artist who plays with visual perception, a position that has expanded the interpretive possibilities of art history. See especially Michael Baxandall, *Patterns of Intention: On the Historical Explanation of Pictures* (New Haven, Conn.: Yale University Press, 1985) 74-98.

²⁹ While it is important not to over emphasise the presence of this void (early engravings show that the painting has been enlarged by about 4.5cm on this side) it is nonetheless a significant part of the composition that responds poignantly to the condition of blindness. On the physical changes made to the painting and its provenance, see Pierre Rosenberg, "The Blind Man of the Quinze-Vingts by Chardin and the Young Girl with a Marmot by Fragonard at the Fogg", in *Shop Talk: Studies in Honor of Seymour Slive* (Cambridge, Mass.: Harvard Art Museums, 1995), 209-211

visual relationship with the blind figure that arouses emotional feeling.³⁰ Likewise, the dog's sorrowful appeal to the viewer elicits our sympathy on behalf of its owner, encouraging an emotional response to the image. He is our mute proxy in the image; he acknowledges our presence, and exchanges a look with us that his owner cannot. In this pared back, simplified composition, with its shallow space and single figure, the viewer's attention is focused on the personal experience of blindness, its loneliness and isolation and the uncertainty of begging for alms, as well the processes of perception vital to the blind, such as touch.

While Chardin offers a sympathetic portrait of blindness, Greuze's *Blind Man Deceived* (Fig. 6) makes a subtle argument for the relativity of sight, suggesting that blindness is not unique to the blind. In a dimly lit, rustic interior, Greuze depicts a blind man holding his wife's hand, while she helps a young man holding a jug of beer out of the cellar.³¹ His wife, it seems, deceives the old blind patriarch in more ways than one, as she takes advantage of his blindness to make gifts of their larder to her lover. However, this deception is on the brink of being revealed as the boy, staring agape at the blind man, has neglected his task and is about to pour the contents of the jug on the ground. The looping line of figures draws the eye down to this key detail, upon which the narrative will turn. Although it seems impossible for the blind man to be yet unaware of the boy's presence (being so close), it is easy to imagine that the sound of the jug touching the ground and the trickling liquid will reveal the theft taking place and perhaps the thief's identity.³²

Greuze, like Chardin, renders other senses such as touch and hearing primary perceptual faculties of the narrative. Indeed, there is no eye contact between the figures and the prominent visibility of the ears of the young and old men, depicted in profile on either side of the young woman, suggest the importance of hearing over visual perception in this scenario. In his careful articulation of surface textures such as the burnished copper urn, the glass, the casserole, and rough woollens and linens, Greuze also makes the imagined sensation of touch an important part of the viewer's response. Additionally, touch links the seated figures; their hands, arms and heads create a chain of bodies that emphasises the connection and

³⁰ The critic Estève described this painting as the most "striking" of Chardin's works at the 1753 exhibition. Wildenstein, *Chardin*, 89.

³¹ My description of the scenario is drawn from an anonymous eighteenth-century reviewer of the Salon: *Lettre sur le Sallon de 1775 adressé à ceux qui liront* (Amsterdam, 1755).

³² On the equivocal morality of this scenario, see Emma Barker, *Greuze and the painting of sentiment* (Cambridge: Cambridge University Press, 2005), 37.

tension between them. Touch is thus charged with communicating information about the action unfolding. The pale skin of the young woman's hand, squeezed and pressed by the blind man, contrasts with the boy's loose and negligent grip on the jug, in a way that makes this painting more about the different registers of touch than sight or its absence.

Indeed, this painting contains, like Chardin's *Blind Man*, a darkened void, which similarly takes up a large part of the canvas. On the left hand side, an opening in the wall introduces a sinister rectangular gap into the interior, through which protrudes a wooden beam draped with a white shift or nightgown.³³ Indeed the void, the beam, and the draped undergarment create an allegory of blindness on a large scale. In this interpretation, the void could represent the darkness of sightlessness, the beam approximates the blind man's staff, and the soft folds of the undergarment, his reliance on touch. These elements suggestively transpose the conditions of blindness onto the architecture of the room. As a result, the young wife and her lover appear as intruders within the space of the blind, the odd ones out in a dim and haptic world.

Though it may at first appear a comic image that lampoons the blind for their lack of sight, Greuze's painting seems rather to stress the pitfalls of vision, its unreliability as a singular source of information about the world.³⁴ As a result, the painting lends itself particularly to contemporary debates about sensation. In subject matter, it responds to Diderot's speculations on the blind man's moral code, his abhorrence of theft and adultery.³⁵ More specifically, however, in the figure of the young man we can see an emblem of contemporary philosophical attitudes to sensation, particularly the rethinking of the power of sight and the growing awareness of the crucial interdependence of the senses in understanding the external world. In the imminent failure of his deception, the young man enacts the blindness of sight itself, its contingencies and limitations. In staring at the blind man, watching for a response, the young man loosens his grip on the jug and loses control of touch. It is the loss of touch and the making of

³³ Mark Ledbury offers a precedent for the metaphorical interpretation of a naturalistic spatial detail by connecting the beam, which penetrates the space of the room, to the sexual innuendo of the scenario. See Mark Ledbury, *Sedaine, Greuze, and the Boundaries of Genre* (Oxford: Voltaire Foundation, 2000), 130.

³⁴ Thomas Crow has dismissed this painting as a 'dark and mean spirited exercise in the low Flemish mode of sexual comedy'. See Crow, *Painters and Public Life in Eighteenth-Century Paris* (New Haven: Yale University Press, 1985), 140. Closer analysis of its representation of blindness, however, suggests its connection to changing attitudes to the supremacy of sight in sense perception.

³⁵ Diderot, "Letter on the blind", 154-56.

telltale sounds that will be his undoing. *Blind Man Deceived* is, therefore, a deceptive image.³⁶ Rather than representing the blind man as a comic and despicable dupe, it is the sighted young man who is open-mouthed and unaware. In fact, the painting so questions the power of sight that the title seems to refer, not to the blind patriarch, but to the young man deceived by the apparent authority of vision.

Painting, which relies on both touch and sight for its execution and reception, constitutes a peculiarly sensual forum for exploring blindness and sensation. Through their emphasis on darkened voids and the senses of touch and hearing, Chardin's and Greuze's paintings examine the condition of blindness and represent it as a relative condition that can afflict the sighted as well. In this way, both works engage with the changing status of blindness in the eighteenth-century and the critique of sight as the master sense and key to understanding. In these two works, the epistemology of vision is shown to be a contingent and limited form of knowledge, and the other senses promoted as valid and vital modes of understanding.

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³⁶ James Thompson sees the blind man as a victim of the wily sexuality of the young woman, and interprets the painting in terms of Greuze's occasionally negative attitudes to women. See Thompson, *Jean-Baptiste Greuze* (New York: Metropolitan Museum of Art, 1990), 9. However, it is the young, sighted man who is about to be discovered who is better interpreted as the victim.

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MENTAL AND VISUAL ASCESIS: SEVENTEENTH-CENTURY ART THEORY IN SEARCH OF SCIENTIFIC DECORUM

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During the sixteenth and seventeenth centuries, the field of visuality underwent a profound process of rethinking: the salient aspects within this process were, on the one hand, the affirmation of the importance of visual proof and, on the other hand, the growing suspicion towards the visual sphere in general, and towards images in particular.¹ It is hard to imagine that writers on art, scholars or artists, could have remained immune to these debates that raised essential issues for the discourse on the epistemic status of the visual arts. Some of the nuances that characterise art theory from the 1630's on can be understood as a reaction to the rising distrust towards the sense of sight and the growing anxiety about the objectivity of the image, about its capacity to transmit or produce knowledge. Against this background and in dialogue with such ideas, a series of themes emerge. The hierarchy between different types of vision, painting and public reaffirm, amidst the full crisis of "ocularcentrism," the capacity of art to rival philosophy. The following text shall try to show how the epistemological concerns pertaining to scientific observation, in particular the

¹ Stuart Clark, *Vanities of the Eye. Vision in Early Modern European Culture* (Oxford: Oxford University Press, 2007).

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distinction between subjective and objective procedures, instils into the discussion about the reception of works of art.²

The cradle of these themes is to be found in seventeenth-century Rome, a vibrant chapter of the reciprocal influence between artistic practice and scientific investigation. This becomes strikingly apparent if we think e.g. of the role of Accademia dei Lincei in the developments of scientific illustration or the fortunate meeting of scientific and artistic interests in Cassiano dal Pozzo and the artists in his circle. Although many of the writers on art here discussed wrote in the second half of the century, like Giovan Pietro Bellori, they formed their ideas in the 1630's and 1640's in Rome–Dufresnoy, Fréart de Chambray—or were dependent on the critical thinking on art of the second quarter of the century, particularly on the ideas of Poussin and Domenichino—like Giovanni Battista Passeri.

The issue of the reception of the work of art is of prime importance for the discussion on its validity, in an era when the possibility of acquiring certainty through the senses, in particular the sense of sight, is being questioned. For early modern art theorists, showing that the errors of the senses can be avoided is just as important as it is for the practitioners of scientific empiricism. It is not a coincidence, thus, that the discussion about the possibility for art to surpass the superficial visible aspects in favour of the essences, as well as that about the rationalisation of the process of reception are closely linked to the scientific discourse about the correct reading and interpretation of nature.

A first hindrance, then, that art theory had to surpass was the common depreciative association between arts and mere appearances, an old Aristotelian commonplace identifying the artisanal production with mimetic reproduction of external features of nature. This theme was not important in sixteenth-century art theory. However, during the following century, the scientific world started to systematically refute the approaches based exclusively on the visual study of the superficial aspects of nature. In contrary, they were trying to look for ways to surpass the unorganised accumulation of data coming from the senses by turning them into systems of knowledge capable of identifying the essential features, not just the external forms, thus being able to understand the principles of nature. Such issues preoccupied for example the members of the Roman Accademia dei Lincei, who tried to eliminate superficial characters both from the process

² In constructing the argument around this issue, I am intentionally leaving aside the very rich, but more technical discussion about the process of vision itself.

of classification and from scientific illustrations in order to avoid subjectivity.³

In this context, the theme gains a central place in the discourse of art theorists interested in promoting the epistemic status of the arts: naturalist painting becomes the target of critiques related to its limitation to appearances and its failure to go beyond the illusory surfaces. Bellori, for example, condemns it for being “a habit without art or reason, taking the function away from the mind and assigning everything to the senses,”⁴. This reads, according to Elizabeth Cropper’s interpretation, as a condemnation on Bellori’s part of any supposed scientific aspiration of the naturalist artist’s approach of the visible world: he underlines the subjective character of an endeavour rooted in particulars and, thus, categorises it as epistemologically limited⁵ (“Thus the art of painting is condemned by those artists to opinion and to usage”).⁶ According to that, painting reduced to *practice* brings about *ignorance*, it cannot aspire to the certainty of science, because practice is understood as mechanical repetitiveness, not dependent upon the rational faculties (thus, the allegorical frontispiece of Caravaggio’s “Life” represents *Praxis*). Not surprisingly, seventeenth-century natural philosophers criticise those inclined to ground their knowledge on the senses, whom Bellori calls “ignorant, in their vain ambition to be knowledgeable.”⁷

If the artist’s subjectivity can compromise the philosophical ambitions of painting because of the unreliability of senses, subjectivity can also interfere in the process of reception of the work of art. Here as well senses and intellect are opposite means of acting. Poussin, for example, states that

³ David Freedberg, *The Eye of the Lynx. Galileo, His Friends, and the Beginnings of Modern Natural History* (Chicago: University of Chicago Press, 2002).

⁴ Giovan Pietro Bellori, “L’Idea del pittore, dello scultore e dell’architetto scelta dalle bellezze naturali superiore alla Natura...,” in *Le vite de’ pittori, scultori e architetti moderni*, ed. Evelina Borea (Torino: Giulio Einaudi, 1976; hereafter cited as *Vite*), 22; “The Idea of the Painter, the Sculptor, and the Architect...,” in *The Lives of the Modern Painters, Sculptors and Architects. A New Translation and Critical Edition*, trans. and eds. Alice Sedgwick Wohl, Hellmut Wohl and Tomaso Montanari (Cambridge: Cambridge University Press, 2005; hereafter cited, for the English translations, as *Lives*), 61.

⁵ Elizabeth Cropper, “Caravaggio and the Matter of Lyric,” in *Caravaggio. Realism, Rebellion, Reception*, edited by Genevieve Warwick (Newark: University of Delaware Press, 2006), 47-56.

⁶ Bellori, “Idea,” in *Vite*, 22; *Lives*, 61.

⁷ Bellori, “Life of Carlo Maratti,” in *Vite*, 629; *Lives*, 422.

"We must not judge by our senses alone but by reason."⁸ Furthermore, the issue of the reliability of sources gains weight.

Those who are "guided by opinion," who let "opinions prevail" or "disdain reason [and] follow opinion [will] turn away from the truth of art, upon which, as on its proper base, the most noble simulacrum of the Idea stands consecrated."⁹ In the effort to distinguish painting and sculpture from the mechanical arts (which deal with particulars), sixteenth-century art theorists had moved the arts from the particular reason—where they were traditionally thought to belong—to the universal one.¹⁰ Opinion was associated with the particular reason¹¹ and was, in the Aristotelian cognitive hierarchy, inferior to scientific knowledge.¹² No wonder, then, that for Bellori opinions were the enemies of "sound [...] convictions."¹³ In this belief, he clearly echoed the scientific criteria of his time: we find them explicitly stated in the words of a friend of Galileo, the poet Virginio Cesarini, who wrote that, under the influence of the scientist, he gained

⁸ Nicolas Poussin, Letter to Chantelou from November 24, 1647, in *Lettres et propos sur l'art*, ed. Anthony Blunt (Paris: Hermann, 1964), 123; trans. in Anthony Blunt, *Nicolas Poussin* (London: Pallas Athene, 1995), 368.

⁹ Bellori, *Vite*, 9, 319, 22; *Lives*, 50, 246, 61. One of the most significant passages for the discussion about the spectator's reaction in Seicento art theory appears in the "Life of Domenichino," in relation to his painting in the Oratory of St. Andrew; nevertheless, the attention shifts there from the focus on the ignorance of the masses as key to their response to art to the idea that such a response is suscitated by the intrinsic characters of the paintings.

¹⁰ Benedetto Varchi, *Della maggioranza delle arti*, 1546; Raffaele Borghini, *Il Riposo*, 1584, in *Scritti d'arte del Cinquecento*, ed. Paola Barocchi (Torino: Giulio Einaudi Editore, 1979), vol. I, 99-105; 108-9. See, for this discussion, Karen-edis Barzman, "Perception, Knowledge, and the Theory of *Disegno* in Sixteenth-Century Florence," in *From Studio to Studiolo. Florentine Draftsmanship under the First Medici Grand Dukes*, edited by Larry J. Feinberg (Oberlin: Allen Memorial Art Museum, Oberlin College, 1991), 39.

¹¹ David Summers, *The Judgment of Sense. Renaissance Naturalism and the Rise of Aesthetics* (Cambridge: Cambridge University Press, 1994), 25.

¹² Aristotle, *Metaphysics*, IV, 4, 1008 b. Lodovico Castelvetro, one of the most important commentators of Aristotle in the second half of the sixteenth century, wrote in "Che cosa abbia la scienza comune o differente con l'arte" that "opinion is that kind of persuasion based upon non-demonstrative evidence." In *Scritti*, ed. Barocchi, vol. I, 106.

¹³ Bellori describes Poussin as *nimico delle opinioni e valido nelle sue ragioni*. "Life of Nicolas Poussin," in *Vite*, 453; *Lives*, 323. For the opposition between opinion and truth see also Claudio Strinati, "L'opinione di Bellori," in *L'idea del bello. Viaggio per Roma nel Seicento con Giovan Pietro Bellori*, edited by Evelina Borea and Carlo Gasparri (Roma: Edizioni de Luca, 2000), vol. I, 93-4.

[...] a more secure logic, whose syllogisms, founded on experiences of nature, or on mathematical demonstrations, will open the intellect to the knowledge of truth no less than they may shut the mouths of some vain and impertinent philosophers, whose science is *opinion*, and, what is worse, *the opinion of others*, not even their own.¹⁴

These “vain” philosophers were the target of the attacks of the new science, embodied in the Accademia dei Lincei, of whom Cesarini was a member. In a discourse of the founder of the Academy, Federico Cesi, they are mocked for “bringing forth high-sounding and sonorous doctrines, careless of whether the opinions are true, as long as they are plausible, magisterial and authorized by the more common views of the ruling sect.”¹⁵ The suspicion towards the uncritical trust in other people’s opinions was to become a central criterion for the *decorum* of all scientific endeavours in late seventeenth- and eighteenth-century philosophy.

We find the echoes of this attention for the reliability of the sources of knowledge at the beginnings of Roman seventeenth-century art theory. Giovanni Battista Agucchi, in a series of letters from 1607-1608, debated the importance of historical sources and their dependability: he distinguished between a history for connoisseurs (*intendenti*), founded only upon trustworthy documents, and one for the ignorant (*indotti*), intended to give rise to subjective reactions, to “serve mainly for popular devotion [...] to describe in a detailed way the life of the saints with such fervour and wit [...] so that it moves the souls of the readers.”¹⁶

Thus, the discussions about the reception of art works in the seventeenth century were founded on the opposition between the individual point of view and truth. In a letter cited by Bellori, Domenichino asserted that he only trusted “the true opinion [...] of a more knowledgeable person (*intendente*) who [would] speak the truth.”¹⁷ His disciple, Giovanni Bat-

¹⁴ Virginio Cesarini, quoted in Elizabeth Cropper, *The Ideal of Painting. Pietro Testa's Düsseldorf Notebook* (Princeton, New Jersey: Princeton University Press, 1984), 160 (my emphasis).

¹⁵ Federico Cesi, *Del natural desiderio di sapere et istituzione de' Lincei per adempimento di esso*, in *Scienziati del Seicento*, ed. Maria Luisa Altieri Biagi (Milano: Rizzoli Editore, 1968), 67; trans. in English as “Free Inquiry and the Accademia dei Lincei,” in *Italy and the Baroque: Selected Readings*, ed. Brendan Dooley (New York: Garland Publishing, 1995), 28.

¹⁶ Quoted in Silvia Ginzburg Carignani, “Domenichino e Giovanni Battista Agucchi,” in *Domenichino: 1581-1641*, edited by Claudio Strinati and Almamaria Tantillo (Milano: Electa, 1996), 128.

¹⁷ Domenichino, “To Signor Francesco Angeloni, Rome,” in Bellori, “Life of Domenichino,” in *Vite*, 370; *Lives*, 271.

tista Passeri, careful to discover “the pure and sincere truth [...] unspoiled nor by hatred, nor by any other passion,” condemned those artists who “take care to put forward in the works of others the opinions rather than truth itself.”¹⁸ Fréart de Chambray talked about these topics in ways which recall the opposition, frequent in the French philosophical discourse—for example in that of the School of Port-Royal or Pascal—between impersonal, mathematical perception and the subjectivity of the act of interpretation rooted in an individual point of view,¹⁹ when referring to

[...] wise men, who examine and judge things in the manner of geometers, rigorously that is, through pure demonstration and by analysing the principles, without leaving any space for opinion or bias, which are like pest to the truth.²⁰

Passeri discussed the assessment of a work of art in terms which borrow authority from the legal vocabulary:

[...] judging with a jaundiced eye [...] means trusting the false testimony of those bribed by the passion who wants them on her side; to proffer a judgement based on the opinion of your own taste, without any other argument (*discorso*), means giving testimony with no proof, which is worthless, since you don't know what you testify.²¹

The same vigilance for subjective appraisal can be found in the scientific literature where “scientific research [is] conceived as a mental ascesis

¹⁸ Giovanni Battista Passeri, “To the Perceptive Reader,” in *Vite de pittori, scultori ed architetti che anno lavorato in Roma, morti dal 1641 fino al 1673* / *Die Künstlerbiographien von Giovanni Batista Passeri*, ed. Jacob Hess (Leipzig: Keller / Schroll & Co, 1934), 5; “Life of Guido Reni,” in *Vite*, 96-7.

¹⁹ For Pascal and Jansenist Logic the target of this attack is precisely the image, whose interpretation is dependent upon the subjectivity of the point of view (the extreme example is that of the anamorphoses). John D. Lyons, “Speaking in Pictures, Speaking of Pictures. Problems in Representation in the Seventeenth Century,” in *Mimesis. From Mirror to Method, Augustine to Descartes*, edited by John D. Lyons and Stephen G. Nichols (Hanover: University Press of New England, 1982), 167-9, 185-6.

²⁰ Roland Fréart Sieur de Chambray, *Idée de la perfection de la peinture, démontrée par les principes de l'Art...* (Le Mans: Imprimerie de Jacques Isambart, 1662), 122.

²¹ Passeri, “Life of Domenichino,” in *Vite*, 28.

infused with sacrality.”²² Cesi advocated for “a pure and sincere intellect, free from any passion and affection and able to grasp the desired truth by itself.”

And most of all, one shall carry on philosophizing with his own intellect with sincerity, without any passion that can alter the search for truth, without adhering to that or that author or sect; always with equal willingness towards all persons will be weighted all things and reasons, without them being increased or decreased by the authority of who presents them.²³

Moreover, to avoid being accused of subjective appraisal, Passeri legitimated his endeavour through the confrontation with the authority of the experts:

What has been said [...] is what has always been considered by common view, who knows better than anyone to distinguish the qualities of each worthy painter, and all that's left for me is to relate others' definition and sentence, without pretending to judge the value of each.²⁴

Even Bellori, otherwise devoid of modesty and full of confidence in his own judgement, confessed that he “deemed it more opportune to rely instead on the judgement of learned men, rather than setting [him]self up as the judge and arbiter of [the] perfection”²⁵ of the works under discussion. The idea of collaboration and control of hypothesis through public consensus between the scientists was central for the scientific revolution, not less for Accademia dei Lincei: “what better approbation could be found than from the consent and union of so many learned men of long-proven valor?” asks Cesi rhetorically.²⁶

Not surprisingly, the distinction between personal view or “remark” (Cesi’s *le relazioni de’ particolari*²⁷) and scientific observation, conducted by qualified men,²⁸ was omnipresent in late seventeenth-century texts, and

²² Eugenio Garin, “Fra ‘500 e ‘600: scienze nuove, metodi nuovi, nuove accademie,” in *Convegno celebrativo del IV centenario della nascita di Federico Cesi*, (Roma: Accademia Nazionale dei Lincei, 1986), 46.

²³ Cesi, *Del natural desiderio*, 62-3; “Free Inquiry,” 27; and 72-3.

²⁴ Passeri, “Life of Guercino,” in *Vite*, 352.

²⁵ Bellori, “To the Reader,” in *Vite*, 8; *Lives*, 50.

²⁶ Cesi, *Del natural desiderio*, 80; “Free Inquiry,” 34.

²⁷ Cesi, *Del natural desiderio*, 91.

²⁸ Lorraine Daston, “The Empire of Observation, 1600-1800,” in *Histories of Scientific Observation*, edited by Lorraine Daston and Elizabeth Lunbeck (Chicago: University of Chicago Press, 2011), 91.

impartiality became the foundation of any scientific undertaking.²⁹ When “hearsay” information was admitted in a scientific or legal procedure, it was considered inferior to direct visual proof (even though visual proof itself was not trustworthy unless it was verified).³⁰ The way in which Locke distinguished between the credibility of different types of testimony, when saying that a testimony „from [a credible Man’s] Report [...] is weaker; and a third that attests the Hearsay of an Hearsay, is yet less considerable,”³¹ evokes claims made by writers on art, such as Passeri:

Those whose intelligence relies on no other sense but that of hearing, I don’t know how they dare to make judgements and end disputes with sentences that have no foundations.³²

Subjective judgement and naturalism are often central to the discussion about the categories of spectators. Opinion is the judgement of the common people (Bellori unites the two notions in the suggestive phrase *l'opinione vulgata del nostro secolo*³³), and it contrasted to the rational judgement of the expert. The origin of this distinction can be found in Agucchi, who wrote that

[...] the objects painted and imitated directly from nature are pleasing to the common people, since they are accustomed to seeing such things, and the imitation of what they already know well delights them. But the knowledgeable man, lifting his thought to the Idea of the beautiful, [...] is enraptured by it and contemplates it as a thing divine.³⁴

²⁹ Lorraine Daston, “Baconian Facts, Academic Civility and the Prehistory of Objectivity,” *Annals of Scholarship* 8 (1991): 338-9. For the ethics of the scientific activity – objectivity and impartiality – and its origin in Aristotle see Pierre Hadot, “The Study of Nature as an Ethics of Objectivity,” in *The Veil of Isis. An Essay on the History of the Idea of Nature* (Cambridge, MA: Harvard University Press, 2008), 185-7.

³⁰ The members of the Royal Society, for example, insisted upon the importance of corroborating the visual proofs from as many observers as possible. Barbara Shapiro, “The Concept ‘Fact’: Legal Origins and Cultural Diffusion,” *Albion: A Quarterly Journal Concerned with British Studies* 26, no. 1 (Spring 1994): 16.

³¹ John Locke, *An Essay Concerning Human Understanding*, XVI, 10 (London, 1841), 491; see, for this topic, Steven Shapin, *A Social History of Truth. Civility and Science in Seventeenth-Century England* (Chicago: University of Chicago Press, 1994).

³² Passeri, “Life of Francesco Albani,” in *Vite*, 274.

³³ Bellori, “Life of Carlo Maratti,” in *Vite*, 628.

³⁴ Giovanni Battista Agucchi, *Tratatto sulla pittura*, in Denis Mahon, *Studies in Seicento Art and Theory* (London: The Warburg Institute, 1947), 243; trans. in

The association Agucchi made between common people and naturalism must be read in the light of the configuration of the early Seicento artistic scene. Three centuries earlier, the “radical naturalism” of Giotto was considered a refined language by enlightened minds, one which was inaccessible for “the eyes of the ignorant” and was “criticized by the *ignorant*.”³⁵ In the seventeenth century, a profound reversal took place because of the perception of naturalism as a major artistic danger.

Bellori reproduced Agucchi’s considerations almost literally, but he introduced some noteworthy nuances, due to the contemporary developments of the discussion about sight: the explicit indictment of the exclusive dependence on “the sense of sight,” opposed to reason and associated instead with the notions of “colour,” “novelty,” and “opinion.”

Since common people refer everything to *the sense of sight*, they praise things that are painted from nature because they are accustomed to seeing them made so; they appreciate beautiful *colours*, not beautiful forms which they do not understand; they are bored by refinement and approve of *novelty*; they disdain reason, follow *opinion* [...]³⁶

The way in which art theorists described the reaction of the public is emblematic for the suspicion with which common people were regarded in the seventeenth century. While at the beginning of the century, scientists believed that scientific experiment found confirmation through the eyes of common people, the latter were gradually refused any claim to understanding and thus they were forever expelled from the world of knowledge.³⁷

Robert Enggass and Jonathan Brown, *Italian and Spanish Art, 1600-1750. Sources and Documents* (Evanston, Illinois: Northwestern University Press, 1999), 27.

³⁵ Erwin Panofsky, *Renaissance and Renascences in Western Art* (New York: Icon Editions, Harper & Row Publishers, 1972), 13.

³⁶ Bellori, “Idea,” in *Vite*, 22; *Lives*, 61 (my emphasis).

³⁷ Barbara Shapiro notices the inclination of the English society to credit ordinary people with the capacity to evaluate testimony and ascertain truth. “The Concept of ‘Fact’,” 7. Gradually, though, natural philosophers, for example Sylvius or Bacon, try to construct an identity for themselves, distinct from and superior to that of laymen and practitioners, whose knowledge was gathered through “bodily engagement with nature.” Even Bacon, who insists upon the importance of the mechanical arts for the knowledge of nature, argues in favour of the control exercised by the scientist in possession of a method for “disciplined observation.” Therefore, while “artisanal bodily experience was absorbed into the work of the natural philosopher [and institutionalized in the universities] at the same time that the artisan himself was excised from it.” Pamela H. Smith, *The Body of the Artisan. Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004), 185-6, 232-8.

Both scientists and art theorists deemed that a subjective, empathic reaction, guided by the senses instead of reason—as the common people’s judgement was considered to be—was unacceptable in light of the new scientific decorum:

[...] the ignorant, who want to judge only according to their own taste and inclination, not to any other reason. To say ‘I like this more’ is not a final sentence [because] taste doesn’t have eyes to see, nor intellect to judge.³⁸

The reaction of common people—described in terms of *stupore*, *meraviglia*, wonder—is more akin to the culture of curiosity than to the new scientific ambitions of the seventeenth century. It is triggered by accidental aspects, by superficial, novel or unusual features: in the case of cabinets of curiosities the wonders of nature and the apparent characteristics of the materials; in the case of painting, colour and “low subjects and plebeian accidents,” “different ridiculous accidents”³⁹ or “vile things, [...] filth and deformities.”⁴⁰ Such reaction does not, therefore, entail, and it often excludes (when deceit or ambiguity is involved) the understanding of the object seen.⁴¹

Writers on art frequently associated novelty with common people and the theme of public success.⁴² Novelty was linked to vain pleasures and was therefore believed to be inimical to the search of truth.⁴³ Bellori considered that common people “approve of novelty,” Passeri said that “new things please,” and in this he found the explanation for when a work was “agreed upon by everybody.” Consequently, novelties, which are decep-

³⁸ Passeri, “Life of Francesco Albani,” in *Vite*, 273.

³⁹ Passeri, about *bambocciate*, in *Vite*, 96, and about Cerquozzi’s painting, in *Vite*, 286.

⁴⁰ Bellori, “Life of Michelangelo Merisi da Caravaggio,” in *Vite*, 230; *Lives*, 185.

⁴¹ This association between wonder and ignorance of the causes, or even superstition, piety, or confusion is first made in the late Middle Ages by natural philosophers in the Universities. See Lorraine Daston and Katharine Park, “Wonder Among the Philosophers,” in *Wonders and the Order of Nature, 1150-1750* (New York: Zone Books, 2001), 109-33.

⁴² The novelties introduced by Caravaggio explain his success (*tanto applauso*), as well as the fact that “he compelled some artists of more elevated creative powers, nurtured in the best schools, to follow him”. Ibid., *Vite*, 230; *Lives*, 184.

⁴³ Virginio Cesarini writes about *l'infinito desio d'ogni piacere* born from the search for novelty for its own sake, which alienates from nature and brings vane pleasures. Cropper, *The Ideal of Painting*, 160.

tive⁴⁴—because they pertain to the world of the particulars⁴⁵—and pervert beauty,⁴⁶ were regarded as dangerous.

The negative connotations of novelty may have its origin in Counter-reformation discussions about images. Cardinal Gabriele Paleotti devoted a whole chapter to “Pictures that bring novelty and are unusual,” aimed not at iconographic innovations that infringe on the dogmas of the Church, but at the faults of invention: “novelty of any sort, even in profane things, should be regarded with great suspicion” because it represents “a sin [...] with respect to the eyes of the people.” This consideration, which is in accord with the vigilance of Counter-reformation theologians towards the effects of images upon the illiterate, was complemented and strengthened by remarks on the uneducated taste. Paleotti related an anecdote about Zeuxis, ashamed by the success of his “many new, unfamiliar, and astonishing details” meant to “dazzle everyone.”⁴⁷

In the seventeenth century, the “sin of novelty” was perceived as being all the more dangerous as it was seen in connection with the idea of the uncertainty of the knowledge derived from transient, unstable aspects. Only time can confirm and legitimate an act of knowledge (Poussin said, in one of his letters, that “Things of perfection must not be looked at in a hurry, but with time, judgement and understanding. Judging them requires the same process as making them.”⁴⁸), and allow for the “final sentence” of which Passeri spoke: “when time assists Truth, the latter becomes as clear as the light of the Sun, gains force, and with it judgements can be

⁴⁴ ... *fù gradito dall'universale, già che tutte le cose nuove piacciono; ... s'ingannò con questa novità*. Passeri, *Vite*, 73, 354. Bellori compares “a new idea [to a] phantom of architecture.” “Idea,” in *Vite*, 24; *Lives*, 62.

⁴⁵ Passeri in the “Life of Armano,” in *Vite*, 175, said that “he used certain accidents of light and shadow, which he presented as curious novelties;” Bellori, instead, appreciates Domenichino for not taking “advantage of reflections or incidental lights.” “Life of Domenichino,” in *Vite*, 323; *Lives*, 248.

⁴⁶ “Hence, regrettably, those who transform [beauty] with innovations deform it, since ugliness stays close by beauty, just as the vices can touch the virtues.” Bellori, “Idea,” in *Vite*, 23; *Lives*, 61-2.

⁴⁷ Gabriele Paleotti, *Discorso intorno alle imagini sacre e profane*, in *Trattati d'arte del Cinquecento fra Manierismo e Contrariforma*, ed. Paola Barocchi (Bari: Gius. Laterza & Figli, 1960), vol. II, 399-400; *Discourse on sacred and profane images*, introd. Paolo Prodi, trans. William McCuaig (Los Angeles: Getty Research Institute, 2012), 246.

⁴⁸ Poussin, Letter to Chantelou from March 20, 1642, *Lettres et propos*, 53.

made.”⁴⁹ In contrast, the judgements of the masses were thought to be unstable, “they don’t last for long these assessments made by the folk,” the classicist painter Albani thought.⁵⁰

The momentary impression or haste had no place in an act of judgement, nor in one of artistic creation: often, the slowness of an artist was proof of his profound understanding: Passeri said about François Duquesnoy that “the tardiness with which he worked came from the fact that he understood and knew many things.”⁵¹ The classicist artist Domenichino, mocked by his colleagues for being slow-witted, was instead described by Bellori as “spending most of his time in contemplation.”⁵² Contemplation and understanding were, therefore, opposed to haste and wonder that characterised the meeting of the uneducated public with a work of art. They provided, for a painter or his public, as well for as a scientist “the necessary quiet for raising the mind and keeping it always diligent in its labor.”⁵³

If Zeuxis became conscious of the superficiality of his inventions when these met with public acclaim,⁵⁴ the appraisal of the masses could even serve as an indicator for a low manner of painting:⁵⁵ the success of caravaggesque art was, for critics, an indication of its decadent nature. The *bambocciate* only “make the ignorant commoners laugh,”⁵⁶ another type of reaction unsuited for a connoisseur.⁵⁷ Thus, an artist should not be, according to seventeenth-century art theorists, eager to please the public:

⁴⁹ Passeri, describing the iconography of the vault painted by Domenichino and Agostino Tassi in the Patrizi-Costaguti palace, representing *Truth Revealed by Time*. “Life of Domenichino,” in *Vite*, 38.

⁵⁰ Francesco Albani, “Molt’ Illustre, ed Eccellentiss. Signor Padron Colendissimo,” in Carlo Cesare Malvasia, *Felsina pittrice. Vitte de’ pittori bolognesi* (Bologna: Forni Editore, 1967), vol. II, 171.

⁵¹ Passeri, “Life of Francesco Fiammingo,” in *Vite*, 112.

⁵² Bellori, “Life of Domenichino,” in *Vite*, 307-9; *Lives*, 240-1.

⁵³ Cesi, *Del natural desiderio*, 72; “Free Inquiry,” 34.

⁵⁴ *giudizio popolaresco*. Paleotti, *Discorso*, 400.

⁵⁵ Fréart de Chambray, a fierce critic of Michelangelo’s painting, wrote that *The Last Judgement* “has made him so very famous among simple folks.” “Foreword,” *Idée de la perfection*, [no pagination].

⁵⁶ Passeri, “Life of Guido Reni,” in *Vite*, 96.

⁵⁷ Fréart de Chambray, echoing the Aristotelian hierarchy between the tragic and the comic, said that “it is easier to provoke laughter than admiration.” *Idée de la perfection*, 16. Laughter is a sign of “little knowledge” in the case of painters as well: “the Italian youth laughs without restrain” at the “much needed studies.” Passeri, “Life of Nicolas Poussin,” in *Vite*, 326.

[...] because he who operates with noble thoughts, founded in scientific reasoning, doesn't have to explain himself in front of the ignorant and the populace, but must address those who know and understand the most vivid sentiments of an erudite endeavour.⁵⁸

The French painter and art theorist Charles-Alphonse Dufresnoy, close to Bellori during his long stay in Rome, wrote that "he who hopes for his work to be well received by the fickle crowd, harms himself and pleases no-one."⁵⁹ Naturalist painting fell in this error because, like eloquence, it was based upon the "skill in pleasing."⁶⁰ The issue of public success, the *entrée en scène du spectateur*, was the nodal point for Marc Fumaroli's reading of the Roman artistic scene: an artistic scene marked not by the Baroque-Classical stylistic dichotomy, but by the distance between "the connoisseurs allied to the artists and the artists enslaved by their spectators."⁶¹ We find a confirmation of this view in the scientific world: the prince of the Accademia dei Lincei, Federico Cesi, distinguished between vulgar (*dilettatio semplice*) and a superior kind of delectation (*pittura filosofica: piacer di molta utilità*) that painting can arouse.⁶² The first one was called "a vane practice," recalling the frequent depreciative remarks towards painters in search of the vain glory of public success.

The tension between "scientific perfection" and "a fallacious fame or [...] rumors originating among the ignorant common people, impressed by

⁵⁸ Passeri, "Life of Domenichino," in *Vite*, 44.

⁵⁹ Charles-Alphonse Dufresnoy, *De Arte Graphica*, ed. and trans. Christopher Allen, Yasmin Haskell and Frances Muecke (Genève: Librairie Droz, 2005), 204-5. Dufresnoy lived in Rome from 1633 to 1653. His poem, *De arte graphica*, was published after his return to France, in 1668, and is considered to be "the oldest and most complete testimony of the first formulation of Bellori's 'academic' theories," especially since his ideas don't seem to have changed much from his Roman years to the publication of the text. Giovanni Previtali, "Introduzione," in Bellori, *Vite*, XVIII and n. 3. For Dufresnoy's dependence on Bellori's ideas see also Henry Keazor, "Ad artis leges valde proficua – Natura e Antico in Dufresnoy e Bellori," in *L'idéal classique. Les échanges artistiques entre Rome et Paris au temps de Bellori (1640-1700)*, edited by Olivier Bonfait (Paris: Somogy éditions d'Art, 2002), 29 and n. 15.

⁶⁰ Bellori, "Idea," in *Vite*, 22; *Lives*, 61.

⁶¹ Marc Fumaroli, "Rome 1630: entrée en scène du spectateur," in *Roma 1630. Il trionfo del pennello*, edited by Olivier Bonfait (Milano: Electa, 1994), 69, 81.

⁶² "Philosophical painting. Direction and study of painting, which is not just simple delectation, a vane undertaking, but benefits a live and efficient discipline and is of most useful pleasure." Federico Cesi, *Zibaldone*, in *Opere scelte*, ed. Carlo Vinti and Antonio Allegra (Perugia: Fabrizio Fabbri Editore, 2003), 87.

those who know how to make an outward show”⁶³ is just as crucial for Cesi as it will become for art theorists. Moreover, Cesi’s consideration about painting is surprisingly similar to his view on philosophy. Throughout his discourse on the natural desire for knowledge, he defines philosophy in terms of its *buono et utile* outcome, in opposition to *pompose e vane* undertakings.⁶⁴ This is a key argument for our reading of Seicento art theory—produced in an ambience of epistemological fears towards knowledge based on visual information—as visual epistemology.

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⁶³ Cesi, *Del natural desiderio*, 78-9; “Free Inquiry,” 34.

⁶⁴ Cesi, *Del natural desiderio*, esp. 70.

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ICONOGRAPHY, NARRATIVITY, AND TELLABILITY IN PICTURES

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Despite an increasing interest in narratological issues, narratology as a specific research area is still mostly predominant among literary analysts, linguists, and semioticians in the humanities during the last 50 years. Most of the time, storytelling has been associated with verbal discourses, whether written or oral, where, briefly put, events or situations are represented in a temporal order. Pictorial signs and other non-verbal semiotic resources have received comparably little attention. Among art historians, on the other hand, the narrative aspects of visual art have of course constituted a prevalent focus of interest, though chiefly from a descriptive, interpretative, and historical point of view.¹ Still, attempts to elucidate the theoretical fundaments of visual narrativity, esp. in static pictures, have scarcely occurred, compared to the vast amount of discussions concerning the rendering of space and perspective.² Not least because of their dependence on

¹ See e.g. Erwin Panofsky, *Studies in Iconology* (New York: Harper Torchbooks, 1939/1962); Richard Brilliant, *Visual Narratives: Storytelling in Etruscan and Roman Art* (Ithaca: Cornell UP, 1984); Marilyn Lavin Aronberg, *The Place of Narrative: Mural Decoration in Italian Churches, 431-1600* (Chicago: University of Chicago Press, 1990); Jules Lubbock, *Storytelling in Christian Art from Giotto to Donatello* (New Haven/London: Yale University Press, 2006);

² For some exceptions in this respect, see Göran Sonesson, 'Mute Narratives: New Issues in the Study of Pictorial Texts.' In *Interart Poetics: Essays on the Interrelations of the Arts and the Media*, edited by Ulla-Britta Lagerroth, Hans Lund, and Erik Hedling, 243-51. Amsterdam: Rodopi, 1997; Emma Kafalenos, 'Implications of Narrative in Painting and Photography', *New Novel Review* 3 (1996): 53-66; Bence Nanay, 'Narrative Pictures.' *Journal of Aesthetics and Art Criticism* 67.1 (2009): 119-29; Michael Ranta, 'Stories in Pictures (and Non-Pictorial Objects): A Narratological and Cognitive Psychological Approach', *Contemporary Aesthetics* 9 (2011); Wendy Steiner, 'Pictorial Narrativity.' In *Narrative across Media: The Languages of Storytelling*, ed. Marie-Laure Ryan (Lincoln: University of Nebraska Press, 2004), 145-177; Werner Wolf, 'Pictorial Narrativity.' In *Routledge Encyclo-*

a temporal framework, narrativity in film and television, however, has received comparably more attention.³

In this paper, I shall discuss some possible criteria of narrativity with regard to pictorial objects, and I will argue that pictorial works, i.e. static pictures, may express or imply narrative structures of various kinds. Further, I intend to focus upon the narrativeness of pictures, their "tellability" qua stories – that is, what makes them worth telling at all, or their noteworthiness – and its relation to storytelling in general.

I

At least from a common sense point of view, pictures are frequently considered to be depictions. Accordingly, accounts of pictorial representation have frequently been concerned with the general nature of depiction (e.g. of singular objects, persons, landscapes, and states of affairs). Moreover, related concepts such as "portrayal", "symbol", "expression", "fiction", and "imagination" have been (more or less thoroughly) examined, and especially one issue has puzzled numerous scholars, namely how flat pictures can represent space, perspective, or three-dimensional objects. Still, the question as to how static pictures are capable of representing actions and temporal sequences has been treated without comparable penetration. This relative lack of theoretical interest is somewhat surprising, since visual narratives are undoubtedly occurring in most historical and cultural contexts. On the other hand, this neglect seems to some extent understandable. Usual conceptions of pictorial representation appear to be irreconcilable with the very idea of narration as temporally and sequentially structured.

Now, the exact nature of what characterizes narrativity is still widely discussed within contemporary research. A minimal requirement for something being a narrative has e.g. been claimed to be "the representation of at least two real or fictive events or situations in a time sequence, neither of which presupposes or entails the other", as put by one of the most promi-

pedia of Narrative Theory, edited by David Herman, Manfred Jahn, and Marie-Laure Ryan (London: Routledge, 2005), 431-435.

³ See e.g. David Bordwell, *Narration in the Fiction Film* (Madison: U of Wisconsin P, 1985); Sarah Kozloff, *Invisible Storytellers: Voice-over Narration in American Fiction Film* (Berkeley: University of California Press, 1988); Seymour Chatman, *Coming to Terms: The Rhetoric of Narrative in Fiction and Film* (Ithaca: Cornell UP, 1990); Edward Branigan, *Narrative Comprehension and Film* (London: Routledge, 1992).

nent narratologists Gerald Prince.⁴ No particular requirement thus seems to be imposed on the expression side, which opens up for the possibility of stories being enacted in media other than language. Quite frequently, narrativity has been delineated from non-narrative texts (e.g. arguments, explanations, or chronicles) by a set of defining (essential) criteria, such as temporal sequentiality, emplotment, eventfulness, causality or causal agency, and particularity (rather than generality). Since all of these features are not necessarily found together, narrativity may be regarded as prototype-based category with fuzzy boundaries, centering on clear-cut "stories". Narratives, one could argue, may be intertwined with or at least include non-narrative texts or manifested in various genres or media, and meaning bearers of various kinds may be more or less narrative. Narrativity can thus be seen as a matter of degree rather than kind. From this perspective, some narratives are more narrative than others.

Accordingly, apart from proposing more or less extensional definitions, some scholars have, also adhered to more scalar senses of narrativity, i.e. degrees of "narrativeness" of narratives. Thus, as suggested by Prince, one should distinguish between "narrativehood", i.e. some kind of object or entity (defined as outlined earlier) and "narrativeness", i.e. rather a quality, a set of traits associated with storytelling.⁵ Originating from analyses of conversational storytelling, the concept of "tellability" has been applied to numerous other kinds of narratives.⁶ Presuppositions for or conceptually interrelated to the tellability of a story are especially features such as eventfulness, or changes of state, and the deviation of event or action sequences from pre-established expectations. Alternative notions such as suspense, curiosity, and surprise, unusualness, switches and contrasts, violations of certain orders (political, social, or moral), breaks with canonical scripts or schemas, sudden plot switches have been proposed by various narratologists to pin down the features which contribute to the tellability of stories.

At the first glance, narratives are most favourably manifested by "genuine" temporal arts, such as poetry, drama, literature in general, and motion pictures, which by nature have a sequential order. Pictures, on the other hand, are seemingly static by nature, only capable of representing

⁴ Gerald Prince, *Narratology: The Form and Functioning of Narrative* (Berlin: Mouton, 1982), 4.

⁵ Gerald Prince, 'Narrativehood, Narrativeness, Narrativity, Narratability', in *Theorizing Narrativity*, eds. John Pier and José Angel Garcia Landa (Berlin: de Gruyter, 2008): 19-27.

⁶ Jerome Bruner, 'The Narrative Construction of Reality', *Critical Inquiry* 18 (1991): 1-21.

timeless situations or at best single, momentary instants (thus the notion "static picture" in itself would appear to be tautological).

Well-known accounts on these lines have been put forward by, for example, Lord Shaftesbury and, perhaps most notably, Gotthold Ephraim Lessing. According to Lessing, who as early as 1766 attempted to characterize the distinctive features of painting vs. poetry qua signs, the representation (or "imitation") of actions does primarily (and best) occur in poetry.⁷ The claims put forward by Lessing are thus that painting essentially is an art of space, while poetry is an art of time, the latter being privileged in narrating actions, that is, the succession of events in time. To some extent, painting is capable of rendering actions, though only indirectly through suggestion, namely by choosing the most pregnant, arrested movement in an imagined action sequence. Despite its initial plausibility, however, this view has been criticized on a number of grounds, a full discussion of which lies beyond the scope of this article.⁸ Suffice to say, that the representation/perception of actions in pictures does not appear to be impossible per se, but demands more effort, it is less 'convenient' compared to poetry. In general, it seems, pictorial media require recipients, which are more cognitively active in the reconstruction of narratives compared to verbal texts. For example, pictorial media seem to lack narrative precision compared to verbal ones, for example, when it comes to represent characters' internal states and motivations.

Static pictures also seem only to suggest changes, which the viewer has to assume, rather than by explicitly representing the actual changes. It could also be argued that pictorial media can represent so-called disnarrated elements, such as alternative courses of action or characters' unfulfilled intents, only to a very limited degree.⁹ On the other hand, also literary works contain ellipses, unstated facts or assumptions, gaps, points of indeterminacy, and so on, which require mental acts on the part of the reader in order to fill in the perceived patterns. Indeed, all texts include gaps and demand active efforts of meaning or coherence making. In this respect, then, the difference between the narrative-supporting or narrative - enabling power of verbal language and pictures seems to be rather a matter of degree. In spite of these indeterminacies in pictures, it is certainly not true that 'anything goes', in the sense that no constraints are imposed by the picture on the story conveyed. For instance, the production as well as

⁷ Gotthold Ephraim Lessing, *Laocoon: An Essay on the Limits of Painting and Poetry*, trans. by Ellen Frothingham (New York: Noonday, 1766/1957).

⁸ Cf. W.T.J. Mitchell, *Iconology: Image, Text, Ideology* (Chicago: U of Chicago P, 1986): 94-115; Ranta, *Stories in Pictures*.

⁹ See Wolf, 'Pictorial Narrativity', 434.

the reception of stories in general are based upon numerous unstated general 'lifeworld' assumptions, shared by both storyteller and recipient, including epistemic, normative, and ontological beliefs, as well as acquaintance with various forms of story construction, genres, etc. In addition, of course, throughout the history of art pictures have been produced which presuppose the beholder's previous acquaintance with verbally communicated stories. In media involving static images, many works are indeed dependent on language-based stories, such as the famous Hellenistic sculpture group "Laocoön and his Two Sons" (probably first century C.E.), discussed as exemplary *qua* pictorial narrative by Lessing himself.

Now, as already mentioned, art historians have of course been concerned with pictorial forms of storytelling, though usually almost taking these for granted without any thorough elucidation of its theoretical and cognitive basis. Erwin Panofsky, however, being highly influential in the modern academic study of iconography, may be credited for having elaborated interpretational methods, which at least touch upon the narrative aspects of pictures, most notably applied to Renaissance art. According to Panofsky, a fruitful investigation of works of art should be striving for an analysis of their meaning-aspects (in contradistinction to solely or primarily their formal aspects). These aspects occur on several levels.¹⁰ First, we have a pre-iconographic level – the depiction of human beings, animals, natural or artificial objects, etc. The identification of gestures, expressive qualities, and simple actions, presupposing insight into the manner in which objects and events historically have been formally expressed, would also belong to this level. Additionally, practical familiarity with those objects and events would be needed, i.e. 'lifeworld' experiences in general.

A second interpretative level – the iconographical analysis – consists of identifying the subject matter or the theme of the artwork. An iconographical interpretation would demand an identification of the depicted agents as certain persons (for example, John the Baptist or Laocoon) or maybe as personifications with certain attributes and would, if necessary, refer to relevant myths or tales (i.e. complex action sequences) and presuppose acquaintance with verbally transmitted stories. A third – iconological – type of interpretation would treat the artwork as symptomatic of a cultural climate or worldview, that is, formulate statements suggested by the work in this respect. In Panofsky's view, such a so-called iconological meaning level is "apprehended by ascertaining those underlying principles which reveal the basic attitude of a nation, a period, a class, a religious or

¹⁰ See e.g. Erwin Panofsky, *Studies in Iconology* (New York: Harper Torchbooks, 1939/1962).

philosophical persuasion – unconsciously qualified by one personality and condensed into one work... [T]hese principles are manifested by... both 'compositional methods' and 'iconographical significance'."¹¹

The exact nature, however, of pictorial storytelling (in contrast to e. g. the rendering of space and perspective), i. e. the various means used by the artist in order to convey them and the presuppositions needed on part of the beholder in order to understand them, is analyzed to a very limited extent. It should be pointed out that Panofsky by no means seems to be an exception in that respect. Indeed, among art historians, as well as aestheticians, problems of narrativity in pictorial art seem hardly to have received any continuous and thorough attention compared to those issues mentioned earlier.

II

However, some examples may show in which ways pictures may tell stories in quite straightforward ways. As to Western art, it seems obvious that numerous (more or less clear-cut) examples of pictorial storytelling can be found, at least as early as in ancient Egypt, Greece, and Rome as well as in the Middle Ages, the Renaissance, and so forth (and numerous examples from e.g. the Middle East or Asia could unquestionably be accounted for). First, we have numerous historical examples where static, monoscenic, and quite distinct pictures are linked in narrative series having a fixed reading order, frequently horizontal or vertical. Modern instances of this kind of pictorial narration can be found in e.g. comics and manga cartoons, but do actually occur as early as in antiquity and the Middle Ages (e.g. scenes from the life of St. Ambrose on the back of the altar in S. Ambrigio, Milano, c. 850, Giotto's Passion scenes in his frescoes in the Arena Chapel, c. 1306 or Gaudenzio Ferrari's Passion scenes in S M delle Grazie, Varallo, c. 1513).

While pictorial storytelling by means of picture series still is quite common, we can also find single pictures showing different events and persons in the same pictorial space, sometimes called "continuous narratives", cases of "simultaneous succession", or "polyphase pictures". Various phases in an event series are thus represented simultaneously, though sometimes they are still separated by architectural features or the like, giving them a more determinate narrative structure. Such forms of pictorial narration can also be found throughout history, although they have gradually been abandoned over the last few centuries (e.g. the epic-

¹¹ Ibid, p. 7.

documentary representation on the column of Trajan of the emperor's war against the Dacians, c. 101-106 C.E. or the Bayeux tapestry, showing the Norman invasion of England by William, Duke of Normandy, c. 1070s).

Now, what about single pictures, where an entire story has been compressed into a single scene (sometimes called "monophase pictures")? We could of course adhere to Lessing's view according to which pictorially rendered stories in monophase works necessitates the representation of a significant, frozen moment being part of a wider story structure. To which extent, however, does pictorial narrating presuppose the beholder's previous acquaintance with verbally communicated stories? In many cases, pictures are certainly parasitic on language-based stories, such as the famous Hellenistic sculpture group "Laocoon and his Two Sons" discussed by Lessing. The pregnant 'moment' rendered here consists of the death struggle between the priest Laocoön and his two sons with two snakes, sent by Athena as punishment for his attempt to warn the Trojans from taking a wooden horse, having Greek warriors hidden inside, into the city. Thus, a beholder acquainted with the relevant narrative background might very well see this sculpture as a significant or crucial moment within a narrative sequence, stretching backwards in time as well as into the future, i.e. where Laocoön and his sons die, and the Trojans become defeated by the Greek. However, even without any knowledge of the Laocoön myth, most viewers would immediately recognize the scene as an antagonistic life-and-death struggle, filled with considerable despair, between (defensive) humans and (violent) animals. Drawing on their knowledge of humans' shared lifeworld, interpreters would be able to reconstruct at least a hypothetical narrative structure from the images, leading to the defeat of the human agents involved.

III

Within cognitive science, the importance of narrative-like structures for cognitive processing has been increasingly stressed during the last few decades. For example, according to cognitive psychologists such as Jerome Bruner and Roger Schank, we acquire a large amount of culturally based event and scene stereotypes (along with idiosyncratic variations) through previous experiences, either due to direct familiarity with instances of events, or due to our acquaintance with written, oral, and of course pictorial descriptions of them (e.g. religious or mythological tales).¹² For

¹² For example, Jerome Bruner, *Acts of Meaning* (Cambridge, Mass.: Harvard UP, 1990); Ibid., 'The Narrative Construction of Reality'; Roger Schank, *Tell Me a*

these theorists, stories support or enhance intelligence itself. According to Schank, intelligence largely involves the storage and retrieval of scripts, that is, generalized sets of expectations about what will happen in well-understood situations. On various levels of abstraction, story-based memories arise as the result of our attempts to preserve "the connectivity of events that would otherwise be disassociated over time".¹³ Culturally shared stories – or stories in general – occur frequently in highly abbreviated form, as "skeleton stories" or as "gists".¹⁴ Thus, condensed utterances can remind us of possible gists, which are then sometimes extended into full-fledged narratives.

It could be claimed that pictorial material often functions in a similar way. As mentioned previously, pictures may have a quite explicit or full-fledged narrative appearance, but sometimes even highly condensed or indeterminate pictures may trigger the emergence of narrative interpretations. These may be idiosyncratic, but they may also be intersubjectively shared or created. Indeed, the production of visual works of art or pictures in general is influenced by the demands and needs of a certain public. The producer responds to these demands and offers opportunities for the beholder to bring his or her background experience (including familiarity with artistic conventions) to bear on the work. Both storyteller and recipient share numerous unstated assumptions concerning causal relationships between events, concepts of class, gender, age, social roles, etc., general cultural knowledge, acquaintance with various action scripts, and so on. Moreover, narratives also contain numerous normative assumptions or claims (e.g. ethical, political, or epistemic ones). The beholder interprets a work of art (within a given context, e.g. historical, social, institutional, and/or liturgical ones) in accordance with this background knowledge which the work has been adapted to, and narrative gaps in the pictorial material are 'filled in' with the necessary connecting details by the beholders. The generation of pictorial narrativity as such an interactive relationship could perhaps be schematized as follows:¹⁵

Story: Narrative and Intelligence (Evanston, IL: Northwestern UP, 1995); Ibid., *Dynamic Memory Revisited* (Cambridge: Cambridge UP, 1999).

¹³ Schank, *Tell Me a Story*, 124.

¹⁴ Ibid., 188.

¹⁵ This schema is a modified adaptation of a general model of communication as outlined in Göran Sonesson, 'The Signs of Life in Society – and Out of It'. *Trudy po znakyvym sistemam/Sign System Studies* 27 (1999): 96.

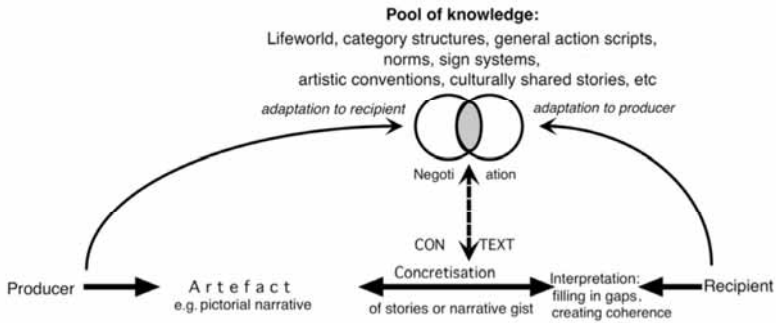


Fig. 11: Pictorial Narrativity as the Interaction between Producer and Recipient

Generally speaking, stories contribute to the human endeavour to reduce the unpredictability of worldly changes, and human existence in particular, attempting to establish order in our experiences of transitoriness and existential vulnerability. Apart from many other functions, narratives may often be created as well as appreciated as fundamental means for organizing human experience and for constructing models of reality, as means for creating, consolidating, and transmitting cultural traditions, belief systems, individual as well as group identities, and as scenarios for thought experiments. It seems hardly controversial to claim that narratives frequently, or even basically, function as significant cognitive instruments for organizing and stabilizing our various experiences, creating coherence and intelligibility within the vicissitudes and complexities of our existence. Many pictures and other visual artworks have been produced in order to modify, challenge, or even reject more or less established worldviews. Pictorial narratives can be instrumental in altering and adapting worldviews in light of the resulting states of disequilibrium, due to external circumstances, whether epistemic, social, ideological, natural (e.g., climate change or epidemics), or political (wars, invasions) sources of change.

Now, as the cognitive anthropologist Dan Sperber has argued, certain cultural products are more appealing than others and spread almost like epidemics because they resonate with the biological makeup of our brains and our innate dispositions.¹⁶ Those dispositions have evolved through millions of years of humans' interaction with our animate and inanimate environment. Most notably, we are mentally predisposed to be interested

¹⁶ Dan Sperber, *Explaining Culture- A Naturalistic Approach* (Oxford/ Cambridge, Mass.: Blackwell, 1996).

in other agents, be they humans, animals, or supernatural entities. Because man is a social animal, our perception of the body language and facial expressions of other people and our ability to model the minds of others based on these clues have been all-important for our survival and social life. In addition, many aspects of perception work relatively independently of language, having to do with our sense of balance, perception of colour and stimuli in general, which underpin our arousal and hormonal activation in strongly emotion-evoking episodes. It is in these respects, I believe that the tellability of pictorial narratives qua pictures may become further increased.

In concluding this article, some basic aspects or ingredients of tellability could be mentioned which often seem to be manifested in pictorial and other forms of storytelling and generally contribute to enhancing the attractiveness or interestingness of stories. First, humans seem to have a fundamental preference for moderate variation. While familiarity creates positive feelings, fostering the tendency to repetition and to the conservation of form and content, habituation also diminishes salience over time, lack of arousal, and then lack of conscious attention. Thus, to revive salience and intensify aesthetic experiences, estrangements or variation from previous experiences will become more attractive. These assumptions seem to have been corroborated by a number of studies within experimental psychology (e. g. by D. E. Berlyne, George Mandler etc.). Moreover, they seem to be in line with previously mentioned aspects of tellability proposed within narratology, such as breaks with scripts, schemas, or other orders.¹⁷ It should be noted, though, that the urge for novelty and salience varies from individual to individual, over the life cycle and is mood dependent. Second, goal setting is one of the central elements in basic storytelling, not least concerning fundamental needs such as survival, protection, health, sexual reproduction, wealth, environmental control – and intrinsically the avoidance of pain and the maximizing of pleasure. As social animals, we are utterly interested in interpersonal relationships and bonding since our childhood. Our innate dispositions cue our liking for stories about the attachment between children and parents, about romantic relations between adults, fighting, aggression, and bonding with brother-

¹⁷ Daniel E. Berlyne, *Aesthetics and Psychobiology* (New York: Appleton-Century-Crofts, 1971); Ibid., *Studies in the New Experimental Aesthetics - Steps Toward an Objective Psychology of Aesthetic Appreciation*. (Washington, D.C.: Hemisphere Publishing Corporation, 1974); George Mandler, *Mind and Body-Psychology of Emotion and Stress* (New York/London: W. W. Norton & Company, 1984).

in-arms, as well as themes concerned with social exchange and morality in general. These basic themes, although culturally manifested in manifold ways, certainly seem to be some of the most prominent ones in pictorial storytelling, contributing to their tellability. Such assumptions would of course need a far more detailed elaboration.

However, one example of tellable pictorial storytelling might illustrate some of the claims here made. Jacques-Louis David's painting "Oath of the Horatii" (1784) depicts a crucial scene from a Roman legend about a dispute between two combatant cities, Rome and Alba Longa. Three brothers from a Roman family, the Horatii, intend to end the war by fighting three brothers from an Alba Longa family, the Curiatii. In the painting, the first ones salute their father, holding their swords out for them. The mother and sisters are shown to the right, with clear expressions of grief. Their despair arises primarily because one sister is engaged to one of the Curiatii and another is a sister of the Curiatii, married to one of the Horatii. According to the legend, upon defeat of the Curiatii, the remaining Horatius returns home to find his sister weeping over the death of her fiancé. Thus, he kills her, upset over her mourning for an enemy's death.

Now, to educated contemporary beholders, the significance of this psychologically charged theme was obvious, as well as its political implications that made the painting an immediate success. The legend as such was well known to many citizens in Paris at that time, primarily due to the revival of the play "Horace" (by the 17th century dramatist Pierre Corneille), which directly seems to have inspired David himself. The painting was commissioned by Louis XVI, as an allegory about loyalty to the state and to the king himself. However, in prerevolutionary France, the painting became increasingly interpreted as an expression of loyalty to the state in general, rather than the family and ecclesiastical institutions. A political hero has to forsake his private happiness and family ties in order to be able to sacrifice himself for the nation and the political cause.

This picture, just like many others, expresses some of our most fundamental concerns, touches upon viewers' existential concerns, their fears and hopes, and thus provide narrative structuring for the instability and vulnerability of human existence, thus making them tellable or noteworthy. These pictures tell stories, more or less explicitly, about the world (or some of its aspects) and about possible or recommended ways of acting and interacting. In Schank's terms, they function as narrative gists - gists that, expanded by the beholder into more full-fledged stories, together with many other forms of storytelling circulating in the culture, are inseparably

intertwined with our everyday conceptions of lived experience, thus making them worth telling.¹⁸

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¹⁸ Schank, Tell Me a Story, 170-77; cf. also Roger Schank, 'Interestingness: Controlling Inferences.' *Artificial Intelligence* 12 (1979), 273-97.

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VOIR OU LIRE: MAPS AS ART—ART AS MAPS

KAROLINA UGGLA

The ontological status of maps has been discussed in the publication accompanying an exhibition *Cartes et figures de la terre* at the Centre Pompidou in 1980. This essay will discuss the ideas behind some of the articles and their relation to the illustrations in this book in order to point out conceptions of the map as image. The exhibition presented a number of different and sometimes contradictory views on cartography: historical maps and globes, late 20th century art, and state-of-the-art cartographic technology. The heading “voir ou lire”—see or read—relates to different approaches, attitudes and arguments in the publication discussing the visual properties of maps, mapping, cartography and graphics.¹

The institutional origin of the exhibition project *Cartes et figures de la terre* was CCI (Centre de creation industrielle), whose main responsibility from the outset was the decorative arts: interior architecture, graphic design and industrial design. The centre also played a public educational role, with the ambition to reduce all academic distinctions between the arts (as in the French definition *arts mineurs*, the decorative arts vs. *arts majeurs*).²

¹ Jean-Loup Rivière, ed., *Cartes et figures de la terre* (Paris: Centre Georges Pompidou, 1980). The publication is 479 pages, with at least as many images in colour or black and white, 75 essays by 59 different authors. The exhibition (May 24 and November 17 1980) project involved collaborating institutions in and outside Europe. The title chosen for this essay—*voir ou lire—see or read a map*, is the title of an essay by Jacques Bertin, French semiotician and the author of *The Semiology of Graphics*, 1967 in French.

² Bernadette Dufrêne, “Le CCI, du Musée des arts décoratifs à Beaubourg (Entretien de Bernadette Dufrêne avec François Barre),” in *Centre Pompidou, trente ans d’histoire*, ed. Bernadette Dufrêne (Paris: Éditions du Centre Pompidou, 2007), 87. The CCI was installed in 1969, as one of two departments besides MNAM Musée national d’art moderne at the Beaubourg. The two were merged in 1992.

Therefore, maps, situated between graphic communication and science, must have been a suitable choice of theme for an exhibition production of the CCI. In *Cartes et figures de la terre* the design and beauty of crafted objects was promoted, also those made with the aid of computers. An example of this approach can be found in the preface of the publication. Here the president of *Centre Georges Pompidou*, Jean-Claude Groschens, states that the mere fact that maps exist in the junctions between technology, graphics, communication science and art make them a natural choice of theme for the CCI.³

Maps constitute a category of images that, besides their functional purposes, have gained widespread interest as objects of study, as aesthetic objects and as symbols of knowledge.⁴

It lies within the nature of a map to in one way or another relate to the world outside the piece of paper (or equivalent) on which it is printed, drawn or painted. In artworks, experimenting with map elements this relation can be reversed, still playing with, or imitating a supposed relation to “the real” or a fictitious real. For a geographical map to fulfil its basic functions, to *work*, we need to be able to rely on its *truth* to the *world* it is set out to represent. Conceptions of cartographic truth have naturally varied in different historical contexts. Critique of cartographic truth claims has risen in the wake of deconstruction. An ambitious publication like *Cartes et figures de la terre*, dedicated to maps and depictions of the earth, is an interesting point of departure to investigate the demarcations between conceptions of art and maps at a period in time that had seen great technological as well as philosophical advance.

Structure of the publication

The primary focus will mainly be a selection of introductory essays and statements where attitudes and approaches on the subject of the nature of the map as visual object are discernible. In an extensive publication like the one discussed here, there will always be a large number of perspectives that must be left uncommented. Therefore, this will be no overview of the publication in its entirety, nor is this text any attempt of reconstructing the

³ Jean-Claude Groschens, “Avant-propos,” in Rivière, *Cartes Et Figures De La Terre*, iii.

⁴ Gottfried Boehm, *Wie Bilder Sinn erzeugen: die Macht des Zeigens* (Berlin: Berlin University Press, 2007), 114–115. Boehm here writes on the concept of the model, and that certain models have become well-known symbols of science and knowledge, besides what they are to represent. Examples among others are the nuclear model, the DNA spiral and the terrestrial sphere.

exhibition as such. What should be tried here is to approach the question of maps by discussing a representative selection of articles from the book. Before doing so, it should be mentioned that the catalogue is no exhibition companion and does not follow a strict chronologic or thematic plan (nor does the exhibition), as being stressed in the editorial foreword.

Initial statements in the catalogue are made by the team behind the exhibition: Jean-Paul Groschens, president of the Centre Georges Pompidou, Jacques Mullender director of the CCI, the exhibition curator Giulio Macchi and the publication editor and director of education at the *Centre Georges Pompidou*. The catalogue is, apart from the introductory "Approaches", consisting of three larger sections, each divided into four chapters. The twelve preambles introducing every chapter bear the signature of Rivière, the catalogue editor. These short preambles are of great interest, introducing and summing up the thoughts of each chapter. Here such themes and tropes as the *terra incognita*, the map in scale 1:1 and the code are being addressed.

In his text, Jacques Mullender, head of the CCI, stresses the imaginary dimension of the map, as well as its daily use. He states that mapping the third dimension has become possible thanks to modern cartography. With the third dimension, he refers to the mapping of the deep sea, the airways, and the underworld. However, he says that the current state of cartography enables the mapping of a fourth dimension, that is, *dynamics* and *correlation*. This enables the forecasting of the climate and of earth ruptures.⁵ As we have seen about 30 years later, the ability to predict climate change for instance has not influenced the efficiency of political decisions in the same manner. Eventually Mullender expresses a nostalgic and romantic view on the craft of the early cartographers as "symbiosis between the work of a scientist and an artist, engraver or painter." He also claims that, since modern cartography is collaborative, fantasy and poetry have had to give way to perfection and exactitude.⁶ Since Mullender is the director of the CCI, the design and the beauty of crafted objects is promoted, even if they are made with the aid of computer technology.

Rivière, in the editor's overall introduction, stresses the differences and similarities between the publication and the exhibition, respectively. Here he writes that neither the publication nor the exhibition was meant to follow a strict chronologic or thematic plan. The division into three large

⁵ Jacques Mullender, "Connaissance et surveillance de la terre," in Rivière, *Cartes et figures de la terre*, viii–x.

⁶ Ibid. "La cartographie est avant tout un moyen d'expression graphique. La beauté des cartes anciennes réside dans l'harmonieuse symbiose entre les travaux du savant et de l'artiste, graveur ou peintre."

sections was to be seen as “viewpoints”, according to Rivière. The ambitions were truly cross-disciplinary, mixing history, philosophy, science and technology. Rivière also reveals that he had the ambition with the catalogue *synoptic*. Offering a broad range of impressions from the field of cartography, the publication should serve as a point of departure for dreams, fantasies and imagination. It is not to be regarded as an exhibition companion or complement, but a publication in its own right.⁷

The *approches*-section serves as an introductory as well as a closing discussion. One impression is that the statements that open the discussion represent quite different, even ambiguous or contradictory standpoints. Obviously, they emanate from different disciplines, divided into three overlapping parts: technology, theory and non-European maps.

The three main sections of the publication, apart from the introductory *Approaches* and forewords and opening remarks are by the exhibition team and the museum management.

The first section (*Voyager*) explores the map as a sign system and how it “manages” the relation between the territory and the traveller. This section is perhaps a more theoretical one, with themes like terra incognita, cartographic errors and maps without territories, that is maps of fictitious worlds, like Thomas More’s island of *Utopia* (1516), Madeleine de Scudéry’s “Map of Tenderness” (published in the novel *Clélie* in 1654), Robert Louis Stevenson’s *Treasure Island* (1883), and the labyrinthine New York that appears in the H.P. Lovecraft short story “He” from 1926.

In the second section (*Rélever*), the focus is on ways of translating the reading and the interpretation of the territory to fit the map: latitudes, longitudes and projections. This section is richly illustrated, representing cartographic and navigational techniques from a historic as well as a current perspective.

The third and last section (*Décider*) treats the map as an active tool—even a weapon in conquest - to control, to lead, to show and to preach knowledge and science. This section is also richly illustrated. For instance, Öyvind Fahlström’s *World Map* from 1972 introduces the section, which is filled with military maps, satirical maps, maps of fortifications, economical maps (land registers), environmental maps and maps in for instance newspapers and education.

⁷ Jean-Loup Rivière, “Préambule,” in Rivière, *Cartes et figures de la terre*, xv.

Deleuze's influence

The title page of the *approches*-section opens with an quote from Gilles Deleuze's and Félix Guattari's text *Rhizome*, (1976), a text that would later be included in their major work *A Thousand Plateaus*, which was published in French in 1980.⁸ The complex poststructuralist theories of Deleuze and Guattari and the concept of the *rhizome*—de-centralized, self-generating networks—must have been of immediate current interest at the time of the exhibition planning in 1980. Deleuze and Guattari's use of fanciful concepts like *map*, *tracing* and *deterritorialization* must have been convenient to anyone putting together a publication on maps like *Cartes et figures de la terre*. As to illustrate the dissemination of concepts beyond representation, the map is here conceived of as a material object that can be "torn, reversed, drawn on a wall or *conceived of as a work of art*".⁹

Apart from the epigraph, Deleuze and Guattari's theories are not manifest in the publication. Though they are mentioned by mathematician Pierre Rosenstiehl in his essay "Les mots du labyrinthe", on the concept of the labyrinth. He writes that *Rhizome. Introduction* (1976) was "a revolutionary little book".¹⁰ Still, a result of the writings of Deleuze and Guattari may have been the inclusion of a text by the psychiatrist and educationalist Fernand Deligny (1913-1996). His methods had been critical in Deleuze and Guattari's writing on the concept of the *rhizome* and the *map*.¹¹ In their words, mapping is similar to "the gestures and movements of an autistic child, combining several maps for the same child, for several children."¹² Deligny used transparent tracing paper and a map of the room to capture the movements in a room of autistic children. Deligny and his team lived in close interaction with these children, observing their everyday habits and movements. These children did not communicate with speech. When adding layers of tracing-paper with lines representing movements onto each other, Deligny claimed that visual traces appeared that could be interpreted as the mute child's means to

⁸ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (London: Continuum, 2004).

⁹ Ibid., 1; Deleuze and Guattari, *A Thousand Plateaus*, 12.

¹⁰ Pierre Rosenstiehl, "Les mots du labyrinthe," in Rivière, *Cartes et figures de la terre*, 103.

¹¹ Françoise Bonardel, "Lignes d'erre," in Rivière, *Cartes et figures de la terre*, 194–196.

¹² Gilles Deleuze and Felix Guattari, *On the Line*, trans. John Johnston, (New York: Semiotext(e), 1983), 31 note 9, 61. Bonardel, "Lignes d'erre," 194–196.

communicate.¹³ The traced outlines also made visible certain points where the child used to stop and stay momentarily, or where lines of movement would cross. These “fixed points” were accentuated by Deligny in his mapping of “autistic space”.¹⁴ The Deligny method may have had an effect on Deleuze and Guattari’s concept of the rhizome as a theory of the social, ethereal as it may appear. Some of its ideas may stem from Deligny’s images of movements of mute children.¹⁵ This becomes clear in the link between mapping and movement, as in the concept of the *dérive* of the Situationist International. Deligny himself used the term by saying that he embarked on a journey together with the autistic child.¹⁶

20th century art

In order to show the role they play in supporting the overall narrative, a few examples of the use of 20th Century artworks in the publication of *Cartes et figures de la terre* should be discussed. To start with, Agnes Denes’ *Isometric systems in isotropic space - Map Projections*, in this case, *The Snail*, is visible on the cover, in a photomontage with one of the bronze ornaments from the stands of the Coronelli globes (1683). Denes’ *Map Projections* also serve as decorative vignettes in an essay that deals with the problem of map projections: how to represent the spherical surface of the earth onto a flat plane. The other illustrations shown in the same essay are produced by Jacques Bertin. Buckminster Fuller’s *Dymaxion Map* also appears here as an experimental example of the earth projection problem.¹⁷ This survey is informative and didactic, and Denes’ projections are intermingled with the others, decorative as well as humorous. In Denes’ *Map Projections*, which are made by hand after careful calculations, the process seems to be as important as the resulting

¹³ Doina Petrescu, “The Indeterminate Mapping of the Common,” in *Field Journal* 1 (2007): 90–91. It should be said that Deligny’s methods are no longer in use and that their scientific anchorage is questionable. But he did take on children whom traditional medicine in the 1950s to 1970s claimed to be unable to improve. His methods also comprised of a non-hierarchic interplay between child and observer, so hopefully no children were harmed during the observations.

¹⁴ Petrescu, “The Indeterminate Mapping of the Common,” 90–91. Here could be added that Deligny claimed that the autistic children were extra sensitive to magnetic fields and subterranean streams and that the *fixed points* coincided with such phenomena.

¹⁵ Ibid., 90.

¹⁶ Bonardel, “Lignes d’erre,” 194.

¹⁷ Dominique Muracciole, “Le rond et le plat,” in Rivière, *Cartes et figures de la terre*, 235–239.

image. In addition, they show the relativity of an earth projection. This image can be distorted and modified according to the wishes of the artist—or the cartographer.¹⁸

The essay “*Dérives: itinéraires surréalistes, dérive et autres parcours*” is by the curator Jean-Hubert Martin, who was to become the president of *Centre Georges Pompidou* and the curator of the exhibition *Magiciens de la terre* in 1985. In his essay, he surveys mapping experiments in the art of the 1900s, stressing new ways of challenging and exploring the city of Paris. Starting with Dadaist excursions made to ordinary tourist sites in Paris in the 1920s, the largest part of Martin’s essay is dedicated to Guy Debord’s and the Situationist international concept of the *dérive*. The cover illustration of the *Guide Psychogéographique* (1957) by Debord shows the curious technique of cutting up and reassembling tourist maps of Paris. According to Debord “the theory of the *dérive*” (drifting), was a means to experience the city in new ways. A *dérive* was to be conducted in small groups of 2-3 people. Its duration was approximately a day. The drifting was haphazard, through different ambiances of the city. According to the Situationists, the strictly economical reign of the map needed correction, since it was lacking representation of experiential and emotional dimensions the city’s “psychogeography”.¹⁹

Conceptual art of the late 1960s and especially Land Art was filled with cartographical experiments. Martin’s focus is obviously on maps in art that are in one way or another combined with action and movement. Accordingly, he has included an artwork by British artist Richard Long: *Sculpture. Wiltshire 12-15 October 1969*. On a map of an area in Wiltshire, Great Britain, the artist has drawn four concentric squares. Each one is marked with a starting point and a note on the time it had taken the artist to walk the distance of the outline of the square. Walking the path of the largest square had a duration of 11 hours and 20 minutes according to the note.²⁰ Martin concludes that the theory of the *dérive* had been highly influential to other artist, not least in the late 1960s.²¹ It also becomes apparent that the origins to more recent mapping experiments according to this article are to be found in the francophone world, in Dadaist, surrealist and Situationist *dérives* in the city of Paris.

¹⁸ Agnes Denes, *The Human Argument: The Writings of Agnes Denes*, ed. Klaus Ottmann (Putnam, Conn.: Spring Publications, 2008), 138, 213–214.

¹⁹ Jean-Hubert Martin, “*Dérives. Itinéraires surréalistes, dérive et autres parcours*,” in Rivière, *Cartes et figures de la terre*, 198, 201.

²⁰ Ibid., 200.

²¹ Ibid., 202.

The second dedicated survey of 20th century maps and art is the catalogue editor Jean-Loup Rivière's essay on the map, the body and the memory. This text takes off with the antique image of the titan Atlas carrying the world on his shoulders. Rivière traces the unique connections between embodied memory and map in the mnemonic method of for instance antique rhetoric—the art of memory. The body is and has been the measure and the reference throughout the history of mapping. The metaphor of the earth as a body is reversed—the body creates the map. Rivière resides on historical examples of this combinatory model, such as the mysterious map drawings of the Italian priest *Opicinus de Canistris* (1296-1353). Rivière's article is also accompanied by a couple of 20th century artworks, such as the Israeli-born artist Michael Druks' print *Druksland* (1974). This is a self-portrait where the outlines of Druks' face constitutes a map, with names of personalized spaces, schools, institutions, names of family and friends, but also "occupied territories".²² *Druksland* is an example of an artwork that combines personal space and experience with terrestrial space.

To briefly sum up the representation of 20th century artworks in the publication *Cartes et figures de la terre*, or what could be said to be artworks contemporary to the exhibition, their framing is diversified. The selection and analysis of artworks of the 20th century is not as comprehensive as could have been expected for a publication of these dimensions. Artists commenting on an experimenting with mapping has been a much larger movement than what could be discerned from the look of this publication. Instead, the focus of the choice of illustrations relies heavily on the representation of geographical maps, historical and contemporary. For instance, Agnes Denes' *Map Projections* appear both as a detail on the book cover and as an illustration in a didactic essay on projections, where their criticality is reduced as to a decorative function. The 20th century artworks that appear in the publication often stand without commentaries, like Swedish artist Öyvind Fahlström's *World Map* from 1972, which serves as vignette for the third section *Décider*: the map as a tool. This is world map teeming with cartoon-like figures and narratives, seemingly critical of global economy at the time. The interpretation of this and other artworks contemporary to the exhibition in the publication is left to the reader.

²² Michael Druks and Sarah Kent, *Ambiguous Definitions: Catalogue of an Exhibition of Works by Michael Druks*, (London: ICA, 1978).

Representational modes of the map

Near the end of the publication, the editor, Rivière, in one of his preambles, lists some different representational modes of the map. He writes on the diffusion process of the map. Printing methods gradually transformed the map from a precious object of an educated elite to object with various representational modes, symbolic as well as utilitarian: tableaux, allegories, emblems, schemas, plans, spectacles, descriptions and diagrams. *Map* is not being said in plural, it is a model with many representations. Rivière likens the atlas to a grammar of the earth.²³ Examples in this chapter of different modes of representation of the map are: written descriptions and guides to geography, various examples of historical maps, contemporary representations of maps in newspapers, maps used in education, representations of France in contemporary advertising and maps in caricature and cartoons, here represented by by French cartoonist Claire Brétecher.

Jacques Bertin's text *Voir ou lire*—see or read—in the *approches*-section addresses what he claims to be the specific properties of maps as visual objects. Bertin turns what is known about the limits of human visual perception into a manual to be used when producing thematic maps. In this essay, Bertin addresses some problems of thematic mapping, or how to represent different sets of data with geographical information, charts in or as maps. This could for instance be social, legal, economic and cultural information such as nativity or mortality or the election results of a chosen geographical area.

"You don't view the map as you view a work of art", Bertin boldly states. Instead, the map-user can to pose two types of questions to it.²⁴ When presenting thematic information, one has to choose, according to Bertin. Ideally, a legend or code should not be needed to understand a thematic map. To qualify as a *seeing map*, a thematic map should be able to instantaneously respond the questions - *What is there at a given place?* and *Where is a given characteristic?* A map that cannot answer the first type of question is a *reading map*.²⁵ Reading maps are to be avoided, since they cannot provide instantaneous visual answers. They contain too much information that is rarely even being read.²⁶ According to Bertin, the order

²³ Rivière, *Cartes et figures de la terre*, 423. "On ne regarde pas une carte comme on regarde un œuvre d'art. On lui pose des questions et tout lecteur est en droit de poser deux types de questions devant une carte."

²⁴ Jacques Bertin, "Voir ou lire," in Rivière, *Cartes et figures de la terre*, 2.

²⁵ Ibid., 1–2.

²⁶ Ibid., 6.

of the data must be transcribed to correspond the order of the visual. He claims that there are only two such orders: that of the plane and that of the black and white order, including shades, if they are ordered. This makes all the possibilities available to assign different colours with the aid of computers an unnecessary and false freedom.²⁷

According to Bertin, maps, and graphics at large, differ from other types of images, forming a category of its own, in saying that cartography is the only language that could not be conventional.²⁸ This category is addressed in his *Semiology of Graphics: Diagrams, Networks, Maps* first published in French in 1967, a richly illustrated work with the ambitious aim to present the semiotics of graphics. It encompasses all sorts of diagrams, network visualizations and maps. It may be seen as a visual encyclopaedia of map elements: every category of symbols from lines, dots, text, legends and shading techniques are assigned a function and meaning. Bertin here speaks about images, as graphics in general and maps in particular.²⁹

Coming back to the initial question, what kind of representational systems of maps are, if they're to be seen neither as text nor a work of art, Bertin, in *Semiology of Graphics* Bertin puts forth the idea that graphics are *monosemic* systems, like mathematics. First, graphics and maps constitute a *monosemic* system that “forms the rational part of the world of images”.³⁰ It means that graphics *only denote*. Graphic signs are not arbitrary, as in polysemic (natural language) or pansemic (music and abstract imagery). Instead, there is a direct linkage between graphics and what they represent that does not allow any ambiguities. Still, in monosemic systems, meaning can paradoxically be fixed at a certain place and a certain time and would thereby operate like cultural conventions. However, conventions are not mentioned in the context. As Bertin states in *Semiology of Graphics*:

What does it actually mean to employ a *monosemic* system? It is to dedicate a moment for reflection during which one seeks a maximum reduction of confusion; when for a certain domain and during a certain time, *all the participants* come to agree on certain meanings expressed by certain signs, and *agree to discuss them no further*.³¹

²⁷ Ibid., 5.

²⁸ Ibid., 4. “la cartographie est ... le seul langue qui ne soit pas conventionnel”.

²⁹ The essay in the publication of *Cartes et figures de la terre* is supplemented with *Semiology of Graphics* and an English translation of parts of the catalogue essay, appearing in *Graphics and Information-Processing* of 1981.

³⁰ Bertin 1967, 2

³¹ Bertin 1983, 3.

This can be said to represent a rather extreme point of view where cartography and graphics at large constitute an image category that in its discrete relation to the “world” has more in common with mathematics than with the visual arts. However, this stance is not in use by cartographers today, and as most scholars of semiotics stress, semiotic systems and concepts are under constant flux and re-negotiation.³² The science of signification is an on-going process, and meaning of signs is not singular or unambiguous. Bertin’s view on graphics and cartography as monosemic systems has not surprisingly been criticized of “making claims for cartographic objectivity that are not supportable”, as the cartographer Alan MacEachren puts it.³³

To contextualize Bertin’s rigidity, it should be said that geography and cartography during the late 1960s and 1970s was a scientific area in rapid development. According to Bertin, maps in the 1960s were not yet standardized. Local, regional and national differences and styles existed side by side. A “graphic explosion”, mainly driven by computer’s ability to “present massive amounts of information compactly”, referring to the mid-1960s and onwards.³⁴

Theorising the cartographic grid

The art historian Hubert Damisch’s contribution to the introductory *Approches*-section of the publication is the essay “La grille comme volonté et représentation”. Damisch approaches the ontology and genealogy of the *grid*, which he introduces as a *theoretical object*.³⁵ Damisch stated earlier that he was interested in “graphic archaeology, (Like Foucault in the archaeology of ideology), and in forms that nearly every culture or every civilization made use of in very different ways. The grid provides a pattern, which is quasi-universal.”³⁶ Here, in the publica-

³² Eco, Umberto: *A Theory of Semiotics*, (Bloomington: Indiana University Press, 1979), p. 28-29.

³³ Alan MacEachren, *How Maps Work: Representation, Visualization, and Design*, (New York: Guilford Press, 2004), 325.

³⁴ Howard Wainer: “Foreword,” in *Semiology of Graphics. Diagrams, Networks, Maps*, (Madison, Wisconsin: University of Wisconsin Press, 1983), vii.

³⁵ Hubert Damisch, “La grille comme volonté et comme représentation,” in Rivière, *Cartes et figures de la terre*, 30–40; Stephen Melville, “Object and Objectivity in Damisch,” *Oxford Art Journal* 28, no. 2 (June 1, 2005): 188, doi:10.1093/oxartj/kci019.

³⁶ Hubert Damisch, “Genealogy of the Grid,” ed. Annette Balkema and Henk Slager, *Lier & Boog. Series of Philosophy of Art and Art Theory* 13 (1998): 51.

tion of *Cartes et figures de la terre*, he treats the grid as “a deliberate order” that at the same time is its “implementation”. The grid does not institute, it regulates, but it escapes the physical and the organic (morphogenesis) form such as meander, spiral and the cells of a honeycomb.”³⁷ It is an entirely graphic arrangement. The closed grid, like the checker-board, has internal rules, frontiers and limits. Damisch refers to Ludwig Wittgenstein, who in *Tractatus Logico-Philosophicus* wrote that “form is the possibility of structure”. The grid is not a structure, it is only form.³⁸

The visual examples of Damisch’s essays are mainly antique maps: Roman, Etruscan, Greek and Indian. Damisch concludes: the grid as an institution: representation is historically constituted, and like all thought systems, it is limited, not only ideologically, but strictly speaking, geometrically and structurally.³⁹

The geometric order of the map, the cityscape and the relation between map and territory is also addressed by Louis Marin. His primary example is *Plan de Paris* of 1652 by Jacques Gomboust, the engineer of Louis XIV.⁴⁰ Marin sees the *map* and the *portrait* alike, as “the paradigm of signs”. In Gomboust’s map these are combined, so that it is also a memorial of the King (Louis XIV) and of geometry. Marin introduces the concepts of *l’œil théorique* (theoretical eye) and *l’œil sensible* (sensible eye, what is perceivable to the eye). The theoretical eye had been latent until the moment of the *true* representation of Gomboust’s map. It was the design of scientists, which finally recognised the *real*, between object and representation.⁴¹ It became the symbol of the order of reason and rational knowledge, its representation was clear and distinct, without any ghosts or phantasms of the imaginary. In front of this map, the Paris inhabitant turned into not only a spectator but also a reader *lecteur-spectateur*.⁴² The modes of reading and seeing are not separated here as in Bertin’s strict “see or read” -dichotomy, but interrelated, only accessible at the moment when standing in front of the map. Marin sees the map—and the portrait—as *the paradigm of signs*. In the case with Gomboust’s *Plan de Paris*, the juridical power of the king is represented, making it as much a memorial

³⁷ Damisch, “La grille comme volonté et comme représentation,” 30.

³⁸ *Ibid.*, 31.

³⁹ *Ibid.*

⁴⁰ Louis Marin, “Les voies de la carte,” in Rivière, *Cartes et figures de la terre*, 47–54.

⁴¹ *Ibid.*, 51.

⁴² *Ibid.*

of royal power as a portrait. Marin describes this historical map as a memorial of the king as well as of geometry.⁴³

Finally, in the last example from the *Approches*-section, François Wahl states in his essay “Le désir d’espace” that the map exposes and even constructs an extension of the territory to run through.⁴⁴ He stresses the performativity of the map, referring to J. L. Austin.⁴⁵ Still, in Wahl’s account, the map has a logical dimension. He identifies the cartographer’s “writing” as a combination of image and language: *langue-image*. This writing is performing the impossible task of projecting a spherical surface onto a plane. This is also, according to Wahl, one of the least autonomous of all modes of writing, since it is always dependent on its referent—the earth.⁴⁶

The publication *Cartes et figures de la terre* contains a multitude of voices and perspectives. It is certainly is a philosophical effort with various different stances on the nature of concepts like “map”, “line”, “graphics” and “representation”—theorising the properties of the visual. It is not the first, nor last example of high-profile collaborations with philosophers at the Beaubourg. For instance, the exhibition *Les immatériaux* in 1985 was the largest exhibition area up to that date, with Jean-François Lyotard, the author behind the book *Qu’est-ce que c’est la postmoderne?* as curator. This iconic, postmodern exhibition made public use of the latest audio-visual technique.⁴⁷ Other examples of well-known philosophers and intellectuals that collaborated with Centre Pompidou are Jacques Derrida, Paul Virilio and Bernard Stiegler.⁴⁸

⁴³ Ibid., 54. It can also be mentioned that Marin’s point of departure is *La Logique de Port-Royale* (1662), serving as timely, ideological example of a theory of representation when he states that the map and the portrait are the paradigm of signs. Marin 1980, p. 47.

⁴⁴ François Wahl, “Le désir d’espace,” in Rivière, *Cartes et figures de la terre*, 41. François Wahl was also an editor of *Éditions de seuil*, and one of the contributors to *Qu’est-ce que le structuralisme?* in 1968.

⁴⁵ Ibid., 42.

⁴⁶ Ibid., 41.

⁴⁷ Jean-François Lyotard, “Les Immatériaux,” in *Thinking About Exhibitions*, ed. Sandy Nairne, Bruce W. Ferguson, and Reesa Greenberg, (London: Routledge, 1996), 159–173. Anthony Hudek, “From Over- to Sub-Exposure: The Anamnesis of Les Immatériaux,” *Tate Papers* 12:2009, <http://www.tate.org.uk/research/publications/tate-papers/over-sub-exposure-anamnesis-les-immatériaux>.

⁴⁸ Catherine Bertho Lavenir, “‘Beaubourg’ entre histoire et mémoire,” in Dufrêne, *Centre Pompidou, trente ans d’histoire*, 57.

I have been focussing on voices on the mode of writing and viewing of maps. Following Bertin, a cartographer's dream would be to make a completely autonomous map, without any support from "objects of discourse", i.e. text. A map should then only contain signs in the form of symbols, graphic elements, colours and shading.

What used to be legible becomes visible, in a certain mode of legibility, where the reader must know the code. In one of his chapter preambles, the editor Rivière sees the map as a form of *calligramme* (visual poetry). The mode of representation of the map's signs then stands in-between writing and image.⁴⁹

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⁴⁹ Rivière, *Cartes et figures de la terre*, 303.

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DRAWING AS AN EPISTEMOLOGICAL MEDIUM IN BELLORI'S LIVES

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It was his habit that when he encountered the works of great men, to stop and look at one or two of them at a time, and he would concentrate on them at length, perusing them, and commenting on them, so that he imprinted them on his mind: and he used to say that it was impossible for someone to understand at a glance the results of the labors of very knowledgeable artists, produced over a long period of time and over the course of years. Thus in executing his work, before picking up his brush, he conceived what he proposed to do and composed it in his mind with pondering; and this he would do withdrawing alone by himself in silence, and forming the images of things for himself.¹

With these words the famous author of the "Lives of the modern painters, Sculptors and architects,"² Giovan Pietro Bellori, describes the working process of one of his most preferred artists, Domenichino. That is, Bellori does not describe the working process as such, but the effort that went into Domenichino's mental preparation before he actually began to paint. Bellori does so as if he could have seen Domenichino contemplating images and in fact that could have happened because Bellori took drawing lessons from Domenichino³—so he emphasizes of course not the act of painting, but the conception of an image in his mind right before taking the

¹ Giovan Pietro Bellori, *The Lives of the Modern Painters, Sculptors and Architects*. A new Translation and Critical Edition, ed. By Alice Sedgwick and Hellmut Wohl, (Cambridge: University Press 2005), 266.

² See n. 1. The original title is: Giovan Pietro Bellori, *Le vite de' pittori scultori e architetti moderni* (Roma: Mascardi 1672).

³ According to a marginal note of Padre Resta in Baglione's Lives, the young Bellori (1613-1696) studied painting with Domenichino; see: Giovanni Baglione, *Le vite de' pittori scultori et architetti dal pontificato di Gregorio XIII. del 1572 in fino a' tempi di Papa Urbano Ottavo nel 1642*, ed. by Valerio Mariani. Facsimile dell'edizione di Roma del 1642, (Roma: Calzone, 1935), 15 and Tomaso Montanari, Introduction, in: Bellori, *Lives*, 6.

brush in his hand. However, the process of the conception as described by Bellori is not suggested as something that takes place exclusively in the mind of the artist, but rather as an act of reflection which takes other images into account. Hence, it is motivated by a process of looking at pictures, with Bellori underlining that Domenichino's scrutinizing glance was very meticulous. Instead of looking at the image of a great master only once, he analyzes them many times. What Bellori describes in the *Live* of Domenichino as an anecdote—as if it revealed a special attitude of this particular artist—is much more programmatic than it seems at first sight.

In fact, this is one of many passages in the *Lives* which refer to Bellori's concept of the "Idea", which he explained in his famous academic speech of 1664, the so-called Discourse "Idea of the Painter, the sculptor and the architect", which served as a sort of introduction to the *Lives*.⁴ Here Bellori insists that the artist has to build an "idea" in his mind in order to participate in the divine principles and thus in the truth of nature. Referring to Platonic concepts, Bellori describes the very process of building an "idea" in the mind of the artist by means of imitation. Because nature was conceived as deformed even if aspiring to developing best effects, the role of the artist is emphasized as someone who has to correct nature by means of the "idea": "For this reason noble painters and sculptors, imitating that first maker, in their minds also form an example of higher beauty, and by contemplating that, they emend nature".⁵

The underlying Platonic concept of Bellori's Idea has some philosophical as well as epistemological implications. Thus far, research has been concentrating on these implications,⁶ the relationship between the Idea, which the ideal artist has to build in his mind, and the work of art, produced with hands, has been a central theme only for very few authors, namely Elizabeth Cropper and Hana Gründler.⁷ For Bellori, drawing can

⁴ Giovan Pietro Bellori: *The Idea of the Painter, the Sculptor and the Architect*, in: Bellori, *Lives*, 55-69.

⁵ *Ibid.*, 57.

⁶ Erwin Panofsky, *Idea. Ein Beitrag zur Begriffsgeschichte der älteren Kunsttheorie*, (Leipzig, Berlin: 1924); see also: Victoria von Flemming, „Das Andere der Vernunft? Giovan Pietro Bellori und die Ambivalenz des Phantasiebegriffs in der italienischen Kunsttheorie der frühen Neuzeit“, in: Ina Schabert, Michaela Boenke (ed.), *Imaginationen des Anderen im 16. und 17. Jahrhundert*, (Wiesbaden: Harrassowitz 2002), 29-58.

⁷ Elizabeth Cropper, "L'Idea di Bellori", in: Evelina Borea (ed.), *L'Idea del Bello. Viaggio per Roma nel Seicento con Giovan Pietro Bellori*, ed., Exhibition catalogue Palazzo delle Esposizioni (Rome: De Luca 2000), 81-86; Hana Gründler, „Gloriarsi della mano e dell'ingegno. Hand, Geist und pädagogischer Eros bei Vasari und Bellori“, in: Elisabeth Oy-Marra, Marieke von Bernstorff und Henry

be considered the missing link between mind and hand. In a recent book on drawing, "Le plaisir du dessin", Luc Nancy refers to the old Platonic Idea claiming that drawing is a form of thinking.⁸ Bringing into focus the epistemological power of drawing, Nancy shows the importance of shifting our interest from connoisseurship and content to the media. Without trying to interpret Nancy's approach to Platonic form-giving concepts, it should be argued that his new reading is helpful in understanding even Bellori in a new way. Thus, the role of drawing should be discussed in the form-giving process as described by Bellori and show that for him drawing is in fact the medium within which the artist forms his idea.

Nevertheless, we have to take into consideration that the Platonic tradition in art theory has eclipsed the real workshop practice, concentrating instead on the "inspired hand".⁹

I. Bellori's Idea

Coming back to Bellori's concept of the Idea, which he describes as an "elevation" of the mind, it is important to underline the epistemological as well as social implications. While the elevated intellects contemplate their thought of the divine idea, in the eyes of Bellori, it is instead ordinary people that are perceived as devoted to what they see through their eyes alone:

but elevated spirits, directing their thought upward to the Idea of the beautiful, are enraptured by this alone and look upon it as something divine. Since the common people refer everything to the sense of sight, they praise things that are painted from nature because they are accustomed to seeing them made so; they appreciate beautiful colors, not beautiful forms which they do not understand.¹⁰

Keazor (ed.), *Begrifflichkeit, Konzepte, Definitionen: Schreiben über Kunst und ihre Medien in Giovan Pietro Belloris »Viten« und der Kunstliteratur der Frühen Neuzeit*, (Wiesbaden: Harrassowitz 2014)

⁸ Jean Luc Nancy, *Le plaisir au dessin*, (Paris: Édition Galilée), 2009, German translation: *Die Lust an der Zeichnung*, (Wien: Passagen 2011).

⁹ For the platonic tradition in renaissance drawings see: Carmen C. Bambach, *Drawing and painting in the Italian Renaissance workshop: theory and practice, 1300-1600*, (Cambridge, Mass.: University Press 1999); David Rosand, *Graphic acts. Studies in graphic expression and representation* (Cambridge: University Press 2001).

¹⁰ Bellori Lives, 61.

In this paragraph, Bellori clearly distinguishes form from colour, connecting form to the idea and as such to truth whereas art, which shows only natural things, is said to be directed only to appearances and as such deceives ordinary people who will not understand true forms. Referring to the categorical division between true and corrupted natures—*Natura naturans* and *natura naturata*—truth could not be found in what the eyes perceive, because the *natura naturans* and beauty itself have to be recognized by means of a critical process.¹¹ Therefore, the artist must acquire true knowledge in order to produce true images, which not only seduce the eye quickly, but also represent the result of severe studies. In consequence, these images pretend the presence of an attentive and skilled beholder.

As is widely known, Erwin Panofsky already underlined the philosophical tradition of the concept instead of turning attention to its art-theoretical affiliation.¹² As a philosophical concept, The "Idea" is in fact a compilation of Platonic and Neo-Platonist as well as of Aristotelian ideas, which circulated in Bellori's time, and it is well known that it lacks any originality, especially because Bellori in many of his references relies on Franciscus Junius' treatise "On imitation".¹³

Instead of discussing the very philosophical capacities of the author, Elizabeth Cropper criticized this approach years ago, simultaneously emphasizing its legacy for Italian art theory of the Cinquecento. In fact, she showed that the concept of Bellori's "idea" is very close to Vasari's concept of *disegno* because of its implication of conception as well as of drawing.¹⁴ Moreover, Vasari's conception of *disegno* is crucial to the understanding of form as something conceived while colour for this author

¹¹ For the concept of *natura naturans* and *natura naturata* see Thomas Leinkauf (ed.), *Der Naturbegriff in der frühen Neuzeit: semantische Perspektiven zwischen 1500 und 1700*, (Tübingen: Niemeyer 2005), see also his interpretation of Bellori's Idea: Idem, „Kunst als Produkt der Seelenbewegung. Bellori und das Kunst- und Schönheitskonzept der Frühen Neuzeit“, in: Elisabeth Oy-Marra, Marieke von Bernstorff und Henry Keazor (ed.), *Begrifflichkeit, Konzepte, Definitionen: Schreiben über Kunst und ihre Medien in Giovan Pietro Belloris »Viten« und der Kunstliteratur der Frühen Neuzeit*, (Wiesbaden: Harrassowitz 2014)

¹² Panofsky, Idea.

¹³ Junius, Franciscus: *De pictura veterum libri tres* (1637), Roterodami 1694, edition, traduction et commentaire du livre I par Colette Nativel. (Genève: Droz 1996) for the most part of the citation of Junius see Evelina Borea in the commentary of the „Idea“: Bellori, Le vite, 13-25 and Leinkauf, Kunst als Produkt der Seelenbewegung, passim.

¹⁴ Cropper, Idea.

was only understood in its attributive function.¹⁵ Leaving these widespread implications behind, it is important for my thesis to stress that the Italian word *disegno* has implications for conception and form as well as for drawing as an artistic activity. As shown in the beginning, Bellori emphasizes the need for a mindful conception of images, suggesting a twofold artistic process: first, the artist has to conceive of an idea as to what he is going to paint. Only then will he put into practice what he still has in his mind. Now Bellori's attention to the conception of the idea in the mind of the artist seems purely intellectual without ever considering the practical implications of art. In fact Bellori, here following Leonardo, disapproves of "pratica" when it is done only by hand and therefore without any reflection.¹⁶

Nevertheless, in the *Vite* Bellori is concerned about describing the process not only as a mindful conception, but also as the materialization of form by means of artistic practice. Similar to Vasari's hero Michelangelo, of whom he claimed that he was a wonderful and quick drawer,¹⁷ for Bellori it is Annibale Carracci who is described as an artist who quickly recognized concepts and threw them immediately on paper.¹⁸ In a famous anecdote, he indeed narrates that after arriving in Rome, Annibale was impressed by the great knowledge of the classical antiquity. While contemplating antique statues, his brother Agostino started to praise the statue

¹⁵ For Vasari's understanding of „disegno“ see: Wolfgang Kemp, „Disegno. Beiträge zur Geschichte des Begriffs zwischen 1547 und 1607“, in: *Marburger Jahrbuch für Kunstwissenschaft* 19, 1974, 219-240; Robert Williams, *Art Theory and Culture in Sixteenth Century Italy. From Techné to Metatechné* (Cambridge: University Press 1997) 29-72; Gründler, *Gloriarsi della mano*.

¹⁶ Bellori's disapproval of the blind „pratica“ can be found in many passages throughout the ‚Lives‘. The most explicit passage is: Bellori Lives, 61: „Hence those who do everything on the basis of practice, without knowing the truth, depict specters instead of figures.“ The term „pratica“ is already used by Leonardo: „Il pittore che ritrae per pratica e giuditio d'occhio, senza ragione è come lo specchio, che in se imita tutte le a sè contraposte cose senza cognitione d'esse“, (Codex Atlanticus fol. 76 recto, Biblioteca Ambrosiana, Milan), see: Jean Paul Richter, *The literary works of Leonardo de' Vinci: Compiled and Edited from the Original Manuscripts* (1st edition Oxford 1883, 2nd edition London: 1970), 119, § 20; see: Bambach *Drawing and painting*, 131-132, note 20.

¹⁷ See Gründler, *Gloriarsi della mano*.

¹⁸ He himself owned some of Carracci drawings. Francesco Angeloni, in whose house Bellori lived, owned many drawings of the Galleria Farnese, which were purchased after his death by the Painter Pierre Mignard. See: Catherine Loisel-Legrand: „La collection des dessin italien de Pierre Mignard“, in: Jean-Claude Boyer (ed.), *Pierre Mignard "le Romain": actes du colloque*, 29 septembre 1995, (Paris: Documentation Française 1997), 53-88.

of Laocoon in many words, to which Annibale did not seem to pay enough attention. Being bored by his brother's never-ending speech, Annibale then turned his back to the statue and drew its outline on the wall so that his brother would have to recognize that he knew the statue better than he did himself:

"Annibale turned to the wall and with charcoal drew that statue as accurately as if he had it before him to imitate"¹⁹ proving his immense judgement of the eye "giudizio degli occhi"²⁰, because of his capacity to remember the outline of the statue. The closeness of form and idea was emphasized—astonishingly enough—also by Luc Nancy. In the second chapter of his book, "Le Plaisir du dessin", he claims that the "form is the idea", intending to say that form, which he explains as drawing, comes into being by means of the act of drawing.²¹ Even if he too refers to the Platonic idea, he does not interpret it any more as something higher than reality or as a sort of divine participation, but as an intelligible model of reality and emphasizes its meaning as a visible form.

II. Mind and Hand

In a famous passage of the "Idea", Bellori describes the conception of the image as a process of collaboration between mind and hand: "measured by the compass of the intellect, it becomes the measure of the hand and animated by the imagination it gives life to the image"²², which is displayed also in the famous vignette (Fig. 12), where a personification of art is shown with a compass in one hand, held up to the brain, while she is drawing something with her other hand. The act of drawing thus appears as a resumption of the act of thinking, and it is noteworthy that these two activities, thinking and drawing, are shown as something nearly coincidental. In the vignette, the act of drawing in consequence is perceived as a close relationship between mind and hand. The image refers to an older concept of collaboration between eye and hand, because, as already Leo-

¹⁹ Bellori, *Lives*, 77; for the reflection of the 'Idea' in Bellori's *Life of Annibale Carracci* see: Henry Keazor, „*Il vero modo*“. *Die Malereireform der Carracci*, (Berlin: Mann 2007).

²⁰ For the importance of the judgment of the eye see: Bambach, *Drawing and painting*, 131-132.

²¹ Nancy, *Die Lust*, 21: „Die Zeichnung ist also die Idee: Sie ist die wahre Form des Dings. Genauer gesagt ist sie die Geste, die dem Wunsch entspringt, diese Form zu zeigen und sie zu umreißen.“

²² Bellori, *Lives*, 57.

nardo pointed out, practice has to be reasonable.²³ In his *Lives* Vasari attributed the following dictum to Michelangelo, claiming that it was mandatory for the good painter to have the compasses in the eyes "bisognava avere le seste negli occhi" and not in the hand, because the hands work and the eye judges.²⁴ In fact, as we can see in the engraving, the compass here is shown level with the head near the eyes, which, however, are directed not towards the canvas but upturned in an inspiration gesture. Therefore, the image changes the very meaning of the more traditional relationship between the measure of the eye and the hand, emphasizing rather the inspiration of the mind instead.

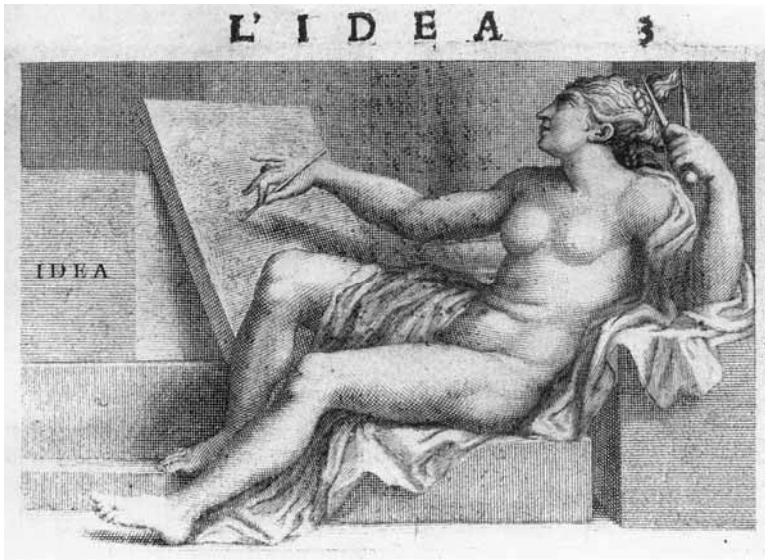


Fig. 12: After a drawing of Charles Errard: 'Idea', in: Giovan Pietro Bellori, *Le vite de' pittori scultori e architetti moderni*, Roma 1672.

²³ See note 16.

²⁴ See Giorgio Vasari, *Le vite de' più eccellenti pittori, scultori ed architetti nelle redazioni del 1550 e 1568*, ed. By Rosanna Bettarini, annotazioni di Paola Barocchi (Florence: Sansoni 1966-1987, 7 vols), VI (testo), 109: „bisogna avere le seste negli occhi e non in mano, perchè le mani operano e l'occhio giudica“; see: David Summers, *Michelangelo and the language of Art* (Princeton: University Press 1981), 373, 352-379; Bambach, *Drawing and painting*, 131-132, note 22.

While this image conceptualizes the artistic process referring it back to intellectual implications, in the *Lives* Bellori describes this process in very detailed ways, giving much attention to character differences between his artists. Once more considering the Life of Domenichino, for instance, it is clear that he describes the artist as being so much devoted to thinking and drawing that he sometimes was not even able to eat or sleep or to complete his works and satisfy his patrons any more. Since he was a young boy, he had allegedly devoted himself to studying night and day so that he was considered a strange and antisocial person. It is significant that Bellori underlines the temporal effort that Domenichino needed to put into thinking before he could translate his thoughts into lines:

“[...] when he proposed to imitate some action, he would not begin at once to draw or paint, but first he would stay for a long while and spend most of his time in contemplation, so that he would have appeared irresolute except that later, when he put his hand to the work, if by chance he was not summoned, he would forget food and sleep and all other business”.²⁵

He is said to have sustained the opinion that “a line was not worthy of a painter unless it was produced first by the mind, before the hand”.²⁶ In a very similar way, he describes also Andrea Sacchi as a slow painter because of his great diligence:

He always held back in producing and perfecting the parts of his works, and never allowed a line or stroke of his brush to exceed the limits of good imitation of nature. (...) The diligence and finish that from his youth he applied in his drawings he adhered to throughout his Life. (...) Andrea knew what was good and perfect, so that he would not stop at his first perceptions of things, even though his continual pondering made him brood rather a long time over his works.²⁷

Domenichino's slowness in painting is recorded also in a funny anecdote, in which Bellori narrates that the artist promised a painting of Adam and Eve to his doctor for having healed his mental indisposition, and when the doctor became tired of waiting for the promised painting, he presented him a drawing instead.²⁸ Pretending to be forever preoccupied, Domenichino seems to have had the impertinence to answer his patrons in the

²⁵ Bellori, *Lives*, 240; for a consideration of the role of drawing in Bellori's *Lives* see Simonetta Prosperi Valenti Rodinò, ‘Il disegno per Bellori’, in: Evelina Borea and Carlo Gasparri, *L'idea del bello*, 131-139.

²⁶ *Ibid.*, 266.

²⁷ *Ibid.*, 385.

²⁸ *Ibid.*, 266.

church of Saint Andrea. There he painted the famous evangelists, while his rival, Giovanni Lanfranco, stole him the commission for the dome. While his patrons complained that Domenichino did not even appear in the church, he answered that he painted every day instead.²⁹ In these passages, it turns out that Bellori's positive emphasis of slow operations, paying so much attention to artistic thoughts and drawing exercises, could be explained only with his distinction between an art devoted to true knowledge and one, which only tries to catch the quick attention of the audience, satisfying only a first gaze.³⁰

That the time spent thinking and drawing, we learn especially from the *Life* of Federico Barrocci. At the end of his *Life*, in a sort of resumption, Bellori claims: "The practices maintained by Federico Barocci in his painting required great exertion and application, in spite of his illness; (...) proof of this is the great quantity of drawings that he left in his studio."³¹

III. Imitation and drawing in Bellori's *Lives*

In the *Lives* drawings are also most important for the education of the artist. Since antiquity, the instant in which the artist is discovered as a great talent has been one of the key moments in *Life* writing. Like in Vasari, also in Bellori's 'Lives' the talent shows itself in the first drawings of the young painter, which as a rule were shown to or discovered by a patron or another artist. In the case of the young Annibale, it was his cousin Ludovico that taught him drawing "when he began to display such a great favor and supremacy of celestial influence that Ludovico, recognizing in him a force destined for painting, as if he had a greater preceptor teaching him in secret".³² The drawings of Federico Barocci were judged even by Michelangelo.³³ Bellori refers to drawings also when he reaches a final evaluation of their artistic capacities. In the *Life* of Giovanni Lanfranco, for example, he gives a meticulous aesthetic judgement of his artistic qualities on the basis of drawings: "In drawing he captured life with few marks

²⁹ Ibid., 266: „I have worked on it continuously with my mind, with which I paint“.

³⁰ See also the passage in the 'Idea' in which he clearly express this concept, Ibid., 61: „Since the common people refer everything to the sense of sight, they praise things what are painted from nature because they are accustomed to seeing them made so.“

³¹ Bellori *Lives*, 205.

³² Ibid., 72.

³³ Ibid., 161.

of charcoal or chalk; he conceived his ideas easily, and he would immediately give form to his thought in a sketch, mostly in watercolour.”³⁴

Thus, drawings are seen not so much as a translation of the idea but as a medium which transports the mind to the hand and which reveals the artistic talent of an artist as well as the idea. Even if Bellori pays much more attention to the complete paintings, it is compelling how much he stresses those modes of thinking and meditating beyond the actual painting process. That his artists are not necessarily meant to be affected by melancholy is obvious in the fact that Bellori stresses the effort and thus the time necessary to conceive of the idea.³⁵

This distinction between serious art, which does not care about success, and less serious art, which looks only for appealing to the audience, is a matter of imitation. In Bellori's eyes, the artist could reach true knowledge in art only by means of serious imitation. The one who tries to please the eye only relies on mere appearances without previously conceiving of an idea for its concepts. In addition, Luc Nancy underlines the importance of Mimesis as a form-giving process. It is not astonishing that he does not refer to this kind of distinction. However, he too claims that that which has to be imitated is not given through feelings (*Empfinden*) or perception, but through the idea: “Yet that which is supposed to be imitated is certainly not given through sensation or perception. What mimesis is supposed to fulfil, what it is supposed to show and present is nothing but the idea”.³⁶ Evidently, this does not mean that he turns back to Bellori, looking for divine beauty, but emphasizes the difference between information and sense instead. While information refers to something given and known, Nancy exalts the function of drawing as an sketch of something that is not yet, but will be sense: “Auch die Zeichnung notiert (...) Aber sie nimmt nicht 'Notiz', sie trägt nichts ein, gibt sich nicht damit zufrieden.”³⁷ The word “notice” points to something known or attributed and can assume two meanings: Either that of fixed, identifiable information. Alter-

³⁴ Ibid., 288.

³⁵ For the notion of melancholy, see Rudolf and Margaret Wittkower, *The character and conduct of artists: a documented history from antiquity to the French Revolution* (New York: W.W. Norton 1969, c. 1963) and also Gründler, *Gloriarsi della mano*.

³⁶ „Doch das, was imitiert werden soll, ist eben nicht durch die Empfindung oder die Wahrnehmung gegeben. Was sich die Mimesis zur Aufgabe machen soll, was sie zeigen oder präsentieren soll, ist nichts anderes als die Idee. Man kann ohne Übertreibung sagen, dass die Zeichnung, (le dessin) die Absicht (le dessin) der Mimesis selbst umsetzt oder manifestiert: die formgebende und mobilisierende Kraft der Idee, das Zeigen und die Emotion der Wahrheit.“, Nancy, *Die Lust*, 33.

³⁷ Nancy, *Die Lust*, 34.

natively, that of opening and circumscribing what is not supposed to become information but sense.³⁸ It is this sense or idea, or truth, which will be formed and displayed in the drawing, and in that, it is different from a mere depiction of something.

While Nancy does not distinguish between sense, idea or truth, emphasizing instead the importance of gesture and the process of drawing, Bellori's idea of imitation is—needless to say—much different. As explained earlier, in his academic speech he is concerned about showing that the idea is devoted to the truth of nature, which might be reached by means of choice. He refers to the famous Plinian anecdote of the Painter Zeuxis who—having the task to paint the beautiful Helena—studied five of the most beautiful virgins and chose the very beautiful parts of their bodies for his figure.³⁹ In another anecdote, he claimed that Helena could not have been a natural woman, convinced that Paris of Troy raped a statue instead.⁴⁰ This example shows clearly that Bellori considered ancient statues to be a sort of container of refined knowledge of nature, which explains also their enduring importance he claimed for his modern artists. In his *Lives*, he does not only recommend the study of the ancient statues. Instead, he emphasizes the works of the great masters of the Renaissance such as Rafael and Correggio as well. Imitation of classical antiquity and the great masters of the past therefore assure the cognition of nature necessary for the attainment of a true image. Thus, for Bellori drawing becomes an instrument of a visual epistemology insofar as it is a study tool, which helps ensure the conception of the idea. While today this kind of study seems to be a repetition of something given—a piece of information, in the words of Nancy—in Bellori's understanding it ensures a deeper knowledge. Through the rethinking of the platonic tradition in the writing of Nancy on drawing it is possible to understand that Bellori too was not so far away in the conception of drawing as an epistemological medium.

³⁸ Nancy, *Die Lust*, 34: „Das Wort Notiz, das auf etwas Bekanntes, Eingeeordnetes verweist – kann zwei Bedeutungen annehmen: entweder die einer fixierten, identifizierbaren Information, oder die eines Öffnens und Skizzierens dessen, was keine Information, sondern ein Sinn werden soll.”

³⁹ Bellori, *Lives*, 58: „Now Zeuxis who chose from five virgins to fashion the famous image of Helen that Cicero held up as an example to the orator, teaches both the painter and the sculptor to contemplate the Idea of the best natural forms by choosing them from various bodies, selecting the most elegant.”

⁴⁰ *Ibid.*, 59: „rather it is believed that she [Helen] never did sail to Troy but that her statue was taken there in her place, and for ist beauty the war was fought for ten years.“ See also: Ieromin Stoichita, „A propos d'une parenthèse de Bellori. Hélène et l'Eidolon“, in: *Revue de l'Art*, vol. 85, 1989, 61-63.

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THE EXPERIMENTS OF PERCEPTION IN SCIENCE AND ART BY ERNST MACH, DAN GRAHAM AND PETER WEIBEL

ROMANA K. SCHULER

“Why has man two eyes?” is the title of one of Ernst Mach’s lectures and the question he directed at his audience in 1866.¹ Mach’s question is indicative of how great the interest in stereoscopic vision was throughout the nineteenth century, and the enormous fascination exerted by inventions like the stereoscope (Wheatstone, 1838) and stereoscopic photography (Brewster, 1849). One hundred and fifty years later, the question that should be investigated here is why the experiments on vision and perception conducted by nineteenth-century experimental physicists and physiologists are increasingly attracting the attention of contemporary artists.

Scientists today have neuroimaging techniques at their disposal, which can localise visual processes, for example, the perception of movement, within the brain and visualise them. Artists, on the other hand, are frequently going back to antiquated laboratory experiments and in very effective ways revitalising them aesthetically, transplanting them in the sphere of art, and pushing them as form and artistic expression into contextualised transfer art. This includes prominent artists such as Olafur Eliasson with his complex reconstructions of perception installations, and Carsten Höller with his reversing eyewear events, which he took over directly from the American psychologist George M. Stratton (1896) and from the eyeglasses experiments conducted at the Institute of Experimental Psychology in Innsbruck from 1929 to 1950. In other works, Höller has papered walls with Zöllner illusion stripes as the background to a pair of carousels, and continues his artistic exploration of the phi phenomenon with reindeer flickering red and green. James Turrell’s radiant, impressive walls of smoke are actually a remake of psychology of perception experiments in an art context, comparable to Wolfgang Metzger’s experiments to create

¹ Ernst Mach, *Popular Scientific Lectures*, trans. Thomas J. McCormack, 3rd edition, (Chicago: Open Court Publishing, 1898), 66.

the *Ganzfeld Effect* (1930). The aesthetic transfer from laboratory to art is not practised by all artists in the same way. Particularly exponents of early video installation art ceased to follow this line, like Dan Graham and Peter Weibel, who had great esteem for Mach's ideas and worked them into their forms of expression, but at the same time restarted the historical cognitive process of perception research.

The physicist Ernst Mach occupies a central place within the complex and widely branching history of optics and seeing apparent movements as well as the sensation of moving. It was Mach's thinking that provided the impetus for the formation of the legendary Vienna Circle. With his adherence to the theory of Neutral monism and claim that "the ego cannot be saved", Mach seriously stirred up the ostensibly decadent cultural epoch of the Viennese fin de siècle around 1900. In addition to his influence on many scientific fields, Mach's thought had an impact on a number of authors, including Robert Musil, Hermann Bahr, and Hugo von Hofmannsthal. Typical for Expressionism in Vienna was its psychologising tendency –Egon Schiele and Oskar Kokoschka, for example–and Mach's views were impressive sources of inspiration also for the work of Expressionist artists. Differentiated echoes of his position on the perception of the self can be discerned in modern neurobiology of psychotherapy. However, in the meantime his volatile "unsaveable ego" has long since become the contemporary dissociated self.²

The Influence of Psychophysics on Mach's Experiments

While studying physics in Vienna Ernst Mach had also attended lectures by Ernst Brücke and Carl Ludwig on physiology. That after finishing his studies in physics he turned to physiology was due to "economic" reasons, as he put it: instead of pursuing research in a physics laboratory, he focused his scientific enquiry on his "own" body, which he considered simpler than investing in expensive physics apparatus.³ This decision to investigate the field of perceptions and sensations turned out to be a very constructive and fruitful one, both for Mach's career and for future generations. His very first lectures in Vienna (1860) engaged with

² See Günter Schiepek, ed., *Neurobiologie der Psychiatrie*, (Stuttgart: Schattauer 2003).

³ For further details, see the essay by Ernst Mach, *Leitgedanken meiner naturwissenschaftlichen Erkenntnislehre und ihre Aufnahme durch die Zeitgenossen*, typescript, uncatalogued papers by Ernst Mach and Ludwig Mach held in the Philosophical Archive of the University of Konstanz (examined on 8 February 2010).

the problematic of sensory perception, for example, *Über Änderung des Tones und der Farben durch Bewegung* (The alteration of sounds and colours through movement).⁴

In January 1861, Mach submitted his essay on psychophysics to the Imperial Academy of Sciences in Vienna for publication in its proceedings, the *Wiener Sitzungsberichte*.⁵ In the same month, Mach wrote to Gustav Theodor Fechner for the first time, in which he thanked Fechner for his explanations of psychophysics, which had provided the basis for his own ideas on connections between physics and physiology.⁶

In his early article on psychophysics of 1861 Mach attempts to demonstrate that Fechner's law, which was based on innumerable measurements, could also be applied to the sensations of tension that are caused by contractions of the eye muscles. With this Mach was not seeking to explain the visual perception of complicated forms. Rather, his focus was the perception of simple, straight lines. He assumed that the different positions of straight lines, which the human eye can perceive, must have some common characteristic that gives rise to the sensation, and he attributed the different perceptions to the movements of the eye as it followed the various points of a line, one after the other:

The eye only perceives images sharply and clearly that fall on a certain small area of the retina. For a larger image to be seen clearly, each part of it has to glide consecutively past this point of clear vision.⁷

This movement is in turn dependent on the degree of tension of the eye muscles. Mach's formula, derived from Fechner's law, which he used for his proof, he presents with the caveat that it is to be understood arithmetically and it is extremely difficult to subsume a great many

⁴ See the handwritten schedule of lectures by Ernst Mach, which begins with Summer Semester 1860, in the uncatalogued papers by Ernst Mach and Ludwig Mach held in the Philosophical Archive of the University of Konstanz (examined on 8 February 2010). According to the schedule of lectures, one year later the subject of his lecture was *Physik für Medizin sowie Höhere physiologische Physik* (Physics for medicine including advanced physiological physics).

⁵ Ernst Mach, "Über das Sehen von Lagen und Winkeln durch die Bewegung des Auges. Ein Beitrag zur Psychophysik." In *Wiener Sitzungsberichte*, Classe II., vol. 43, Vienna 1861, 215–224.

⁶ Gustav Theodor Fechner presented the results of his studies in psychology in his famous book *Elemente der Psychophysik* (1860) (English translation of excerpts from *Elements of Psychophysics* can be found on the Classics in the History of Psychology website).

⁷ Mach, 1861, 215.

different stimuli under one formal expression. To obtain his proof Mach used black rotating discs, amongst other things, with markings dividing them into sections. A white thread was fastened to the centre of the disc, which also moved when the disk rotated. Mach placed two identical disks with threads next to each other so that from his position he could see both central points of the discs. First, he arranged the thread on one disc and then tried to arrange the thread on the other in exactly the same way. After each attempt, he noted the different positions of the threads or rather determined the difference using the method for calculating the standard error.⁸

At that time, the notion of eye movements gave rise to much speculation and was in many respects a highly controversial theory. There were two mathematical treatises that constituted important approaches for the debate on the theory of eye movements: one by the mathematician and physiologist Adolf Fick and the other by the physiologist Georg Meissner. For Mach, however, the theory of eye movements was by no means complete: "First, as Fick shows—even after the work by Meissner—it is far from certain upon which axis the eye really revolves when the visual axis describes a certain movement. Second, even if the axis of rotation were known, the question of the corresponding muscular tension is undetermined for with the eye six torques are involved, whereas three would suffice. Fick's assumption that the movements are made with a minimum of effort, is highly probable but not proven."⁹ Georg Meissner, Adolf Fick, and Hermann Helmholtz saw themselves as exponents of a new theory of eye movements, from which Helmholtz sought to derive a plausible explanation for seeing things the right way up. That is an explanation for the inverted image on the retina.

Some years later, in 1870, Mach's assistant at Prague University, the physiologist Vincenz Dvorak conducted some experiments in the physics laboratory based on Mach's critical remarks on the theory of eye movements, which disproved the eye movements' theory for upright vision.¹⁰

After Dvorak's experiments, Mach saw the possibility of proving that optical illusions are also governed by certain laws. He remarked, "Why

⁸ Ibid., 219.

⁹ Ibid., 218.

¹⁰ In experiments similar to those conducted by Joseph Plateau Dvorak used several Archimedean spirals rotating on discs in order to prove that the perception of movement is dependent on the retina and cannot be explained by eye movements; see Vincenz Dvorak, "Versuche über die Nachbilder von Reizveränderungen," in *Wiener Sitzungsberichte*, Abt. II., vol. 61, Vienna 1870, 257–262.

shouldn't the sense organs also follow a certain logic?"¹¹ A theoretical assumption that one day will be the starting point for constructing illusory worlds with algorithms. Mach criticised repeatedly the common way of thinking that contrasts "appearance" with "reality", including in his most popular book *The Analysis of Sensations*, where he gives the following example by way of illustration: "A pencil held in front of us in the air is seen by us as straight. Dip it into the water and we see it crooked. In the latter case, we saw that the pencil *appears* crooked but is in reality straight. However, what justifies us in declaring one fact rather than another to be the reality and degrading the other to the level of appearance? In both cases, we have to do with facts, which present us with different combinations of elements that are determined in different ways. The pencil dipped in water is optically distorted because of its surroundings, but to the touch and metrically it is straight."¹² These views on the nature of perceivable objects reveal the influence of the Anglo-Irish philosopher George Berkeley and his subjective idealism on Mach. What Berkeley actually describes in his *Essay Towards a New Theory of Vision* is a theory of immaterialism, although the terms he uses are different to Mach's. For Berkeley it was elementary that visual perception is linked to touch. He thought that any advance in knowledge exclusively about vision was out of the question. Many other scientists besides Mach–Helmholtz and the Viennese neuropathologist and anatomist Theodor Meynert, for example—were fascinated and impressed by Berkeley's ideas and his conception of the relationship between the senses of sight and touch.

In the 1860s, Mach investigated the retina's sensitivity to light. In his experiments, he used rotating discs painted partly black and partly white. In the course of the experiments he discovered the optical illusion that later became known as Mach bands (1865) in perceptual psychology (Figs. 13, 14). In the figure, the rotating painted discs show the point at which the light intensity curve dips: this area appears either darker or lighter than the surrounding area. The same illusion was observed in rotating cylinders painted in the requisite colours and manner. With the aid of photography, Mach was able to produce a precise record of these light

¹¹ Ernst Mach, "Über die Wirkung der räumlichen Vertheilung des Lichtreizes auf die Netzhaut" [On the effect of the spatial distribution of the light stimulus on the retina], in *Wiener Sitzungsberichte*, Abt. II, vol. 52, Vienna, 1865, 319.

¹² Ernst Mach, *The Analysis of Sensations* [1885], (Chicago: Open Court Publishing 1914), 10.

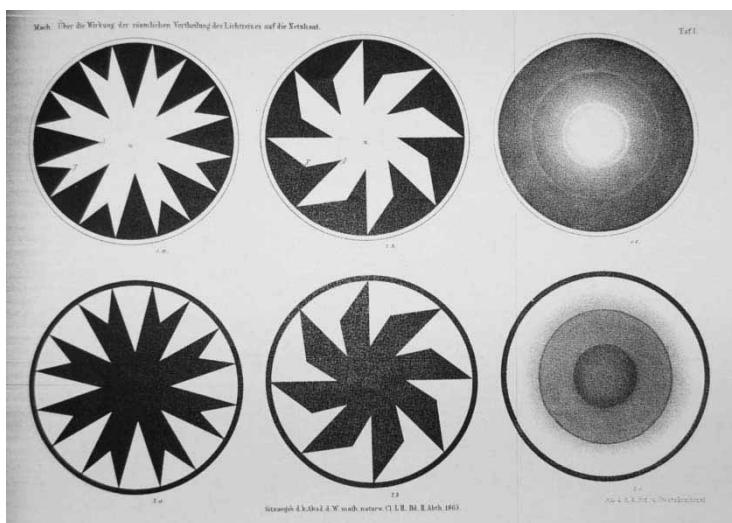


Fig. 13. Ernst Mach, Rotating discs to investigate the light sensitivity of the retina produce illusory effects – Mach bands, 1863 (source: Wiener Sitzungsberichte, 1863).

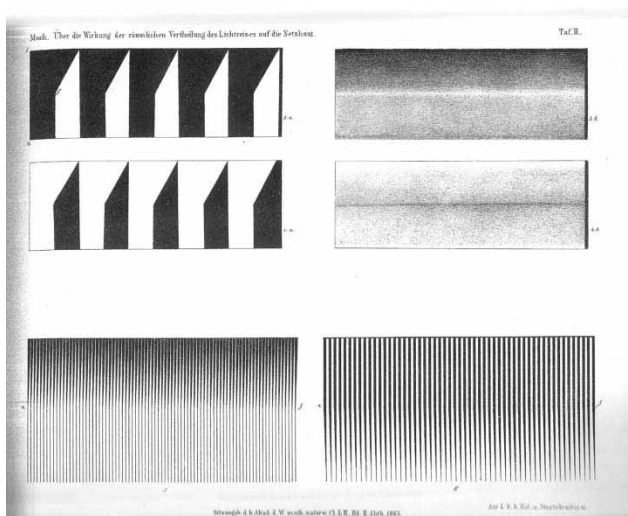


Fig. 14. Ernst Mach, Effects attending the emergence of Mach bands, 1863 (source: Wiener Sitzungsberichte, 1863).

and dark effects.¹³ He was one of the first scientists to use the then new medium of photography not just for documenting his experiments, but also to produce evidence in support of his theories, as in the aforementioned case.

Mach's Experiments on Sensations of Movement

In the early eighteenth century, George Berkeley had already drawn attention to the problem of movement perception in his essay *De Motu [Of Motion]*:

The consideration of motion greatly troubled the minds of the ancient philosophers, giving rise to various exceedingly difficult opinions (not to say absurd) which have almost entirely gone out of fashion, and not being worth a detailed discussion need not delay us long.¹⁴

However, it was not until the nineteenth century that concerted and detailed research began on visual perception of movement.

It was personal, chance perceptual experiences that led Ernst Mach to engage with the wide field of sensations of movement. The way that houses and trees seemed to tilt when a train went round a bend in the track he could explain via mass acceleration. However, this did not provide an adequate explanation for his physiological sensations, for what he felt. Mach concluded that in all sensations of motion the overall impression is not exclusively optical. This led him to look at these phenomena more closely.¹⁵

When Mach conducted these experiments, the principal organ responsible for sensations of movement had not yet been discovered. Various theories were put forward as to the origins of these sensations—connective tissues, bones, muscles, blood pressure, eyes, brain, or even a discrete organ in the head. Mach considered all of these candidates very carefully and came to the plausible conclusion that the main organ

¹³ Mach, 1865, 310.

¹⁴ George Berkeley, *De Motu: Sive de motus principio & natura et de causa communicationis motuum / Of Motion: Or the Principle and Nature of Motion and the Cause of the Communication of Motions*, trans. A. A. Luce, first published in 1721; reprinted in Michael R. Ayers, *George Berkeley, Philosophical Works* (London: Everyman, 1993), 253–276, quotation 253.

¹⁵ Ernst Mach, *Grundlinien der Lehre von den Bewegungsempfindungen* [1875], (facsimile reprint of the Leipzig edition, Amsterdam: E. J. Bonset, 1967), 60.

responsible for the sensations of motion must lie within the auditory system.

In addition to investigating sensations of movement, Mach was also interested in the question of after-images of movements, or persistence of vision, which was a much-discussed phenomenon at this time. Both Joseph Plateau and the Frankfurt mathematician Johann Oppel were of the opinion that after-images are connected to processes taking place within the retina. However, since the discovery of Plateau's spiral after-effect and Oppel's presentation in 1856 of his antirheoscope, discussion of after-images of motion had led to different theories, for example, the theory of eye movements. Hermann Helmholtz had proposed that eye movement was the decisive factor in this process, which Mach rejected as well as another postulate of Helmholtz's that by strictly concentrating on a specific point after-images of motion did not appear.¹⁶

That Mach's theory gained in acceptance was above all due to his assistant Vincent Dvorak who in 1870 had provided experimental proof of Mach's ideas in Prague University's physics laboratory. Dvorak repeated Plateau's experiments with rotating discs in a series of experiments and identified a further factor, which could be responsible for producing an after-image: light intensity. He found that when he quickly changed the light intensity in a room and repeated this several times, an after-image appeared. Dvorak's new findings on the after-image effect in connection with light intensity, or differences in light intensity, confirmed Mach's experiment with Mach bands of 1865¹⁷ and led to the view that perception of bodies is modelled by differences in light intensity.¹⁸

Mach sought a formula whereby he could generalise the effects he had observed in connection with humans and animals in motion. For this purpose, he constructed a rotating device, which over the course of his investigations was modified many times. It consisted of a *rotating chair* that was mounted in a rotatable frame. A test person sat on the chair and could be tilted backwards. To prevent vertigo, the test person—who was

¹⁶ Mach [1875] 1967, 60.

¹⁷ Mach [1885] 1914, 39.

¹⁸ It should be mentioned here that this focus on contrast played a decisive role in the forms used in twentieth-century abstract painting as is clearly seen in the works of Jo Baer or Mark Rothko. Rothko collected pictures of Mach's experiments in his studio. Baer wrote essays that sought to explain the Mach bands in their early abstract works; see Jo Baer, "Mach Bands: Art and Vision and Xerography and Mach Bands: Instrumental Model," in Dan Graham (ed.), *Art Information and Science Information Share the Same World and Language*, *Aspen Magazine* no. 8, Winter 1970/1971, <http://www.ubu.com/aspen/aspen8/> accessed: 5. 12. 2011.

invariably Mach himself—was put inside a kind of cardboard box. Inside the rotating box, there was a black cross-painted on a white ground. When the box was rotated and the test person concentrated on the cross, Mach demonstrated that the feeling of dizziness persisted, thus refuting Helmholtz's assumption.¹⁹ If the box was opened quickly, the test person had the impression that the entire visible space was turning with all it contained, as though the visible space (visual field) was moving inside a second space:

It seems as though the visible space is rotating inside a second space which one perceives as static although this latter is not characterised by anything visible. One wants to believe that behind the visual field there is a second space to which the first is always related. This fact of fundamental importance has to be experienced personally.²⁰

Mach performed many rotation experiments using animals, like rabbits or pigeons. The results confirmed his assumption that that his own experiences were very similar to those experienced by the test animals.

Mach's Drum

Mach came to hold the view that optical sensations could be influenced by sensations of movement. Yet as, vice versa, sensations of movement could be influenced by optical sensations, Mach constructed an experiment to prove his theory, which consisted of placing a huge helmet over the head of the test person. The helmet consisted of a wooden drum, 1 ½ metres in diameter, positioned on the vertical axis. Inside the cylinder around the rim was a paper strip, 50 cm wide, on which there were vertical lines.²¹ Mach describes the apparatus thus:

The observer therefore sits inside a hollow, turning, lined cylinder. When this drum alone is kept turning for a few minutes one quickly notices himself *turning in the direction opposite to the drum*, along with all those things that are not hidden by the drum. However, on occasion one feels quickly returned to rest with the drum still turning, and the two subjective states alternate frequently. After several repetitions of this experiment it

¹⁹ Ibid., 84–85.

²⁰ Mach [1875] 1967, 26.

²¹ This construction could be seen as one of the earliest formal precursors of the multimedia head-mounted display, such as built by Ivan Sutherland 1966–1968 at the University of Utah. Mach's rotating apparatus was later used to conduct tests on motion sickness a highly relevant factor for air and space travel.

seemed to me as if the peripheral part of the visual field were placed in motion most easily. [...] However, the subjective process is hardly limited to the optical part. I, at least, cannot suppress some movement sensation. Many various forms of this phenomenon are well known, as when one stands on a bridge above flowing water, or it one observes several *moving railway cars* from a motionless one, whereby the visual field is partitioned into several parts, each having different motion.²²

Mach's drum created the impression of movement of an object that was in fact stationary through causing other objects to move which could be visually perceived. The observer inside the drum thus experienced induced movements.²³

Self-inspection of the Ego

By comparing sensations of movement with other sensations, Mach recognised that "a certain group, which we designate as our body, assumes special subjective importance for us. The phenomena can be divided into elements that we call sensations, as they are connected to specific processes of the body."²⁴ Here Mach anticipates the modern Berlin *Gestalt Theory* (Wertheimer, Köhler) which came later, according to which perceptions arise solely via the organisation of putting together sensory experiences. It was clear to Mach that a more complete understanding of sensations would require an intellectual interpretation. That is the reason why he postulated that sensory perception only arises in conjunction with sensations and reason,²⁵ which means that the world is not as it is, but rather it is dependent on our sense perceptions and our thinking. In his book *The Analysis of the Sensations* (1886) he divides the elements of the sensations into three groups: "common" objects, like a house or a table, he groups under ABC; KLM designates the complex of elements pertaining to our body, such as hair, colour of eyes, and so on; the αβγ group are elements that have to do with memories or emotions. A sensation ensues when all elements come together in "a single, *coherent* mass".²⁶ In addi-

²² Ernst Mach, *Fundamentals of the Theory of Movement Perception* [1875], trans. L.R. Young, V. Henn, and H. Scherberger (New York: Kluwer, 2001), 85–86.

²³ See Mach [1875] 2001, 87 (the emphasis is Mach's); Wolfgang Metzger: *Gesetze des Sehens* [1975], Eschbom 2008, 628f. The Gestalt psychologist Karl Duncker addressed in depth the concept of "induzierte Bewegung" from 1927 to 1929.

²⁴ Mach [1875] 2001, 54.

²⁵ Mach, 1898, 208.

²⁶ Mach, 1886, 14.

tion to his own investigations of sensations, Mach was also very interested in the new inventions of his age. When Wheatstone invented the stereoscope in 1838, this triggered a highly controversial discussion of monocular and binocular vision in the scientific community. The possibility of expanding the natural visual field using the stereoscope led to new opinions about spatial vision and spatial sensations. Particularly in England, the land in which stereoscopic vision had been “invented”, many interesting publications on the subject appeared after 1840. Together with his own insightful observations on binocular vision, these developments inspired Mach to his lecture *Why has man two eyes?* (1866), in which he addresses the question of perspectival perception as a product of cultural influences.²⁷ As a child, he remembers seeing all drawings of objects in perspective as “gross caricatures”. Mach takes Ancient Egyptian drawings, two-dimensional and lacking in perspective, as an example of natural seeing with both eyes.²⁸ “Change man’s eye and you change his conception of the world”,²⁹ said Mach of the visual field’s socio-cultural importance for the individual. Humans may be imprisoned in their bodies and can only see their surroundings through two windows, but the latest technical innovations would lead to new ways of seeing. After Helmholtz built a telestereoscope to see the landscape through the eyes of a giant, Mach suggested using a mirror to see oneself as a distorted reflection:

Placing before me an angular mirror, consisting of two plane mirrors slightly inclined to each other, I see my face twice reflected. In the right-hand mirror, I obtain a view of the right side and in the left-hand mirror a view of the left side, of my face. [...] But in order to obtain such widely different views of a face as those shown in the angular mirror, my two eyes would have to be set much further apart from each other than they actually are. Squinting with my right eye at the image in the right-hand mirror, with my left eye at the image in the left-hand mirror, my vision will be the vision of a giant having an enormous head with his two eyes set far apart. [...] Fixing my gaze, the relief from second to second is magnified, the eyebrows start forth prominently from above the eyes, the nose seems to grow a foot in length, my mustache shoots forth like a fountain from my lip, the teeth seem to retreat immeasurably.³⁰

The effect achieved with the optical device that Mach describes is a distortion of the face that we create today with computer software—

²⁷ Mach, 1898, 66–88.

²⁸ *Ibid.*, 88.

²⁹ *Ibid.*

³⁰ *Ibid.*, 87.

morphing. On the subject of self-observation, Mach made a unique drawing from a most unusual perspective: how he as an individual perceives the world with his left eye, as though an observer within his eye is looking through a window at the world outside. As though this is an attempt to depict the image cast on his retina, which is indicated by the right hand holding a pencil—but where is the paper? Mach produced several variations on this drawing, which did not include the hand with the pencil. It was only in the version for publication that he put the hand in, to elucidate—in his words—“the self-inspection of the ego”. As it would be far more complicated to depict a binocular visual field, he decided against that. Mach said he had received a suggestion that he should pursue the question of how to imagine the self-inspection of the ego. The perspective he chose could also be understood as the opposite pole to the much-discussed theory of projection, which was an issue at that time. Both in artistic and scientific discourses the term “projection” were very common.³¹ People spoke of projecting sentiments and projecting desires. The theory of projection played an important role in the spatiality and the direction of vision, as well as in explaining upright vision. By contrast, Mach’s drawing depicts an attempt at introspection. In a footnote in his book *The Analysis of the Sensations*, Mach says he made the drawing after receiving a letter from a C.F. Krause asking Mach if he could provide a graphic depiction of the self-inspection of the ego.³² It is possible that the execution of the drawing was influenced by Johannes Müller’s *Handbuch zur Physiologie* (1837) (*Elements of Physiology* [1842]). In the section on “Images of our own body in the field of vision”, there is a description, which could serve as a quite explicit instruction for executing the drawing that Mach made many years later.³³ Successful scientific experiments frequently sum up the whole extent of collective interests.

³¹ Ernst Kapp, *Grundlinien einer Philosophie der Technik* [1877], Düsseldorf 1978, 29–39.

³² Mach [1885] 1914, fn. 20.

³³ Johannes Müller, *Handbuch der Physiologie des Menschen für Vorlesungen*, Coblenz 1837, vol. 2, Part 1, 356–357; reprinted as the Prologue in: Karl Clausberg: *Neuronale Kunstgeschichte, Selbstdarstellung als Gestaltungsprinzip*, Vienna, New York 1999; English edition: Johannes Müller, *Elements of Physiology*, Part I, vol. 2, trans. William Baly (London: Taylor and Walton 1842), 1169–1170.

Scientific Style of Thinking and Hermeneutics in Art

For this reason, it seems entirely appropriate that a certain scientific style of thinking, which was established in the scientific community, should be transferred to the sphere of art and visualised in terms of aspects of discourse and hermeneutics. Set pieces from the field of science often crop up in artistic works, for example, the analytical, hypothetical self-inspection of the ego linked with binocular vision, which was practised by proponents of Surrealist painting (René Magritte, Salvador Dalí).³⁴

As of 1968/1969, these questions of identity and self-perception were taken up by the media artists Dan Graham and Peter Weibel and processed in their spectator-dependent installations with two cameras (to be understood as an analogy of our organs of sight, the eyes). Both artists make explicit reference to Mach and his experiments involving observers.³⁵ However, this is not reflected in their works by any banal remaking of Mach's historic experiments. Rather, their media works represent their own particular ways of taking them forward. The experiments are presented with artistic as well as epistemological background, expressed particularly by the experimental visual way the question of self-inspection is posed with new media such as the camera, video recordings, and simultaneous projection on monitors. With his "angular mirror" experiment, Ernst Mach himself had indicated that vision aided by technical devices could change our seeing habits.

In 1972, Mach's drawing was used on the cover of the announcement of Dan Graham's performance *Two Consciousness* in a New York gallery (Fig. 15).³⁶ In the performance, a woman concentrates on herself, or rather on her image shown on a monitor, and she is asked to verbalise immediately her view of herself. The person behind the camera records the woman and the recorded images appear simultaneously on a screen, which both the woman and the audience can see. The cameraman also verbalises his observations regarding the image of the woman: psychological feedback emerges. The overlapping of the projection influences the reciprocal perception, and has effects on both behaviour and verbal

³⁴ Clausberg, 1999, 37–79.

³⁵ It would seem that the video camera corresponds more to the eyes than the film camera because video technology enables simultaneous recording and projection of what is being shot.

³⁶ Graham also used the drawing a second time — for the cover of his film catalogue in 1977.

expressions. Here Graham demonstrated the contingency and relativisation of the individual's identity by means of video systems.



Fig. 15. Announcement of Dan Graham's Performance, New York 1972. Archive: Schuler.

Mach's influence on Dan Graham is already discernible in his 1969 work *Binocular Zoom*. Before each of the artist's eyes was a Super 8 mm film camera and both were set to exactly the same zoom level. Both cameras were trained on the sun, which was behind slight cloud cover, and each camera corresponded to the retinal images of the two eyes. Both cameras filmed the sun at the same time. The film was shown on a double split screen.

In *Roll* (1970), Graham also used two cameras. One was placed as a stationary object on the ground and the other camera he held to his eye, which made it the subject. The "objective" camera was placed at a certain distance to the artist's body. Equipped with viewfinders, the cameras/eyes both attempted to focus on the other camera and its position. The films from the two cameras were projected simultaneously onto two opposite walls at eye level. While filming with the camera in front of his eye, the performer continually made rolling body movements. On the screens, two simultaneous standpoints are seen: one from the static camera from outside and the other from the position of an internal observer—the actual body movements as a permanently rotating image.

The video performance *Body Press*, also from 1970, featured two bodies, of a male and a female, enclosed inside a mirrored cylinder. The

performers made movements with their hands by passing the video cameras around their bodies while standing still. They also exchanged cameras. They filmed the images on the mirrored walls and parts of the other performer's body opposite them. The film sequences were projected in a double projection on the walls opposite. The cameras functioned as two "eyes" that only reproduce external perceptions as fragments.

The artist and theoretician Peter Weibel began by studying medicine and physiology, thus he was acquainted with the historical scientific experiments on sensory perception. Like Graham, Mach's self-inspection drawing made a deep impression on him, and in 1991, he processed the image using modern computer graphics software (Fig. 15). One variant of his digitally edited perspective warp of the Mach drawing was used for the cover of the Ars Electronica catalogue *Welt von Innen, Endo und Nano* (1992). With this distorted representation of Mach's drawing Weibel alluded to the historical development of biological and mathematical psychophysics up to modern endophysics.

Weibel's video piece *The Endless Sandwich* of 1969 is one of the early examples of his exploration of the inner observer.³⁷ As a result of engaging with inner self-inspection and the unstable or constructed identity, Weibel began to experiment with the observer's standpoint in closed systems using model worlds.³⁸ In *The Endless Sandwich* observation of observation is presented as a finite chain of images, which depicts a series of model worlds that look identical.³⁹ *The Endless Sandwich* is one of the earliest examples from his video works series on the inner observer and the problem of interfaces in the world.⁴⁰ The processually organised image

³⁷ *The Endless Sandwich* was first shown at the First International Underground Film Festival, Arts Lab, London, in September 1970, and screened on television in the programme "Impulse" (Hans Preiner) by ORF, the Austrian national public service broadcaster: Impulse no. 7, 29.6.1972; and Impulse no. 42, 9.12.1974 (repeat); see also my interview with Hans Preiner, in Thomas Feuerstein and Romana Schuler, eds., *Teletopologie Österreich: Materialien zur Medienkunst*, Vienna: Passagen 1994. 120.

³⁸ Theories and themes connected with internal observation as well as the "artificial ego" (Valéry, Rimbaud) in connection with the question of the observer, including in quantum mechanics (Bohr, Heisenberg, Pauli, and Schrödinger) had already fascinated Weibel when he was a grammar school.

³⁹ Weibel compares the spectator to an observer in a measuring chain who is part of a whole chain of observers; see Peter Weibel, "Virtuelle Realität oder der Endo-Zugang zur Elektronik," in Florian Rötzer and Peter Weibel, eds., *Cyberspace. Zum medialen Gesamtkunstwerk*, (Munich: Boer, 1993), 39.

⁴⁰ Until the end of the 1980s Weibel considered that in essence *The Endless Sandwich* made two particular aspects clear: When many years later he became ac-

scheme looks simple, but is in fact highly sophisticated conceptually: an observer looks at a TV set and sees a series of viewers sitting in front of TVs watching over and over the same model world of a viewer in front of a television set, like an endless feedback loop. Suddenly, there is picture interference on the last TV set shown in the model world. The next observer has to get up in order to repair the fault and get the picture back. This then triggers interference on the next “inner” observer/viewer’s screen, and the fault propagates until the interference reaches the last TV set. This chain of observer images, which posits a hierarchy of observation from the outside to the inside, can be explained most simply by the principle of the Russian matryoshka dolls, where each wooden figure of a finite series separates to reveal a smaller doll of the same kind inside.



Fig. 16. Peter Weibel: Digitally edited perspective warp of Mach’s drawing, 1991. Copyright and Photo: Peter Weibel.

Weibel’s oeuvre between 1973 and 1974 included a number of works that engaged with the theme of self-observation. In his video closed circuit installation titled *Beobachtung der Beobachtung: Unbestimmtheit* (Observing Observation: Uncertainty) (1973), the viewer stood in the marked-off visual field of three cameras and was filmed live, yet viewers

quainted with the theory of endophysics, this provided him with an explanation for the observation of a finite number of model worlds; see Weibel, 1993, 39.

never saw themselves on the monitor from the front, only from the back. His investigation continued in the series on performative video works *Selbstbeobachtung als Selbstverdunkelung als Selbstverlust* of 1974 and *Perspektivische Torsi (verschraubt oder getrennt) der skulpturalen Identität*, 1974 (Fig. 17). The performer stood between two video cameras facing each other, which substituted for two eyes, in front of a screen. As both cameras transmitted reversed images, some of the image data was erased: the head appeared dark, and the only profiles seen had left and right side interchanged. This video action took place in Weibel's Vienna atelier and was exhibited as a photographic work.

The fact that although we perceive parts of our body, we can never look ourselves in the face—the feature that is so decisive for our external identity—can be performed in an exemplary way with the aid of visual media and apparently overcome. That technical media can take on the function of a means for self-observation, even if in a distorted way, Mach had already implied with his invention of the angular mirror.



Fig. 17 Peter Weibel: *Perspektivische Torsi (verschraubt oder getrennt) der skulpturalen Identität*, action and photographic work, 1974. Copyright and Photo: Peter Weibel.

Conclusion

There are various artistic approaches with regard to historical experiments and their scientific investigation and presentation. In the sphere of current exhibitions, there is a positively marked tendency to historicise nineteenth-century scientific experiments in art. Without a doubt, the experiments are transferred to the art context. Jean Baudrillard sees this as a transaesthetic process: the real object mutates in art into a hyperreal thing (artwork), or in concrete cases, real historical experiments that were actually done in laboratories are endowed with an aesthetic and real presence as artworks.⁴¹ These hyperreal artistic works are more reminiscent of romantic “reprises”, or they display an object-like and pictorially “real” depiction of knowledge without actually providing any increment of understanding and insight. One is tempted to speak of post- or neo-historicism. Classic historicism of the nineteenth century was characterised by an eclectic accumulation of older artistic styles. Today, by contrast, we are seeing a similar construct in the presentation of epistemic systems from the past, of nineteenth century ones for preference, in contemporary art.

A centuries-old task of the medium of art was to function as archivist of cultural and scientific images. Restricting the function of art to being a medium of aesthetic documentation can also be seen as the reason why independent research on art has been impeded or at least marginalised. In the meantime, this task has now been allotted to digital repositories. The current vogue for artistic transfer of scientific experiments is not bringing forth anything essentially new. It only reconstructs and reiterates. For this concept of art, there is a link back in time to the classic and traditional definition of the art of Classical Antiquity, which with the concept of *téchne* assigned art to the *artes mechanicae* and not to the *artes liberales*. It was only with the artist-engineers of the Renaissance, like Leonardo da Vinci, Alberti, and Dürer, that art ascended to the status of *ars inveniendi*.⁴² Today it appears that this position, hard-won over five hundred years ago, is being relativised because of market-oriented considerations and its worth is being devalued. Yet is it not its engagement with scientific concepts that evokes and characterises an advanced and experimental concept of art? Should not experimental art establish itself as an additional creative instance that does not restrict itself to representation, but sets up its own epistemic and creative programme, and in so doing starts up a

⁴¹ Jean Baudrillard, *Die Illusion und Virtualität*, (Berlin: Merve 1994), 10–12.

⁴² Serge Moscovici, *Versuch über die menschliche Geschichte der Natur* [1968], (Frankfurt am Main: Suhrkamp 1990), 325–383.

process of gaining new insights? This kind of emancipated stance can be seen in the programmes of artists like Dan Graham or Peter Weibel, who regard the dissolution of the boundaries and limitations of art as the reflection of the constancy of problems. The examples of the triadic constellation of Mach, Graham, and Weibel presented above are illustrations of forward-looking reprises and reflections in a visionary concurrence of scientific and artistic thinking styles.

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