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Seeing

Can we see time? First, it is dangerous to write about time. We are always in it—so we cannot say what it is, independently from us. One of the first experts in self-reflection, Saint Augustine, confessed that he knows what time is when he is not asked about it, but that he ignores it when he has to give an account of it.[1] The problem is that we can only describe it in terms of aesthetics, as it was conceived of by the ancients ("*aísthesis*"), that is to say as a form of knowledge that is linked to the senses and especially to the act of seeing, *ópsis*.[2] The ancients in turn preferred this sense over the senses that convey information from sources closer to the body. Since Freud, we have become accustomed to the idea that we are always seeing, and seeing something. This will end only when time ends, at least the time allotted to us.

We thus experience time from within, and we can resume our understanding of it in our confidence that the sun will rise again tomorrow, that things will go on. However, we know it is measured, that one day, those who come after us will know its span. This is not only valid for me and you, but for families, groups, nations, empires, and the world. Its utmost limit, its *éschaton*, was never accepted simply as the prosaic endpoint of a measured period. It seems to be an anthropological constant that men see the end also as a final revelation, *apokálypsis*, of what is hidden in time, whether as a final judgment, a heavenly Jerusalem, or an unending paradise where time is at once understood, perfected—and abolished (*aufgehoben*).[3] Religious ends of time are beyond the

1 On the presence of the past within consciousness in "verba concepta ex imaginibus," see Augustinus, *Confessiones*, Corpus Christianorum, Series Latina, vol. 27, ed. Lucas Verheijen (Turnhout: Brepols Publishers, 1981), XIV.17 and XVIII.23. See also Kurt Flasch, *Was ist Zeit? Augustinus von Hippo, Das IX. Buch der Confessiones. Historisch-philosophische Studie. Text, Übersetzung, Kommentar* (Frankfurt am Main: Vittorio Klostermann, 1993).

2 Ralf Konersmann, Catherine Wilson, and Astrid von Lühe, "Sehen" in *Historisches Wörterbuch der Philosophie*, vol. 9, ed. Joachim Ritter and Karlfried Gründer (Basel: Schwabe, 1995), column 121–161; Gottfried Boehm, "Sehen. Hermeneutische Reflexionen," in *Kritik des Sehens*, ed. Ralf Konersmann (Leipzig: Reclam, 1997), 272–298; Gernot Böhme, *Aisthetik. Vorlesungen über Ästhetik als allgemeine Wahrnehmungslehre* (Munich: Fink, 2001); Lambert Wiesing, *Philosophie der Wahrnehmung. Modelle und Reflexionen* (Frankfurt am Main: Suhrkamp, 2002); Ralph Köhnen, *Das optische Wissen. Mediologische Studien zu einer Geschichte des Sehens* (Munich: Fink, 2009).

3 Jan Assmann, *Steinzeit und Sternzeit. Altägyptische Zeitkonzepte* (Munich: Fink, 2011); Werner Beierwaltes, *Plotin: Über Ewigkeit und Zeit (Enn. III 7), übersetzt, eingeleitet und kommentiert von W.B.* (Frankfurt am Main: Vittorio Klostermann, 1967). For a general introduction to the history of philosophical anthropology during the twentieth century, see Arnold Gehlen, "Zur Geschichte der Anthropologie" [1957], in *Arnold*

world below, but a big temptation of the Enlightenment was to place the end, the *telos*, within history itself, as the goal inscribed into progress, however unending it might be. The most brilliant intellectuals were intrigued by tyrannies legitimating their total dominance by visions of the end of times. If intellectuals such as Michail Ryklin and Mark Lilla have written about those capital aberrations, this is a symptom that such eschatological perspectives of a final revelation within history are about to come to an end.[4] If 1989 was not enough to place us in contingency, 9/11/2001 or the financial crisis that broke out in 2007–2008 have done so. Also, liberalism will not bring us to an end of history when markets will have reached their final equilibrium.[5] Recent discussions did not dethrone capitalism, but they have attacked its dominion over time, making us realize that time is the most important capital we have.[6] In this context, a book such as *The Time That Remains* (*Il tempo che resta*) by Giorgio Agamben can become a radical challenge to our conception of the capital—social, symbolic, financial—that counts, of the progress we have to achieve, of the work we have to accomplish.[7] Even if *telos* is dethroned, progress will not lose its binding force as an indispensable figure of thought that has become a goal, a secularized religion, in itself: we cannot but go on working in its name, measuring others according to its parameters.

Gehlen, Gesamtausgabe, vol. 4, ed. Karl-Siegbert Rehberg, *Philosophische Anthropologie und Handlungslehre* (Frankfurt am Main: Vittorio Klostermann, 1983), 143–167. For literary strategies of hiding and revealing, see Aage A.Hansen-Löve, "Eine Ästhetik der 'Kalyptik'. Apollinische Motive bei Vladimir Nabokov," in *Gedächtnis und Phantasma. Festschrift für Renate Lachmann*, Die Welt der Slaven, vol. 13, ed. Susi Frank, Erika Greber, et al. (Munich: Sagner, 2001), 534–555.

4 Mark Lilla, *The Reckless Mind: Intellectuals in Politics* (New York: New York Review of Books, 2001); Michail Ryklin, *Kommunismus als Religion. Die Intellektuellen und die Oktoberrevolution* (Frankfurt am Main: Insel Verlag, 2008).

5 Francis Fukuyama, *The End of History and the Last Man* (New York: Free Press, 1992).

6 See these three books published in 2015 in German: Naomi Klein, *Die Entscheidung. Kapitalismus vs. Klima* (Frankfurt am Main: Fischer, 2015); Thomas Sedlacek, David Graeber, and Roman Chlupaty, *Revolution oder Evolution. Das Ende des Kapitalismus?* (Munich: Hanser, 2015); Joseph Vogl, *Der Souveränitätseffekt* (Zürich: Diaphanes, 2015).

7 Giorgio Agamben, *Il tempo che resta. Un commento alla Lettera ai Romani* (Turin: Bollati Boringhieri, 2000), 128–135 (chapter 7, "*Soglia e tornada*," about Walter Benjamin) (published in English as *The Time That Remains: A Commentary on the Letter to the Romans*, trans. Patricia Dailey [Stanford: Stanford University Press, 2005]).

Seeing and Time
The Aporia of the "Now" within the Flux of Time, and of Streams of Sensation Stopped within a Picture

From antiquity to the present, attempts at understanding time were thus linked over and again to fundamental difficulties, and for the moment, we do not see a way out of them. Antiquity has coined a word for this kind of a problem that seems to be—or really is—insoluble: *aporía*. No way: this can mean that, for the moment, we only have to set things out so that we can resolve them, but it can also mean a fundamental paradox, the mutual exclusion of two ways of seeing that nevertheless both seem reasonable and well grounded. Nowadays theoretical physicists do not yet know if the incompatibility of the general theory of relativity sketched out by Albert Einstein in November 1915 and the theory of quantum mechanics developed some ten years later by the research of Werner Heisenberg, Erwin Schrödinger, Niels Bohr, and some others is an aporía of the first or of the second type.[8] For modern physics, time is a riddle—not only thanks to the paradox subsisting between relativity and quantum mechanics, but also due to the mystical character of both of them for most of us. Ever since Einstein, in 1905, developed the special theory of relativity, we have disposed of an explanation of time as linked to speed, thus to motion, resulting from a function of energy, mass, and speed ($E = mc^2$). We accept that gravitation, instead of being a basic phenomenon in a mechanical world, as Newton thought and Voltaire made known, is a curvature of space-time.[9] But who really understands that? Even those who do have to recur to models illustrating the fourth dimension—a generalized idea close to Einstein's space-time—by metaphorically reducing it to explanatory models in three dimensions.[10] Our perception (*aísthesis*) gets no access to the n-dimensional world, a problem that intrigued artists as far back

8 Albert Einstein, *Relativity: The Special and the General Theory*, 100th anniversary edition, with commentaries and background material by Hannoch Gutfreund and Jürgen Renn (Princeton, NJ: Princeton University Press, 2015); Hubert Goenner, *Einführung in die spezielle und allgemeine Relativitätstheorie* (Heidelberg: Akademischer Verlag, 1996); Brian Greene, *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory* (New York: W. W. Norton & Company, 2003); Gerhard Börner, *Das neue Bild des Universums—Quantentheorie, Kosmologie und ihre Bedeutung* (Munich: Pantheon, 2009).

9 Eric Schliesser, "Newton's Philosophy of Time," in *A Companion to the Philosophy of Time*, ed. Heather Dyke and Adrian Bardon (Chichester: Wiley-Blackwell, 2013), 87–101; Pierre Brunet, *L'introduction des theories de Newton en France au XVIIIème siècle* (Paris: Blanchard, 1931); J. B. Shank, *The Newton Wars and the Beginnings of the French Enlightenment* (Chicago: The University of Chicago Press, 2008).

10 Stephen Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (New York: Bantam, 1988); Gordon Bellot, "Time in Classical and Relativistic Physics," in *A Companion to the Philosophy of Time*, ed. Dyke and Bardon, 185–200.

as Marcel Duchamp.[11] Paradox, thus, is not a topic for spare-time discussions, but it is inscribed into what we—somehow—believe to be valid.

The attempt at understanding time is linked to the most prominent and earliest aporía discussed by philosophers from antiquity to our day. Of the paradoxes of Zeno of Elea I want to mention only one: the paradox of the flying arrow. If we conceive of the span the arrow flies as a line, or a vector, the arrow should at every moment be in some place. This place defines the "now" of its actual position. Zeno's argument amounts to saying that if the arrow is in a place it cannot be at the same time in motion. Yet his way of explaining that is a bit more complicated. If we mark two different positions on the vector of the arrow's trajectory, the span between them can be divided endlessly into parts. However, the arrow cannot pass, according to Zeno, through a nonfinite amount of positions during a limited period of time.[12] Zeno's paradox is an attack against two aspects of our understanding of time: against our conception of time as being analogous to space, and against our idea that time somehow is made up of an endless series of "nows."

In antiquity, but also during the twentieth century, philosophers took up the challenge. Aristotle, who defined time as the "number of motion," proposed a solution: according to him, instants marked within the flux of time are simply ways to measure time, which, however, always implies motion. Just as it is not essentially a property of an apple that it might be part of a quantity of so many items, measurement is not part of what movement—and time—are in themselves, but merely our way of objectifying them. The philosophical view of time that Aristotle proposes in his *Physics* is thus close to his philosophy of mathematics. By underlining the ideality of mathematics in confrontation with the objects to which it is applied, he also stresses the intellectual, noetic character of measured time vis-à-vis what materially happens within it, which always is motion.[13] Thereby, he argued not only against the Pythagoreans, who took numbers to be real, even more real than what can be counted, but also against Plato, who, in his dialogue *Timaeus*, constructed a graduation of temporality in the world beneath the moon in order to evacuate time ever more in favor of pure measurement in the world of the stars and of pure spirituality located within a fire beyond the heavenly sphere, the ether. At the same time, the atemporal instance of the supreme good emanates into the hierarchies of ever more temporal beings, down to the world on earth. As creatures, temporal

11 Linda Dalrymple-Henderson, *The Fourth Dimension and Non-Euclidean Geometry in Modern Art* (Cambridge, MA: MIT Press, 2013 [1983]); Craig E. Adcock, *Marcel Duchamp's Notes from the Large Glass: An n-dimensional Analysis* (Ann Arbor and London: U.M.I. Research Press, 1983).

12 Niko Strobach, "Zeno's Paradoxes," in *A Companion to the Philosophy of Time*, ed. Dyke and Bardon, 30–46.

13 *Aristotelis Physica*, ed. William David Ross (Oxford: Clarendon Press, 1950); Tony Roark, *Aristotle on Time: A Study of the Physics* (Cambridge: Cambridge University Press, 2011).

as well as reasonable, we desire to return to non-temporal spirituality, in an anamnesis equaled with eros—an idea immensely important for neo-Platonics from late antiquity to the Middle Ages.[14] Plato, thus, mediated between a conception of the world that took as real only what does not change (and what substantially *is*, of being as *ón*, in that sense), developed two generations before by Parmenides of Elea, and a conception that accepted as real only what changes, considering unalterable substances and essences to result from mere abstraction. From Aristotle to Karl Marx, this position was ascribed to Heraclitus.[15] The cosmos of the *Timaeus* is a hierarchy between heavenly orders closer to the Parmenidean *ón*, to unchanging being considered as what really *is*, and sublunary structures characterized by the Heraclitean *pánta rhei*, "all is in flow."

Aristotle did not agree with the vision of his teacher for whom time is an internal contradiction structuring the cosmos. If he considers time as an aporía, he uses the term only in order to describe a philosophical riddle brought up by the philosophical predecessors he discusses, a riddle, however, that he could resolve once and for all. However, the aporía has survived to the present day. Below, we will see how Henri Bergson attempted to resolve the aporía between time as we live it from within (as *durée*, or *élan vital*) and time as we measure it, by spatializing it. Bergson, like a modern Zeno, again played off the two sides of the aporía—time lived and time measured. Before we come to Bergson, let us consider positions in philosophy closer to Plato: both Hegel and Derrida inscribe the aporía of temporality into the very act of consciously living, thinking, or reading time.

Hegel read time as based on a negation, the negation of the now considered as a timeless point, in a line (obtained, so to speak, by putting the point into motion), of line in surface, and of surface in three-dimensional bodies. Similarly, a thoroughly passive receptivity of the senses needed to be transcended, through negation, so that active interpretation can see the world as it is structured in the sequence of events.[16] Nowadays

14 Plato, *Timaios*, ed. John Burnet (Oxford: Oxford University Press, 1902); Ernst A. Schmidt, *Platons Zeittheorie. Kosmos, Seele, Zahl und Ewigkeit im Timaios* (Frankfurt am Main: Vittorio Klostermann, 2012); Gretchen J. Reydams-Schils, ed., *Plato's* Timaeus *as Cultural Icon* (Notre Dame, IN: University of Notre Dame Press, 2002).

15 Ronald C. Hoy, "Heraclitus and Parmenides," in *A Companion to the Philosophy of Time*, ed. Dyke and Bardon, 9–29. For the sources, see Hermann Diels and Walther Kranz, *Die Fragmente der Vorsokratiker*, 3 vols. (Hildesheim: Weidmann, 2004–2005 [1902; 1951–1952]). For a good introduction with bibliographical references, see Christoph Rapp, *Vorsokratiker* (Munich: Beck, 1997).

16 Georg Wilhelm Friedrich Hegel, *Wissenschaft der Logik*, (Hamburg: Meiner, 1984 [1812]), 176–193; Georg Wilhelm Friedrich Hegel, *Enzyklopädie der philosophischen Wissenschaften im Grundrisse*, part two: *Die Naturphilosophie* (Hamburg: Meiner, 1992 [1830]), 245–251, § 256–259). Dieter Wandschneider, *Raum, Zeit, Relativität. Grundbestimmungen der Physik in der Perspektive der Hegelschen Naturphilosophie* (Frankfurt am Main: Klostermann, 1982). For a deeper orientation in Hegel's work and its development, see Walter Jaeschke, *Hegel-Handbuch* (Stuttgart and Weimar: Metzler, 2010).

commentators underline that for Hegel it makes no sense to distinguish between what is perceived as taking place in time and what really is going on. We thus can err, but we cannot have an entirely wrong idea of history. Dialectics are inscribed into history, not just in our thoughts about it.[17] For Hegel, there is no aporía opposing time as it is in itself and our conceptions of it. However, negativity is part of time itself, keeping it moving, so to speak—in a notional movement of thesis, antithesis, and synthesis that constitutes the very reality of historic temporality itself.

Derrida was an attentive reader of Hegel—whom he read in turn as taking up Aristotle's philosophy of time. His essay on Hegel was printed in 1972, right after a classical text in which he developed his notion of *différance*—a neo-graphism destined to stress the double meaning of the Latin word *differre*, repeated in the French word *différer*, meaning differ as well as defer. For Derrida, it is important that one cannot hear the *différAnce* he introduced by changing a letter, but only read it. According to him, we are used to taking the voice as a medium of presence, the sense being, so to speak, co-present to the voice of a speaker explaining it.[18] The written word, however, is read over and over again, and in every repetition, it discloses another sense. Repetition is, thus, never the repetition of the same—an alteration in every reading Derrida analyzes as a process of iteration, of change-within-repetition. The sense of a given inscription (*grámma*) is, thus, not present, but always deferred to a future already present in its ongoing fulfillment of the relation between the *grámma* as a signifier and the signified, which always goes beyond any intended or defined meaning. Presence is thus not a primary given, but an effect, precarious and ephemeral.[19] When writing on Hegel, inspired by a footnote at the end of Heidegger's *Being and Time*, Derrida criticized our normal thinking of form and shape ("Gestalt") as something present (Heidegger: "anwesend"). Derrida follows Hegel when he reads time as a perfection and an unmaking ("Aufheben") of space: the consequence of the negation implied in any "now," which keeps the movement of understanding going. Time is thus an aporía in itself: Derrida deconstructs Aristotle's view uniting time and movement in perception, *aísthesis*—in a union, however, possible only within the mind, *en tè psyché*. According to the French philosopher, we read time in what blazes the way, inscribing itself into time as a trace, a line, a *grámma*. We are thus

17 Pirmin Stekeler-Weidhöfer, *Hegels Phänomenologie des Geistes. Ein dialogischer Kommentar*, 2 vols. (Hamburg: Meiner, 2014); Robert Brandom, *Wiedererinnerter Idealismus* (Frankfurt am Main: Suhrkamp, 2015) [as of October 2015, there is no American edition].

18 Derrida, *La voix et le phénomène. Introduction au problème du signe dans la phénoménologie de Husserl* (Paris: PUF, 1967). For a good introduction to Derrida, see Susanne Lüdemann, *Jacques Derrida zur Einführung* (Hamburg: Junius, 2011).

19 Jacques Derrida, *Marges de la philosophie* (Paris: Éditions de Minuit, 1972), 1–29 ("la différance").

always in time and above it, undergoing it and in the process of realizing it—whether we read or shape or practice it. Difference is thus inscribed in every here and now, and our understanding is not present in voice, but in a constant deferral of following, understanding traces—and continuing to leave and lay them down. Time, in this conception, knows no beginning (*arché*) and no end (*télos*).[20] What was negation for Hegel, Derrida retranslates into an aporía. For him, an aporía is not a riddle we can resolve, like for Aristotle, but a symptom of our thinking confronted with its own limitations—in the final instance with death, obliging us to think ourselves as not being.[21] But even beyond such pathetic anticipations of an unthinkable end, the mere temporality of meaning—such as it is traceable within the relation between sign and signified—confronts us with an ongoing aporetic structure: according to Derrida, meaning is never "fulfilled." Significance—and the search of sense—has to be considered from within a practice attempting to reach at results—at results, however, for which we claim validity, even objectivity, thereby realizing that they will always remain precarious, provisional. This—seemingly paradoxical—view was inspiring for contemporary historians of science as well as for literary theorists.[22] It inscribes the structure of deferral into what we are used to unquestioningly welcoming, and demanding, as progress.

Seeing, ópsis, is not free from the paradoxes linked to time. Time, since man has tried to think about it, has been an enigma. Pictures, as fetishes or as icons, as models or as representations, seem to share some of its enigmatic character. What we see in them is somehow present, and somehow not. Since authors such as Hans Belting, Gerhard Wolf, and Horst Bredekamp proposed a new anthropology of material pictures, or spiritual images, the impact of images has been at the center of the attention of art historians. If images are imbued with an agency of their own, they owe this to their capacity

20 Derrida, *Marges de la philosophie*, 31–78 ("ousia et grammè. note sur une note de Sein und Zeit"); Joanna Hodge, *Derrida on Time* (London and New York: Routledge, 2007); Ruben Borg, *The Measureless Time of Joyce, Deleuze and Derrida* (London: Continuum International Publishing Group, 2007). See also Jacques Derrida, *Glas* (Paris: Galilée, 1974). Stuart Barnett, ed., *Hegel after Derrida* (London and New York: Routledge, 1998).

21 Jacques Derrida, *Apories. Mourir—s'attendre aux "limites de la vérité"* (Paris: Galilée, 1996).

22 Hans-Jörg Rheinberger, *Iterationen* (Berlin: Merve, 2005), 9–29 ("'Alles, was überhaupt zu einer Inskription führen kann'"). Brandom's propositions about the social construction of objectivity could be discussed in this context, although he declares his skepticism toward Derrida, in Robert B. Brandom, *Making It Explicit: Reasoning, Representing, and Discursive Commitment* (Cambridge, MA, and London: Harvard University Press, 1994), 141–271, 495–613 (chapters 3, 4, and 8); Robert B. Brandom, *Articulating Reasons: An Introduction to Inferentialism* (Cambridge, MA, and London: Harvard University Press, 2001). This should be discussed in the context of "fictional truths," according to Kendall L. Walton, *Mimesis as Make-Believe: On the Foundations of the Representational Arts* (Cambridge, MA, and London: Harvard University Press, 1990).

to bridge time, by means of their protracted presence.[23] They not only can keep a face alive when it grows old or long after the death of the one who "bears" it, thereby raising the question of who the one who bears it is or was, once and for all.[24] They also can be violent, or stand for the violence that is needed to keep a ruler or a state operative.[25] Pictures have the power to show, whereas language can only argue, tell, and represent through discourse.[26] Showing amounts to a special kind of presence, an appearance as-what-it-(really-)is, *parousía*, or at least as-something-as-someone-meant-it. Pictures, thus, not only bridge time, but they somehow make it present, paradoxically through undoing it, in a given moment. In itself, depicting means understanding and abolishing ("aufheben") time. Horst Bredekamp understood this when he based his definition of an "image act" ("Bildakt")—a formula coined as an analogy to John Austin's *speech acts*—mostly on an erudite analysis of artworks deploying in one way or another magic power.[27]

But also in a less enigmatic sense, understanding pictures confronts us with a paradox. We can get an idea, visualize, take a picture of everything—in German, we say, "sich ein Bild machen von" in a very large, metaphoric sense. Before the invention of cinema, visualizing things was tantamount to removing time from the way they appeared. Every process, every practice, every action can be resumed, and thus stopped, in a picture. Much attention has been devoted to pictures since the "iconic" or "pictorial turn" inaugurated in 1994 by Gottfried Boehm and by W. J. Thomas Mitchell.[28] However, pictures result from seeing, yet another practice. Seeing somehow has a structure analogous to that of time, albeit in a more pragmatic, prosaic sense: we are always in it; it is impossible to suspend it. However, how we see can become itself a subject of vision, for example in pictures that do not just give us something to see but

23 Alfred Gell, *Art and Agency: An Anthropological Theory* (Oxford: Clarendon, 1998).

24 Hans Belting, *Bild-Anthropologie. Entwürfe einer Bildwissenschaft* (Munich: Fink, 2001), 115–142; Hans Belting, *Faces. Eine Geschichte des Gesichts* (Munich: Beck, 2013).

25 Horst Bredekamp, *Repräsentation und Bildmagie der Renaissance als Formproblem* (Munich: Carl Friedrich von Siemens Stiftung, 1995).

26 Gottfried Boehm, *Wie Bilder Sinn erzeugen. Die Macht des Zeigens* (Berlin: Berlin University Press, 2007).

27 Horst Bredekamp, *Theorie des Bildakts* (Frankfurt am Main: Suhrkamp, 2010), 307–333; Horst Bredekamp and John Michael Krois, *Actus et imago. Sehen und Handeln* (Berlin: Akademie Verlag, 2011). For a modern—deconstructivist—discussion about John Austin, see Eckard Rolf, *Der andere Austin. Zur Rekonstruktion/Dekonstruktion performativer Äußerungen—von Searle über Derrida zu Cavell und darüber hinaus* (Bielfeld: transcript, 2009).

28 Gottfried Boehm, ed., *Was ist ein Bild?* (Munich: Fink, 1994); W. J. T. Mitchell. "The Pictorial Turn," *Artforum* (March 1992): 89–94; W. J. T. Mitchell, *Picture Theory: Essays on Verbal and Visual Representation* (Chicago and London: The University of Chicago Press, 1994). See also Gottfried Boehm, "Iconic Turn. Ein Brief," and "Pictorial Turn. Eine Anwort—Ein Briefwechsel von 2006," in *Bilderfragen*, ed. Hans Belting (Munich: Fink, 2007), 27–46.

somehow make us aware of how we look at them—Victor Stoichita called them "self-aware images."[29] Accordingly, art historians first discussed seeing as it is somehow resumed, and "realized," in pictures. After years of debates about the anthropological, phenomenological, or ontological status of pictures, it is time to shift the emphasis to the question of how pictures in turn structure the socially and culturally coded practices of seeing. Practices and their history, the use of pictures and their changing impact, and scientific accounts of how we see are central aspects in attempting to understand the regimes of the temporality we live in, and their genealogies. We can only try to contribute to an ongoing debate.[30] Within it, the interplay between the production and the use of pictures and of seeing as it is inscribed in social and epistemic practices will remain an issue of further discussions—we are far from having a thorough understanding of the issue.

The history of science had and continues to have a major impact on how the humanities conceive of historical practices of vision. Historians of science such as Hans-Jörg Rheinberger devote their attention to the experimental situations that are at the origin of what some "genial mind" might later turn into a theory.[31] Making something observable is a key issue of their research. How could Mach see what happens at supersonic speed? He needed to construct a machine in which a camera takes a picture at the very moment a bullet shot from an ultramodern gun passes in front of the lens. No human eye can observe the waves of the air around the projectile, but the camera can. Taking (and making) a picture thus was automatized.[32] Seemingly, a host of optical instruments was involved in the type of research leading to Helmholtz's *Optics*. A lot has been done in order to understand the importance of telescopes or microscopes for historical *ópsis* ever since Galileo Galilei and Antonie van Leeuwenhoek.[33] The impact of optical instruments from the camera obscura and camera lucida to Claude Glasses and stereoscopes on optical practice and attention has been the topic of systematic research

29 Victor Stoichita, *The Self-Aware Image: An Insight into Early Modern Meta-Painting* (Cambridge: Cambridge University Press, 1997).

30 Emmanuel Alloa, ed., *Erscheinung und Ereignis. Zur Zeitlichkeit des Bildes* (Munich: Fink, 2013).

31 Hans-Jörg Rheinberger, *Historische Epistemologie zur Einführung* (Hamburg: Junius, 2007); Hans-Jörg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube* (Stanford: Stanford University Press, 1997).

32 Christoph Hoffmann and Peter Berz, *Über Schall. Ernst Machs und Peter Salchers Geschossfotografien* (Göttingen: Wallstein, 2001).

33 Karin Leonhard, *Bildfelder. Stilleben und Naturstücke des 17. Jahrhunderts* (Berlin: Akademie Verlag, 2013); Gabriele Wimböck, Karin Leonhard, and Markus Friedrich, eds., *Evidentia. Reichweiten visueller Wahrnehmung in der Frühen Neuzeit* (Berlin: Lit, 2007).

during the last two and a half decades.[34] However, research on the optics involved in understanding psychology—and also optics—is only at its beginnings.[35]

The foundation of physiology during the nineteenth century as a broad current that was institutionalized in networks of experimental research was an important stimulus toward understanding what is involved in seeing. Hermann von Helmholtz published his *Handbook of Physiological Optics* in 1867.[36] He not only presented modern scientific results about processes such as the seeing of color as well as light and darkness, the adaptation of the eyes, their movements and binocular vision, but he also proposed a conception of seeing as an *act* of interpreting the sense data, and of configuring spatial objects from them.[37] Soon, physiologists such as Ewald Hering and Ernst Mach contradicted him: they stressed the importance of *processes* taking place according to innate structures. For them, optical stimuli only trigger the processes that make us configure the visual world on the basis of the material they deliver to consciousness as mere input. Is seeing, thus, a *process* or an *action*? Is it innate or do we learn it? For modern neurophysiologists, both innate structures and experience are certainly involved, but it is far from clear to what extent.[38]

This question is not an aporía in the stronger sense—neurophysiological research will get us closer to differentiated solutions.[39] But as soon as its results had an impact on

34 Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1992); Jonathan Crary, *Suspensions of Perception: Attention, Spectacle, and Modern Culture* (Cambridge, MA: MIT Press, 1999); Erna Fiorentini, *Prismatisches Sehen. Die Camera Lucida als Metapher des Visuellen im frühen 19. Jahrhundert* (Göttingen: Wallstein, 2008); Arnauld Maillet, *The Claude Glass: Use and Meaning of the Black Mirror in Western Art* (Brooklyn, NY: Zone Books, 2004).

35 Christoph Hoffmann, *Unter Beobachtung. Naturforschung in der Zeit der Sinnesapparate* (Göttingen: Wallstein, 2006); H. Maximilian Wontorra, *Frühe apparative Psychologie* (Tönning, Lübeck and Marburg: Der Andere Verlag, 2009).

36 Hermann von Helmholtz, *Handbuch der physiologischen Optik* (Leipzig: Voss, 1867) (published in English as *Treatise on Physiological Optics* [New York: Dover, 1962]).

37 Timothy Lenoir, "The Eye as Mathematician: Clinical Practice, Instrumentation, and Helmholtz's Construction of an Empiricist Theory of Vision," in *Hermann von Helmholtz and the Foundations of Nineteenth-Century Science*, ed. David Cahan (Berkeley, Los Angeles, and London: University of California Press, 1993), 109–153; R. Steven Turner, "Consensus and Controversy: Helmholtz on the Visual Perception of Space," in ibid., 154–204.

38 Ernst Mach, *Die Analyse der Empfindungen* (Berlin: Xenomoi, 2008 [1885, 1911]) (published in English as *Contributions to the Analysis of Sensations* [Chicago: Open Court, 1897]).

39 Karl R. Gegenfurter, *Gehirn und Wahrnehmung. Eine Einführung* (Frankfurt am Main: Fischer, 2011), 39–56; Dale Purves, George J. Augustine, David Fitzpatrick, et al., *Neuroscience* (Sunderland, MA: Sinauer, 2012), 229–256 (chapter 11, "Vision: The Eye"), 257–276 (chapter 12, "Central Visual Pathways"), 435–450 (chapter 20, "Eye Movements and Sensory Motor Integration"); Leo M. Chalupa and John S. Werner, eds., *The Visual Neurosciences*, 2 vols., (Cambridge, MA: MIT Press, 2004); Gary Hatfield, *Perception & Cognition: Essays in the Philosophy of Psychology* (Oxford: Oxford University Press, 2009), 124–152.

philosophy, and on artistic practices that were increasingly philosophical in themselves, or on dance and cinema, they put the aporía truly linked to pictures to the fore: whether seeing is a process or a practice, it is temporal, diachronic, whereas pictures are spatial, synchronic. They are— somehow—fixed. This is true also for cinema and dance—and for music. Listening to a melody was an example for stressing this point: if we would only hear a sequence of tones, thus of acoustic qualities following one another, we would not listen to a melody at all. One tone would extinguish the one that preceded it. In order to understand what we hear (*aísthesis*) by hearing it as a melody, we need to synthesize somehow the mere succession into a sequence. That involves a synchronic presence of what was diachronic. We will come back to the discussion of melodies, which was rather intense around 1900. Recent research on eye-tracking has at least shown that temporality is involved also in non-moving pictures: synthesis is required if we make up a picture out of the sense-data whose temporality can be tracked in the saccades between the points the eyes fix when looking at something, for example at a work of art. Thus, if we make an image of a picture by looking at it ("ein Bild von einem Bild machen"), we are reconfiguring in spatial terms what we can see only as a temporal sequence.

Anthropological or ontological theories of an image mostly focus on what is characteristic of pictures in general, on universals. The essays in this volume focus on *aísthesis*, on perception (not on *aisthéta*, on what is perceived or perceivable)—and on *ópsis*. If they deal with *eikónes*, they do so in order to understand more what they do than what they are or what might be—always?—characteristic of their way of conveying meaning. Mostly, however, they have to do with pictures that do not simply give something to be seen but something to be seen that informs us about seeing itself, about vision. We think this approach has some topicality, not just through possibly shifting the attention of art history a bit from pictures to seeing—thereby trying to provide further impulses on an ongoing debate. If our time makes the "tempo che resta" visible as what counts more than anything we can accomplish within it, if it is not only what is left to me or to us but to a common culture, we have to engage not only within it, but with it. Understanding better what that meant, and what it means, helps us to cope with that "capital." Can we, thus, see time? We are always doing so, and we can gain a picture even of that—we can visualize it. Like language, *ópsis* is recursive; it can have a look at itself. But also like language, we can only conceptualize it, and shape it, from within. In that sense, we cannot calmly contemplate Heraclitus's river while sitting on its shores.

Protracted Presence? Time within Pictures

Physiological research and an empirical psychology based on it—but also empirical sociology—were institutionalized from the mid-nineteenth century to the First World War. At the same time, controlled and repeatable experimentation was instituted as the only method of the natural sciences.[40] These methods demanded that large numbers of experimental workers skillfully arranged experimental situations that were often highly fragile, for example when the contraction of a frog's muscle excited by an electrical impulse had to be measured or when a bullet shot by a gun had to be exposed to a photographic plate by a light flash it had itself triggered when it severed a wire.[41] Statistics were accepted in the course of the nineteenth century as a rigorous method in the social sciences and only during the 1890s also in psychology. Results depend largely on the skillful selection of data, the formulation of questionnaires or the like.[42] Processes hitherto hidden were brought to the fore by the new sciences and the humanities. One of them was seeing.[43]

The arts were part of a new discourse marked by an almost industrial inquiry into all the processes of life. Increasingly, artists transformed what they were doing into an experiment with their medium and its representational power. The prior century had witnessed a process which increasingly integrated media criticism into everything that was seen within a medium. To be touched in a "naivisch" way by a motive, to use a term employed by Friedrich Schiller, was no longer possible, at a time when an appraisal of the means of exciting emotion was always part of the effect—in an art that had become "sentimentalisch."[44] Even before, the medium had inscribed itself into its content, in self-aware images.[45] But around 1800 visual processes and activities, that the new scientific approaches had only recently explored, were increasingly integrated into vision such as it was realized by the artists in their work. A portrait is meant to perpetuate the presence of the person represented for unforeseeable times. However, the painter is capturing her or him in a short moment. Ever since Renaissance humanism invented the rhetorical portrait, the painter has not only fixed the traits of the one he painted, but has also

40 David Cahan, ed., *From Natural Philosophy to the Sciences: Writing the History of Nineteenth-Century Science* (Chicago and London: The University of Chicago Press, 2003), 254–290.

41 Henning Schmidgen, *Die Helmholtz-Kurven. Auf der Spur der verlorenen Zeit* (Berlin: Merve, 2009).

42 Ian Hacking, *The Taming of Chance* (Cambridge: Cambridge University Press, 1990).

43 Timothy Lenoir, *Instituting Science: The Cultural Production of Scientific Disciplines* (Stanford: Stanford University Press, 1997), 131–178 (chapter 6, "The Politics of Vision: Optics, Painting, and Ideology in Germany, 1845–1895").

44 Werner Busch, *Das sentimentalische Bild. Die Krise der Kunst im 18. Jahrhundert und die Geburt der Moderne* (Munich: Beck, 1993); Crary, *Techniques of the Observer*.

45 Stoichita, *The Self-Aware Image*.

seized the very moment of an encounter with that personality, showing his counterpart as interacting with him—and thereby also somehow with every spectator who would look at the portrait in the future.[46] By fixing a typical gesture and facial expression, the portrait was meant to synthesize the soul, or the character (Greek: *éthos*) of a person in a single moment. During the nineteenth century the concept of ethos changed into broader conceptions of the human habitus.[47] Physiognomy was one of the impulses;[48] but soon, a sociological and a psychological gaze was developed in the rising art form of the novel: Stendhal and Honoré de Balzac possibly did more for imposing a psychological and sociological gaze in France than founding figures such as Auguste Comte.[49] After the French Revolution, dress did not identify a person people met in everyday life according to her or his profession or social rank. Richard Sennett explores how much typologies of the human were affected by the Sherlock Holmes gaze resulting from dress-code anonymity.[50] A portrait such as Ingres's *Monsieur Bertin* was not only marked by these codes, it also contributed to imposing them (fig. 1). The editor of *Le Constitutionnel*—as the artist confronted his public with him—was soon seen as the quintessential bourgeois who was conquering the future under the July monarchy, the regime of opportunism and capitalism. Barbara Wittmann rightly observed that Parisians were not only invited to check the personality of this representative of a new order, but that he addresses the same sort of gaze at the spectator at whom he himself looks by raising his eyebrow as a sign of attentively inquiring into the one who—if we place ourselves in the fictional world of the painting—is looking at him.[51] The very moment of the spectator encountering the gaze of Monsieur Bertin, by whom he is observed, marks an instant not only of recognition, but also of installing a disciplinary regime in which everyone checks who the other is, thereby also being observed by the other who adopts the same aesthetic regime.

In 1906, Picasso remodeled the self-assured pose of what meanwhile had become the epitome of a bourgeois portrait by fixing Gertrude Stein in a comparable position (fig. 2).

46 Andreas Beyer, *Das Porträt in der Malerei* (Munich: Hirmer, 2002); Rudolf Preimesberger, ed., *Portrait* (Berlin: Reimer, 1999); Ulrich Pfisterer and Valeska von Rosen, eds., *Der Künstler als Kunstwerk. Selbstporträts vom Mittelalter bis zur Gegenwart* (Stuttgart: Reclam, 2005).

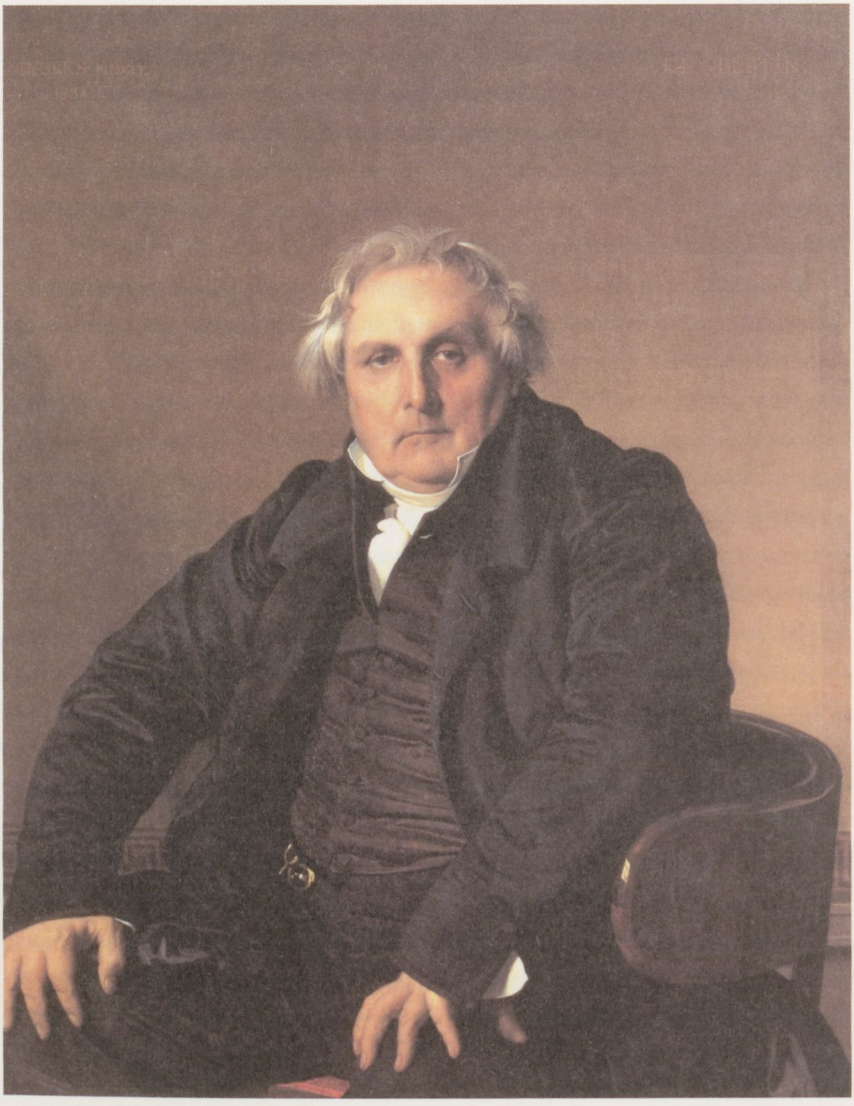
47 Pierre Bourdieu, *Esquisse d'une théorie de la pratique* (Paris: Droz, 1972), 178–184.

48 Thomas Kirchner, *L'expression des passions. Ausdruck als Darstellungsproblem in der französischen Kunst und Kunsttheorie des 17. und 18. Jahrhunderts* (Mainz: von Zabern, 1991).

49 Theodore M. Porter, "The Social Sciences," in *From Natural Philosophy to the Sciences*, ed. Cahan (Chicago and London: The University of Chicago Press, 2003), 254–290.

50 Richard Sennett, *The Fall of Public Man* (New York: Knopf, 1977).

51 Barbara Wittmann, *Gesichter geben. Édouard Manet und die Poetik des Portraits* (Munich: Fink, 2004), 17–52.



1 Jean-Auguste-Dominique Ingres, *Portrait of Monsieur Bertin*, 1832, oil on canvas.

2 Pablo Picasso, *Gertrude Stein*, 1906, oil on canvas.

The writer had to pose about ninety times before the painter found a formula for her face. Instead of being confronted with a face arrested in its typical expression, the spectator's gaze is constantly thrown back while trying to make sense out of this mask.[52] It is like an effect of visual anesthesia resulting from hyperesthesia: staring too long at the face of this woman whose activity and lifestyle places her out of the standard social typologies was tantamount to not seeing anything in it. Some forty years previously Manet had tortured Berthe Morisot through endless sessions of painting her, in order to slowly learn how to paint her quickly, and how to draw the spectator in a stroke into what has always been described as her "Medusa's gaze," not, like Picasso did with Stein, to freeze her face into a mask.[53] Ambroise Vollard told similar stories about Cézanne, for whom he had to pose in 1899, more than 100 times.[54] Picasso radicalizes what Cézanne has prepared: the more we look at her face, the more enigmatic it becomes. Repetition—and change within repetition—was a strategy Stein herself also exploited in her poetry.[55] Bergson—a strong critic of psycho-physiological research—had studied a form of remembrance not based on facts or images, but on schemes of reaction as linked to stimulus, on behavioral patterns and motion sequences. When consciousness is triggered through an actual experience, memory makes them available.[56] Stein, a trained doctor, had visited the courses Bergson held at the Collège de France. She might have drawn Picasso's attention to a procedure obliging the spectator to iterate the endless act of painting.[57] When Picasso, in her portrait, alludes to Ingres's *Bertin*, he underlines the fact that in his attempt at fixing her portrait, the whole tradition of the physiognomic portrait fails. What had been an instantaneous cognitive—and disciplinary—act in looking at *Bertin* was transformed by Picasso into an ongoing, somehow "endless" confrontation with an inscrutable woman.

The examples demonstrate how much portraying—and interacting with a person represented in a painting—was considered during the nineteenth century as an event, and as an action. For both, the painters and the spectators, vision is thus not the passive recording of the outside world entering our consciousness through the window of

52 Gertrude Stein, *The Autobiography of Alice B. Toklas* (London: Penguin, 1966 [1933]), 34–76.

53 Wittmann, *Gesichter geben*, 147–176.

54 Christina Feilchenfeldt in *Vollendet/Unvollendet. Cézanne*, exhibition catalogue, January 20 to April 25, 2000, Kunstforum Wien, May 5 to July 30, 2000, Kunsthaus Zürich, ed. Felix Baumann, Evelyn Benesch, Walter Feilchenfeldt, and Klaus Albrecht Schröder (Ostfildern/Ruit: Hatje Cantz, 2000), 190.

55 Ulla Haselstein, "Gertrude Stein and Seriality," in *Blackwell Companions to Literature and Culture: A Companion to Modern United States Fiction*, ed. David Seed (Oxford: Blackwell, 2010), 229–239.

56 Henri Bergson, *Matière et mémoire*, in Henri Bergson, *Œuvres* (Paris: PUF, 1970 [1896]), 159–378.

57 This reading owes much to a discussion with Ulla Haselstein, who is preparing a monograph on Gertrude Stein's literary portraits.

3 Paul Cézanne, *Seven Apples on a Tray*, c. 1890–1910, pencil and watercolors on paper.

our eyes. It is neither collecting some optical data in the sense of an input nor presenting them after having conferred aesthetic unity to them, in the sense of *mímesis*.[58] Also, Cézanne considers vision as an action: in the interviews he gave in 1904, as an old man, he coined the term "réalisation" ("realization") for a process Rainer Maria Rilke described as "Dingwerdung" (the process of coming into being of a thing) in 1907.[59] These terms are meant to describe how the objects we see in a painting seem to take shape only during the process of looking at them, and, before that, how the painter attempts to translate onto the canvas his seizure of the objects he saw. Over and over again, the painter "realized" the same still-life objects, and the same set of landscapes around Aix-en-Provence, in his canvases. He took his distance from an impressionist doctrine according to which we originally see only patches of color. Instead, he inquired—obsessively but at the same

58 Louis Costa Lima and Martin Fontius, "Mimesis/Nachahmung," in *Ästhetische Grundbegriffe*, vol. 4 (Stuttgart and Weimar: Metzler, 2002), 84–120.

59 Lawrence Gowing, "The Logic of Organized Sensation," in *Cézanne: The Late Work*, exhibition catalogue, The Museum of Modern Art, New York; Museum of Fine Arts, Houston; Grand Palais, Paris (Boston: New York Graphic Society, 1977), 55–72; Martina Kurz, *Bild-Verdichtungen. Cézannes Realisation als poetisches Prinzip bei Rilke und Handke* (Göttingen: Vandenhoeck & Rupprecht, 2003); Ralph Köhnen, "Das physiologische Wissen Rilkes und seine Cézanne-Rezeption," in *Poetik der Evidenz. Die Herausforderung der Bilder in der Literatur um 1900*, ed. Helmut Pfotenhauer, Wolfgang Riedel, and Sabine Schneider (Würzburg: Königshausen & Neumann, 2005), 141–162; Karen Leeder and Robert Villain, eds., *The Cambridge Companion to Rilke* (Cambridge: Cambridge University Press, 2010).

time in an almost experimental way—into a way of "réalisation" that takes seeing as tantamount to visually seizing, and shaping, visual objects (fig. 3).

In one and the same picture—such as an aquarelle of apples he painted after the turn of the century—he separated procedures normally synthesized in a painting such as drawing, coloring, and shading: contours do not totally circumscribe the objects, but they are multiple, although we cannot describe them as *pentimenti* resulting from hesitation or uncertainty; green and red colors almost rhythmically alternate somewhere between the contours in pencil, without filling them out; there are black shadows, but also blue ones. Finally, the apples, lined up like musical notes, are surrounded by the undulating contours of a tray, which is vaguely inscribed into the contour of a table, in turn fitting into the sheet of paper the aquarelle is painted on. All these pictorial means, normally completing each other, have to be read one after the other. Only through synthesizing them do we realize that they all somehow *mean* the same apples on a tray.

In that sense, we can draw further conclusions from how Cézanne painted. For him, painting is an action of translating, of arranging vision in a medium, but this is not all: this medium is part of the very process of seeing. Through his painting, we learn to see in a different way. "Réalisation," if we take it seriously, means that we truly have a perception only if we already—at least virtually—have inscribed it into the language of a medium. Seeing is always "seeing as"—as an object, but also as an object such as a pencil line and a color patch that can be read in different ways according to the visual semantics of a medium.[60] Furthermore, the medium is made up of the visual language we can share with others—thereby shaping, through its visual semantics, also those perceptions we take as totally our own, as private.[61] In the final instance, that implies that before interpreting sensation within the idioms of some culturally coded medium, for example by translating it into the language of an aquarelle, we do not even have it.

60 Ludwig Wittgenstein, *Philosophische Untersuchungen* (Frankfurt am Main: Suhrkamp, 1971 [1958]), 307–342. Indispensable: Ludwig Wittgenstein, *Philosophische Untersuchungen. Kritisch-genetische Edition*, ed. Joachim Schulte (Frankfurt am Main: Suhrkamp, 2001), 991–1086 (Part II). Essential for a reading of Wittgenstein in the context of cultural theory: Stanley Cavell, *Must we mean what we say?* (Cambridge: Cambridge University Press, 2002 [1969, 1976]), 44–72; Stanley Cavell, *The Claim of Reason: Wittgenstein, Skepticism, Morality, and Tragedy* (New York and Oxford: Oxford University Press, 1999 [1979]), 3–128 (Part I: "Wittgenstein and the Concept of Human Knowledge"); Stanley Cavell, *Philosophical Passages: Wittgenstein, Emerson, Austin, Derrida* (Oxford, UK, and Cambridge, MA: Blackwell, 1995), 125–186 ("Notes and Afterthoughts on the Opening of Wittgenstein's *Investigations*"). See also Emmanuel Alloa, "Seeing as, seeing in, seeing with. Looking through images," in *Image and Imaging in Philosophy, Science and the Arts*, vol. 1, ed. Richard Heinrich, Elisabeth Nemeth, Wolfram Pichler, and David Wagner (Frankfurt am Main: Ontos, 2011), 179–190; Whitney Davis, "The Archaeology of Radical Pictoriality," in ibid., 191–218.

61 Saul A. Kripke, *Wittgenstein on Rules and Private Language: An Elementary Exposition* (Oxford: Basil Blackwell, 1982).

However, the act of painting is somehow sublated ("aufgehoben"), unmade as well as perfected, in the result, for us the mere spatial configuration of an object. The *act* of representation is undone in the very presence of what we see—objectively—in a painting.[62]

However, it would be naïve not to question even "realization" or "Dingwerdung" as resulting in a stabilized image of some apples, fixed in and conveyed by means of a picture. According to this view, there would be a beginning (*arché*) and an end (*télos*) in looking at the medium. The beginning would be the empty sheet of paper—a metaphor of an empty retina, or of cognition starting somehow on a tabula rasa. In the end, we would no longer see the sheet of paper, but the apples.[63] However, before we started to see those apples that are about to take shape, the paper on which Cézanne painted them was not given— not even as a medium. It was nothing but a piece of paper, ready to be used to write on, to be inscribed with musical notes or with mathematical calculations, or to be formed into a paper dart. It is only after having experienced how the motif of an aquarelle took shape on that paper that it became a medium for us. Only in retrospect—to use Derrida's words, *après coup*—do we think that the sheet of paper even is an empty medium. As long as it is empty, it is not yet a medium at all. Abstraction, an understanding gained by putting progressively aside everything that is concrete in the motif, makes it possible to see something as an empty medium. The empty paper we take as an origin, an *arché*, is thus only the result of an operation directed into the future—but projected into the past. The same is valid for the end, the *télos*. Resulting from an ongoing process of reading, the thing within a painting is never totally given, it is always in the state of becoming: object of an unending semantic practice.[64]

For Cézanne, "réalisation" as an action was much more important than "réalisation" as resulting in aesthetic objects. Already Maurice Merleau-Ponty was astonished that the artist was full of doubts whether he could ever finish a work, or accomplish an œuvre.[65] He considered himself a second Frenhofer, the hero of Balzac's "The Unknown Masterpiece" (1831), whose chef d'œuvre was only a chaotic heap of pigments, showing

62 For a historic approach to objectivity, see Lorraine J. Daston and Peter Galison, *Objectivity* (Cambridge, MA: MIT Press, 2007).

63 Richard Shiff, *Cézanne and the End of Impressionism: A Study of the Theory, Technique, and Critical Evaluation of Modern Art* (Chicago and London: The University of Chicago Press, 1984), 3–53. Shiff compared Cézanne's visual poetics to that of the impressionists—inspiring even if we do not share the result.

64 Jacques Derrida, *De la Grammatologie* (Paris: Éditions du Minuit, 1967), 42–108; Jacques Derrida, *La vérité en peinture* (Paris: Flammarion, 1978), 44–94 (part two, "Le parergon"—a deconstruction of Kant's aesthetics based on his notion of the ornament).

65 Maurice Merleau-Ponty, "Le doute de Cézanne," in *Fontaine* 4 (1949): 80–199, and in *Sens et non-sens* (Paris: Gallimard, 1996), 13–33. See also Inken Freudenberg, *Der Zweifler Cézanne* (Heidelberg: Kehrer, 2001), 18–32.

nothing but a fetishized foot.[66] Doubtful of any result, Cézanne was, however, happy when he could wash his eyes in front of the motif. It was in the midst of perception, and of inscribing it into painting, that he reached these epiphanies of an actual involvement with the present. The act of painting—and of looking at a painting—was not only theoretically, but also personally, more important to him than the artwork about which he did not cease to doubt. Vision in motion, vision at work, "la vision en l'œuvre"—it is in order to fully understand, and to enjoy this pleasure, thereby somehow liberating it from its final fixation in a finished artwork, that we have a closer look at it.[67] Already Hermann von Helmholtz, in his *Handbook of Physiological Optics*, had dismissed the idea that we first see, so to speak, on the *tabula rasa* of the retina, or in our consciousness, only patches of color, and then interpret them by somehow seeing something in them.[68] For him, there was not such an origin, no *arché* of *ópsis*. Instead, he considered seeing as an operation by which we conceive of the objects that surround us. Cézanne also was interested in the cultural activity involved in *ópsis*, and he worked hard to change the codes of the practice of painting. As art historians, we share his fascination with visual and media practices affected by education, cultural formations, habits, and disciplines, by media and their equipment, by reception and its institutional frameworks.

Cézanne only invented new procedures of painting, and he repeatedly spoke about his opposition to any form of radically abstracting from what can be seen. The early avant-gardes, however, transformed his visual poetics into a poetology consciously inquiring not only into the visual world, but thereby also into the act of seeing itself. Motion becomes a central issue—from cubist "simultaneity" to the exaltation of vital energy, motion as seen from within, sometimes linked to violence as an experience of the impulse of life itself—according to an interpretation of Bergson by Georges Sorel.[69] Parallel to futurism—and in constant quarrel about priority with the futurists—Robert Delaunay experienced vision in motion by looking at objects in motion (fig. 4). After having experimented with paintings of the Eiffel Tower, and with views through an

66 Émile Bernard, "Souvenirs sur Paul Cézanne" [1907], in *Conversations avec Paul Cézanne*, ed. Michael Doran (Paris: Macula, 2011 [1978]), 97–145, here 122. See also Hans Belting, *Das unsichtbare Meisterwerk. Die modernen Mythen der Kunst* (Munich: Beck, 1998), 244–248.

67 Baumann, Benesch, Feilchenfeldt, and Schröder, eds., *Vollendet/Unvollendet. Cézanne*.

68 Helmholtz, *Handbuch der physiologischen Optik*, § 33 (Leipzig; Voss, 1867).

69 Marc Antliff, *Inventing Bergson: Cultural Politics and the Parisian Avant-Garde* (Princeton, NJ: Princeton University Press, 1993), 33–66, especially 40–42, 61; François Azouvi, *La gloire de Bergson. Essais sur le magistère philosophique* (Paris: Gallimard, 2007), 62–76, 103–110; Michael F. Zimmermann, "*Carràs Begräbnis des Anarchisten Galli*, 1904–1912. Der Futurismus zwischen Anarchismus und Faschismus," in *Kunst auf der Suche nach der Nation. Das Problem der Identität in der italienischen Malerei, Skulptur und Architektur vom Risorgimento bis zum Faschismus*, ed. Damian Dombrowski (Berlin: Lukas, 2013), 184–206.

imaginary window whose curtains "rhyme" with the parabolic silhouette of the tower erected for the World's Fair commemorating the centenary of the French Revolution, he averted his gaze from the outside world in order to turn to seeing in motion itself. In 1912, he tried to observe the afterimages dancing on the retina, once he closed his eyes after having stared into the sun. He finally transformed them into a circular ornament. Suddenly, they seemed to turn around themselves: "J'ai trouvé, ca tourne!"[70] His *First Simultaneous Disk* thus became the icon of vision in motion, all the more so because we somehow seem to see motion even though we do not perceive any moving object. The painter thought he had seized vision in its pure and vital temporality. Delaunay, who probably also was in the audience of Bergson's extremely popular lectures, imagined he had captured something like Bergson's "*durée*" ("duration"), the very essence of life—and of vision as a vital activity. His circular forms also alluded to the Ferris wheel placed at the World's Fair in 1900 beside the Eiffel Tower.[71] Apollinaire, who defended the painter in 1912 as an "orphist," sometimes signed by transforming the A of his name into the silhouette of the tower, accompanied by the wheel.[72]

The *Green Box* Marcel Duchamp assembled in 1934 also contained—reproduced in 300 facsimiles—the notes for his self-critical masterpiece *The Bride Stripped Bare by her Bachelors* (1915–1923, 278 x 176.5 cm, Philadelphia Museum of Art). When the notes were later published by George Heard Hamilton, advised by the artist, some notes alluding to an event in 1912, when Duchamp started to work in the direction of *The Large Glass*, were placed at the beginning. The first passage praises, in a metaphoric way playing with the phonetic material of language similar to Apollinaire, the car Francis Picabia used for a trip in October 1912 to his wife's country house in Étival, in the French Jura.[73] Apollinaire and Duchamp were also in the car. The text and the circumstances allow

70 Robert Delaunay, *Du cubisme à l'art abstrait. Documents inédits publiés par Pierre Francastel et suivis d'un catalogue de l'œuvre de R. Delaunay par Guy Habasque* (Paris: S.E.V.P.E.N., 1957), 217; Michael F. Zimmermann, "Nach-Denk-Bilder. Der Blick auf die Sonne und die Bewegung der Wahrnehmung," in *Nachbilder. Das Gedächtnis des Auges in Kunst und Wissenschaft*, ed. Werner Busch und Carolin Meister (Zürich und Berlin: Diaphanes, 2011), 173–214, 293–297. On the history of blindness as it has been discussed since the seventeenth century in the context of inquiries into vision, see Peter Bexte, *Wo immer vom Sehen die Rede ist ... da ist ein Blinder nicht fern. An den Rändern der Wahrnehmung* (Munich: Fink, 2013).

71 Pascal Rousseau, "Formes circulaires," in Jean-Paul Ameline, Pascal Rousseau et al., eds., *Robert Delaunay, 1906–1914. De l'impressionnisme à l'abstraction*, exhibition catalogue, June to August 1999, Centre Georges Pompidou, Paris (Paris: Éditions du Centre Pompidou, 1999), 194–199.

72 Pascal Rousseau, "Tour Eiffel," in *Jean-Robert Delaunay, 1906–1914. De l'impressionnisme à l'abstraction*, 130–137.

73 Marcel Duchamp, *Duchamp du signe. Écrits réunis et présentés par Michel Sanouillet*, new edition with Elmer Peterson (Paris: Flammarion, 1975), 41, note 3 (commenting on a document dated 1912 from the *Boite verte*): "Retour d'un voyage entrepris par Duchamp, Apollinaire, Picabia et sa femme Gabrielle Buffet dans la propriété familiale de cette dernière à Etival (Jura). C'est au cours de ce même voyage que fut

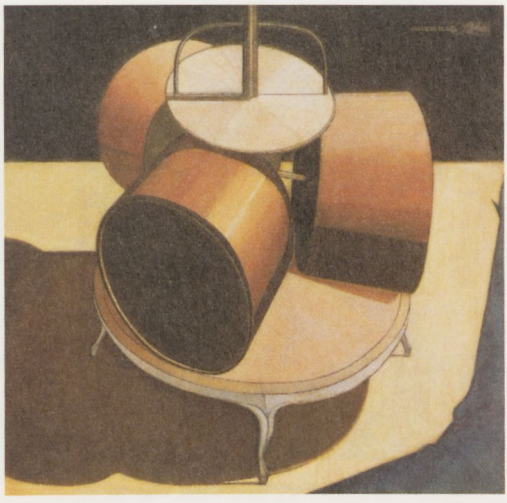
4 Robert Delaunay, *Formes circulaires. Soleil no. 2*, 1912–1913.

us to understand Marcel Duchamp's *Chocolate Grinder* as an ironic comment on Delaunay's mystic disk in which seeing looks at its own motility (fig. 5). Duchamp juxtaposes another vision with Delaunay's somehow naïve attempt at seizing vision's own motion in afterimages turning around themselves. For Duchamp, it would be an illusion if the artist tried to place himself in the very act of seeing, within what Delaunay labeled pure vision, even before it begins, before it takes hold of a visual object.[74] The visual poetology coded in the *Chocolate Grinder* implies that we cannot experience vision as an empty faculty, in order to fill it with objects only afterward. For Duchamp, seeing is always linked to an object, and if the objects make us aware of the act of perception, they do so because they offer themselves as objects of visual pleasure.[75] In the *Chocolate Grinder*, the movement of grinding the tasty material is strongly sensual, but in the sense of desire. Shortly afterward, in Duchamp's *Large Glass*, the *Chocolate Grinder*—a fetishistic painting of an imagined fetish-object—would become a metaphor of sexual appetites.

décidé la publication des *Peintres cubistes* et que Guillaume Apollinaire aurait trouvé le titre de son poème d'*Alcools*: 'Zone'." See Guillaume Apollinaire, *Oeuvres poétiques* (Paris: Gallimard, 1965), 1039–1940.

74 Robert Delaunay, *Du cubisme à l'art abstrait. Documents*, 149.

75 On Duchamp's discussion of optics, reflected in the work of Seurat, Signac, and Delaunay, see Lars Blunck, *Duchamps Präzisionsoptik* (Munich: Silke Schreiber, 2008). The author does not deal with Delaunay's *circular forms*.



5 Marcel Duchamp, *Chocolate Grinder (No. 2)*, 1914.

Duchamp offers us a self-reflexive, poetological image of seeing considered as a seizure of objects always involving desire. His object of desire is not only an irony of Delaunay's disk paintings *Sun* and *Moon*, but also a painted philosophy developed in opposition to cubism and to what Apollinaire, for a short time, praised as "Orphism."[76]

Another strategy of introducing temporality into nineteenth-century painting, which remains effective to our day, should be mentioned. Realism is largely based on motives such as Courbet's *Stone Breakers* (fig. 6).[77] Such paintings are marked by an attempt at obliging the spectator to emphatically feel with the poor people represented—in a corporeal way. The painter shows the two workers in the foreground, so close to the spectator that he cannot really observe the scene from a distance, implying perspective and objective space. Indeed, from the landscape where they are doing their humble work, he can perceive only what they could see themselves. Contemporary spectators were intrigued by the pain of these victims of modernity working at the margins of incomplete industrialization.[78] However, the painting does not offer us any lesson to learn from. It is an urgent appeal to society to change the fate of such people,

76 Michael F. Zimmermann, "Apollinaire historien du présent : invention et destin de l'orphisme," in *Histoire de l'histoire de l'art en France au XIXe siècle*, ed. Roland Recht, Philippe Sénéchal, Claire Barbillon, and François-René Martin (Paris: La documentation Française, 2008), 463–483.

77 Ségolène Le Men, *Courbet* (Paris: Citadelles & Mazenod, 2007), 156–171.

78 Timothy J. Clark, *Image of the People: Gustave Courbet and the Second French Republic, 1848–1851* (Greenwich, CT: New York Graphic Society, 1973).

6 Gustave Courbet, *The Stone Breakers*, 1849–50.

7 Steve McQueen, workers extracting the rare mineral coltan, used for producing computer chips, from the earth in the upper Congo, from *Gravesend*, 2007, video.

but it does not imply what exactly has to be done.[79] Ever since realism, critical art has this structure of an open appeal. We should draw practical consequences from what we see, but the concrete implications are left to our own ethical and political conscience. The temporality of the painting that places us in the presence of these workers' activity is protracted into a future implying our own capacity—or obligation—to act. If we are tempted to read the content of a painting not merely as what is shown, but as what can—or should—be inferred from it, the meaning of such an artwork depends also on

79 Umberto Eco, *Opera aperta* (Milan: Bompiani, 1967 [1962]).

our own actions.[80] We literally make it, and in this sense, it is suspended, and deferred, however not to an open future but to our own action. An inferential theory of pictures could shed light on central aspects of actual critical art. Consider the video artist and filmmaker Steve McQueen (fig. 7). In 2007, he made a video confronting the production of computer chips with scenes of workers who extract coltan, a rare mineral used for producing such chips, from mud in the upper Congo. The Congo River, uniting and dividing the two realms of production, was strongly reminiscent of Joseph Conrad's quintessentially post-colonial novel *Heart of Darkness*, published in 1899.[81] McQueen leaves it to the spectators to make sense of this shocking montage.

Remembrance and the Perception of the Present: Vision as Inscribed in Action

The here and now is not a point on the vector of time; presence is, so to speak, an infant of previous experience but already pregnant with expectations. If seeing is a process, or even a practice, it is always somehow informed by remembrance. The aporía concerning time reappears, however, if we consider remembrance as a mere retrieval of sense data situated in some enigmatic way in the past: how could they possibly reappear in the present? Remembrance in itself is a practice; it is always happening "now," not in a past, but in some sort of rebirth of the past, a renaissance. The content of remembrance is not just facts, but facts as linked to events, to experience, and to previous practice. Nineteenth-century neurophysiology contributed to considering vision in its temporality (whether as process or as activity), and it also promoted an understanding of memory in terms of processes, activities, and behavior patterns.[82] On the one hand, physiological psychology was the first discipline to point out that perception is closely linked to action, implying that we only perceive the stimuli to which we feel compelled to react. On the other hand, it coined a new terminology of memory, inscribing the very act of

80 Brandom, *Articulating Reasons*.

81 Isabel Friedli, Cameron Bayley, James Rondeau, et al., *Steve McQueen*, exhibition catalogue, October 21, 2012, to January 6, 2013, Art Institute of Chicago, and March 15 to September 1, 2013, Schaulager, Basel (Heidelberg and Berlin: Kehrer, 2013).

82 Lambert Wiesing, *Die Sichtbarkeit des Bildes. Geschichte und Perspektiven der formalen Ästhetik* (Frankfurt am Main: Campus, 2008 [1997]), 27–56 (on Robert Zimmermann's formalistic aesthetics); Jacqueline Lichtenstein, Carole Maigné, and Arnauld Pierre, eds., *Vers la science de l'art. L'esthétique scientifique en France, 1857–1937* (Paris: PUPS, 2013).

remembering into a tension between practices of the present and those of the past to which they are linked.

Helmholtz's "nativist" opponents were better placed to focus on all of the phenomena linked to memory than the author of the *Handbook of Physiological Optics* was. As he saw the interpretation of sense data mostly as learned through individual experience, he focused on the spontaneous interpretations of heterogeneous sense data at a given moment. Memory was just a process of learning skills activated in a given present. Hering, however, saw vision mostly as a set of instincts acquired in the course of evolution. For him, seeing meant being able to react adequately to a given visual stimulus. In 1870, he published the essay "About Memory as a General Function of Organized Matter."[83] According to him, memory was a prerequisite for behavior, including learning (instead of resulting from it), and, thus, a function without which life cannot exist—considered to be the highest form of organized matter. Without memory, a living being is not trained to react in a profitable way to anything it perceives through the sensory organs, in the outside world. Already Hering tends to believe that a sensation unlinked from a possible reaction is not a sensation at all. If animals, including humans, do not somehow dispose of a scheme for a reaction, they do not see anything at all. Hering gave the example of a chick just hatched from an egg and already capable of seeing a grain of corn and picking it. In 1904, Richard Wolfgang Semon, in his *Mneme as a Principle of Conservation within Organic Events*, coined the term "engram" for a perception, linked to an affective shock—or to pain—as well as to a possible response to it.[84] He introduced a more complex example than Hering's chick, including some sort of learning: if a dog sees some boys bending down to collect stones they then will throw at him, he will remain afraid of the sight of boys bending to the ground. For him, events left a "mnemic trace," impressions of a stimulus or event enabling further reactions. Hering—and Semon, who based his research on that of Helmholtz's famous opponent—treated memories assembled by an individual in an analogous manner to those gathered by the whole species during the course of evolution. Semon coined the term "engram" for the behavior pattern underlying the capacity to act in that way.

Soon afterward, Aby Warburg would take up this term in order to describe, in a pathos formula, the aspect that links it to a perception charged with an affective impact. The discussion of concepts such as *mneme*, *engram*, or *mnemosyne* in Warburg is a long

83 Ewald Hering, *Über das Gedächtnis als allgemeine Funktion der organisierten Materie* (Leipzig: Akademische Verlagsgesellschaft / Breitkopf Härtel, 1921 [1870]).

84 Richard Semon, *Die Mneme als erhaltendes Prinzip im Wechsel des organischen Geschehens* (Leipzig: Wilhelm Engelmann, 1904).

story, and we cannot resume it here.[85] Some hints may suffice to inscribe it into the research on memory developed on the basis of late-nineteenth-century neurophysiology. In an essay about the differences between topos, type, and pathos formula published in 2003, Ulrich Pfisterer looked at how a pathos formula differs from a topos, a coded form for certain arguments and emotions. Through Ernst Robert Curtius, we all know one of the most famous topoi, the *locus amoenus*. A tree, a meadow, a small river in a mild climate all concur in making us think of such an ambiance as a perfect place for love.[86] However, a pathos formula is not a topos. A pathos formula is linked to a recognizable gesture for example, of that the teacher of Niobe's daughters in an antique sculpture: he raises his arm in terror when he sees Apollo and Diana shooting the beautiful young women. In a painting on a shield by Andrea del Castagno (Warburg thought it was by Pollaiuolo), a young David who just has killed Goliath raises his arm in a similar way.[87] However, the raised arm by the sculptor of the Niobids signified fear and terror; in Andrea del Castagno's work it stands for triumph. In both cases, it is emotionally strongly charged, but with different emotions. Similar to Semon's *engram*, a pathos formula is based on an affective shock, translated into gesture, stored in an artwork, and kept at disposal for possible renaissances. Warburg, however, is not interested in the mere repetition of engrams as schemes of behavior. He devotes his attention to those resurgences of a gesture—to those reactivations of the visible traces of culturally coded behavior—that change its sense, like when Castagno's David repeats the desperate gesture of the Niobids' schoolmaster as a sign of triumph. According to Warburg, these renaissances happen only if a new experience of an affective shock—not necessarily, even not *possibly*, the same—can inspire new life into what some antiquity had coded into a form.[88] In this sense, Warburg's *renaissances* are a good example of what Derrida means by *iteration*, a repetition implying change.

In 1896, Henri Bergson, in his *Matter and Memory*, proposed to distinguish between a type of memory linked to action and another one—without putting both on equal footing. Just as a pianist does not really know whether he remembers the notes of a

85 Ernst H. Gombrich, *Aby Warburg. Eine intellektuelle Biographie* (Hamburg: Europ. Verl.-Anst., 1992), 323–347; Georges Didi-Huberman, *L'image survivante. Histoire de l'art et temps des fantômes selon Aby Warburg* (Paris: Minuit, 2002), 273–284.

86 Ernst Robert Curtius, *Europäische Literatur und lateinisches Mittelalter* (Bern: Francke, 1967 [1948]), 202–206.

87 Aby Warburg, "Dürer und die italienische Antike" [1905], in Aby Warburg, *Gesammelte Schriften*, vol. 2 (Berlin: Akademie Verlag, 1998 [1932]), 443–449, here 449.

88 Ulrich Pfisterer, "'Die Bildwissenschaft ist mühelos'. Topos, Typus und Pathosformel als methodische Herausforderung der Kunstgeschichte," in *Visuelle Topoi*, ed. Ulrich Pfisterer and Max Seidel (Munich and Berlin: Deutscher Kunstverlag, 2003), 21–47.

sonata before he plays it, we do not have a theoretical remembrance of how to walk, for example. Bergson called this type of memory "mémoire-habitude." He opposed it to another type of memory, "mémoire-souvenir," which seems to be tautological at first sight. Whereas the "mémoire-habitude" is destined to actualize patterns of previous behavior in a present action, the "mémoire-souvenir" operates in an opposite sense. It isolates moments from the present and bans them into a repository of a past forever gone, a past, however, that it thereby opens up for informing our actions in a future presence. This past is structured not by the temporal schemes of action, but by arranging events in a sequence of spatialized relations. When we visualize a chronicle on a timeline or the hours of the day on the circular form of a clock, time is spatialized—Bergson was an attentive reader of Zeno. He was convinced that the spatial arrangement of the "mémoire-souvenir" conveyed a wrong idea of the true temporality of presence, which he called "durée" ("duration").[89] He insisted that pure temporality was linked to perceiving pure quality, emptied from every spatial measurement—for example, pure redness, not a red object or spot.[90] But within the "durée," he thought, we can become aware of the stream of life itself, of the "élan vital" as it is at work also within our own activity.[91]

This is a conviction hard to accept—as time without space goes against what we can possibly imagine. Gilles Deleuze changed the argument, so to speak, behind Bergson's back. While Bergson opposed duration as linked to the perception of pure quality to spatialized time, Deleuze assures us that Bergson can only have meant what the mathematician Bernhard Riemann introduced by describing two forms of multiplicity, continuous and discrete multiplicity. While the former can only be measured by relating single quantities to quantities outside of the given multitude, the latter is made up

89 Bergson, *Matière et Mémoire* [1896], in Bergson, *Œuvres*, 159–379; Henri Bergson, "Essai sur les données immédiates de la conscience" [1889], in ibid., 1–157; Frédéric Worms, *Introduction à Matière et mémoire de Bergson* (Paris: PUF, 2007). On backgrounds from Destutt de Tracy and Cabanis to Maine de Biran and Ribot, see Gabriel Madinier, *Conscience et mouvement. Étude sur la philosophie Française de Condillac à Bergson* (Louvain and Paris: Nauwelaerts, 1967 [1938]), on Bergson, 367–404.

90 Some works by James Turrell convey an idea of how disorienting it can be for spectators to see a sequence of shapeless colors filling up the entire visual field. See Georges Didi-Huberman, *L'homme qui marchait dans la couleur* (James Turrell) (Paris: Éditions de Minuit, 2001).

91 Henri Bergson, "Introduction à la métaphysique" [1903], in Bergson, *Œuvres*, 1392–1432; Henri Bergson, "L'évolution créatrice" [1907], in ibid., 487–809. In 2007, the centennial of "L'évolution créatrice" was an occasion for renewing older controversies between a more spiritualist and a more materialist understanding. For a reconstruction of the history of the debate, see François Azouvi, *La gloire de Bergson* (Paris: Gallimard, 2007); Anne Fagot-Largeault, Frédéric Worms et al., eds., *L'Évolution Créatrice 1907–2007: Épistémologie et métaphysique, Annales Bergsoniens* IV (Paris: PUF, 2008); Jean-Louis Veillard-Baron, ed., *Bergson, la vie et l'action* (Paris: Éditions du Felin, 2007).

of separate elements and, thus, has its measure within itself.[92] However, for Bergson, time is not a multitude at all—it is "pure quality," radically opposed to any consideration of quantity. He thinks that in a spatialized form of memory, we are unable to seize the true temporal character of life. However, that does not mean that the "mémoire-souvenir" is not useful, or even unnecessary. A new experience, new events we encounter in a moment of presence, never completely determine our reactions. Our perception differs from instinctual reactions in which a stimulus determines the response of an action mechanically determined by the most basic form of instinct. In our perception, the stimulus is followed by a moment where the decision about a reaction to the stimulus has not yet been taken, a moment of indetermination. It is the past stockpiled in the "mémoire-souvenir" which puts different contexts, different ways to react, at our disposal. Once we have decided how to react, the "mémoire-habitude" makes us act according to a pattern unconsciously put at our disposal by memory.

Deleuze later attributed to the moment of indeterminacy a central role in cinema: in a close-up of a face, for example in Carl Theodor Dreyer's film *The Passion of Joan of Arc* (France, 1928),[93] this moment interrupting the chain of action and reaction marks a suspension of the streams of sensation in the form of a protracted presence—within the temporal medium.[94] Bergson takes the moment of indetermination as the very instance of freedom—linked to an instantaneous annihilation of all that is determined in space—and in our behavior. He calls the moment of freedom—of deciding for an action spontaneously, without calculating the effects—"intuition." Only in "intuition," when we interrupt the chain of things in which one event always determines the next one, can we have an instantaneous epiphany of what time really is: duration. The moment when we are free is, for Bergson, the moment when we seize, without understanding it, the true nature of time. On this background, faces given in close-up are especially

92 Bernhard Riemann, "Über die Hypothesen, die der Geometrie zugrunde liegen" [1867], in Bernhard Riemann, *Gesammelte mathematische Werke und wissenschaftlicher Nachlass*, ed. H. Weber u. R. Dedekind (Leipzig: Teubner, 1876), 254–269; Gilles Deleuze, *Le bergsonisme* (Paris: PUF 2004 [1966]), 55. See also Anne Sauvagnargues, *Deleuze et l'art* (Paris: PUF, 2005), 72–78 (on Deleuze's notion of an image), 173 (on Riemann). Nelson Goodman applies a similar argument to the opposition of analog and digital forms of art, later translated in the more specific opposition of analog and digital media: Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis: Hackert Publishing, 1979 [1968]), chapter IV, 8.

93 Carl Theodor Dreyer, *Four Screenplays. La Passion de Jeanne d'Arc. Vampyr. Vredens Dag. Ordet* (London: Thames & Hudson, 1970); David Bordwell, *The Films of Carl-Theodor Dreyer* (Berkeley: University of California Press, 1981).

94 Gilles Deleuze, *Cinéma 1. L'image-mouvement* (Paris: Éditions de Minuit, 1983), 9–22, 83–103; Gilles Deleuze, *Cinéma 2. L'image-temps* (Paris: Éditions de Minuit, 1985), 62–91, 129–164. See also Paola Marrati, "Deleuze. Cinéma et philosophie," in Paola Marrati, François Zourabichvili, and Anne Sauvagnargues, *La philosophie de Deleuze* (Paris: PUF, 2004), 229–340.

important for Deleuze's poetology of cinema. This is but one example of his way of radically redefining images according to their impact—instead of pinning them down to what they show. Bergson was led by the theory of "image-habitude" to redefine the very term "image" according to his idea of genuine temporality. Images were schemes of remembrance as linked to action—strangely enough, Bergson used the term "image" to define the smallest patterns of temporal, not spatial, perceptions. Thus, a mere piece of sheet music would not be an "image" for Bergson. But if we link the same inscription of a melody to the execution by a pianist, for Bergson, that would be an "image." Deleuze radicalized this conception of an image: for him, the impact factor is an integral aspect of an image—understood by seizing how it works, not what it is.[95]

Listening to a melody, as Bergson discusses it, was, during his lifetime, an important paradigm also for other theorists who inquired into the temporal moment of the very now of perceiving. If we would just hear one tone after the other, we would have only the sensation of different tones. One tone would, so to speak, completely capture the place the last one had occupied, within our perception, the moment before. In order to hear them as a sequence, a melody, and to be able to remember whether we have heard the same or similar sequences before, an act of synthesis has to be inscribed into the very act of listening. Christian von Ehrenfels used the example to found, in 1890, Gestalt psychology. He not only demonstrated that a synchronic synthesis has to be inscribed in a diachronic sequence so that it can make up a melody, he also took into consideration that we are even capable of identifying a melody when it is played with another instrument, or at a different pitch. We thus do not hear a melody by identifying a given acoustic material, but by recognizing what Ehrenfels described, for the first time, as "Gestalt" (a term that is hard to translate, but, according to the context, means "shape" or "configuration").[96] The Gestalt psychologists who followed in his footsteps, such as Max Wertheimer, found that some laws proposed by Ehrenfels for music are equally at work in visual perception. When you suddenly see a three-dimensional object in a two-dimensional pattern, they labeled this as a change in configuration ("Gestaltwechsel"). Wertheimer even extracted some laws from what he observed in psychological experimentation with "Gestaltwechsel," most importantly a law of reducing complexity: accordingly, we always see things through the least complex cognitive operation. However, there are also models triggering two equally complex views. The most prominent—and simplest—model of visual ambiguity is the cube Louis Albert Necker

95 Gilles Deleuze, *Francis Bacon. Logique de la sensation* (Paris: Éditions de la différence, 1981).

96 Christian von Ehrenfels, "Über Gestaltqualitäten," in *Vierteljahrsschrift für wissenschaftliche Philosophie* (1890).

published in 1832 that seems to flip between two different depth orientations. Later, the Gestalt psychologists generally chose ambiguous models that seem to offer two different ways of seeing regardless of the cultural training of the onlookers. Recently, Dario Gamboni, on the contrary, studied ambiguity as a conscious strategy modern artists use to make the beholder aware of his or her own visual activity.[97]

The law of reducing complexity was but an echo of Ernst Mach, for whom interpreting in general and science in particular were activities of dealing economically not with the world, but with what we are confronted with through our sense organs. For Mach, who comments on Helmholtz, even the opposition of the I and its world is nothing but an attempt at reducing complexity.[98] For him, the I and the world are only the most powerful abstractions helpful in economically ordering the perceptions. A perception is always at the same time subjective and objective; it has the character of a phenomenon. And when he draws himself while sitting on an armchair, Mach is unable to mark the dividing line between the one who is seeing and the one who sees (fig. 8).[99] Seeing is no longer a strategy of confronting the world, but an activity of interfering with it.[100]

Most of the Gestalt psychologists were convinced that the capacity to hear or to see "Gestalten," central to any perception, was innate—and more or less triggered by later aesthetic experience. They were mostly interested in automatic perceptions, for example of a Necker cube. Only later Rudolf Arnheim concentrated more on processes of cultural learning.[101] Wittgenstein's famous duck-rabbit certainly also is a pun implicitly contradicting the idea that the seeing of "Gestalten" can be interpreted as an innate

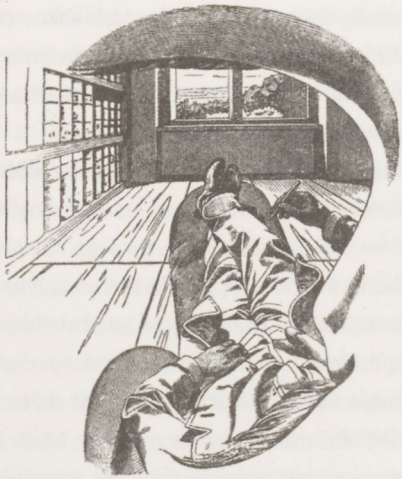
97 Louis Albert Necker, "Observations on some remarkable optical phaenomena seen in Switzerland; and on an optical phaenomenon which occurs on viewing a figure of a crystal or geometrical solid," in *London and Edinburgh Philosophical Magazine and Journal of Science* 1, no. 5 (1832): 329–337. Max Wertheimer, "Experimentelle Studien über das Sehen von Bewegung," in *Zeitschrift für Psychologie*, 1912; Max Wertheimer, "Untersuchungen zur Lehre von der Gestalt," I and II, in *Psychologische Forschung*, 1922–1923. Mitchell G. Ash, *Gestalt Psychology in German Culture, 1890–1967: Holism and the Quest for Objectivity* (Cambridge et al.: Cambridge University Press, 1998). See also Dario Gamboni, *Potential Images: Ambiguity and Indeterminacy in Modern Art* (London: Reaktion Books, 2002).

98 Ernst Mach, *Die Analyse der Empfindungen* (Berlin: Xenomoi, 2008 [1911]), ed. Gereon Wolters. In a previous work, Mach had criticized a Kantian idea of space as the pure form of outward intuition and time as the pure form of inward intuition—as indebted to Newtonian mechanics. *Die Mechanik in ihrer Entwicklung*, historisch-kritisch dargestellt (Berlin: Xenomoi, 2012 [1883]). Criticism of the "I" and the "world" as projections resulting from an economy of thinking were the consequent sequel to this.

99 Manfred Sommer, *Evidenz im Augenblick. Eine Phänomenologie der reinen Empfindung* (Frankfurt am Main: Surhkamp, 1987), chapter 1.

100 Rudolf Haller and Friedrich Stadler, eds., *Ernst Mach—Werk und Wirkung* (Wien: Hölder-Pichler-Tempsky, 1988).

101 Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye* (Berkeley and Los Angeles: University of California Press, 1954); Karl Clausberg, *Neuronale Kunstgeschichte: Selbstdarstellung als Gestaltungsprinzip* (Wien: Springer, 1999).



8 Ernst Mach drawing himself while sitting in an armchair, from Mach, *The Analysis of Sensations*, 2008.

mechanism: whether you see it as a duck or as a rabbit depends on visual education. It is thus culturally conditioned, not ascribable to any mechanism ruling over psychic responses to stimuli—in examples the psychologist has chosen stimuli in a way that allows him to empty media history from the analysis of how they operate.[102]

In the debate around the perception of "Gestalten," the struggle observed between Helmholtz and Hering, that is to say between the "empiricists" and the "nativists," was resumed. As we have said, it is far from resolved. Not only neurophysiologists, but also researchers on eye-tracking, when they have to interpret patterns of inquiry into a painting—as they observe them in the saccades of the eye movements in front of a given picture—hesitate in distinguishing between instinctual, innate mechanisms and culturally learned abilities.[103] However they may decide in one case or another, it is clear that a diachronic synthesis is inscribed into temporal perception, or observation, that is to say into *aisthesis* as a cognitive practice. Deleuze gave an example of reconstructing how cultural patterns of time were shaped. He described the history

102 W.J.T. Mitchell, "Metapictures," in Mitchell, *Picture Theory*, 35–82. On Helmholtz and Wittgenstein and his later turn to a "holistic theory of language," see Wolfgang Wenning, "Sehtheorie und Wittgensteins Sprachphilosophie," in *Sprachspiel und Methode: zum Stand der Wittgenstein-Diskussion*, ed. Dieter Birnbachter and Armin Burckhardt (Berlin and New York: de Gruyter, 1985), 170–190.

103 Raffael Rosenberg, "Dem Auge auf der Spur. Blickbewegungen beim Betrachten von Gemälden—historisch und empirisch," *Jahrbuch der Heidelberger Akademie der Wissenschaften für 2010* (2011), 76–89.

of cinematography—considered in poetologic terms—as a cultural development from movement-image to time-image: in the latter, flashbacks and other forms of rearranging time, independent of its chronological progression, structure cinematographic time within "crystals of time." He thus reconstructs a cultural process of increasingly dealing with time by arranging it as material of montage and composition, instead of placing it in a chronological sequence of events. The "crystals of time," however, take their final shape only after you have seen the entire movie. It is a complex, synchronic form shaping what you see within the diachronic sequence you have seen before in cinema.[104]

As we have seen, before film, melody was a temporal element of art considered to be especially appropriate for understanding the temporality inscribed even into our perception of the here and now. It does, thus, not astonish that when, in 1926, Edmund Husserl tried to describe the inward conscience of time, he returned to the paradigm of listening to a melody. He devoted his attention especially to the micro-temporality inscribed into what our consciousness accepts as happening "now": he coins the neologism "retention" for what we already remember from a melody while we are still listening to it, as opposed to "protention", our expectation of how it will go on or end. "Retention" is thus not a form of remembering perceptions of a past, but an activity enabling us to inscribe a span of time into what we perceive in a given instant.[105] Husserl, the founder of phenomenology, is interested in what appears within intuition, within the imagination—as a realization of meaning. Within *aísthesis*, things are given always as they appear to us. His philosophy focuses on what we (really) mean, not on what things are as themselves. In the perspective of phenomenology, time is treated as time-for-us, and it remains an open question whether there is something such as time beyond our conception of it. Leaving a strictly phenomenological perspective, in modern philosophical treatises on time, authors often deal separately with time-for-us and time-in-itself, subjective and physical time, treating the latter most often as a system of relations that, in the final instance, is not accessible to us. Understanding physical time is based, according to this approach, on envisioning it from the point of view of subjective time, or even with metaphors taken from subjective experience.[106] In the perspective

104 Deleuze, *Cinéma 2*.

105 Edmund Husserl, *Vorlesungen zur Phänomenologie des inneren Zeitbewusstseins* (Tübingen: Niemeyer, 1980 [1928]).

106 Hans Michael Baumgartner, ed., *Zeitbegriffe und Zeiterfahrung* (Freiburg and Munich: Karl Alber, 1994); Hans Michael Baumgartner, ed., *Das Rätsel der Zeit. Philosophische Analysen* (Freiburg and Munich: Karl Alber, 1996). Against strategies for deriving objective time from subjective time, see Peter Bieri, *Zeit und Zeiterfahrung. Exposition eines Problembereichs* (Frankfurt: Suhrkamp, 1972). Bieri argues also against John McTaggart, "The unreality of time," in *Mind* 17 (1908): 456–473. For a phenomenologically grounded critique of Bieri, see Manfred Frank, *Zeitbewußtsein* (Pfullingen: Günther

we adopt here, this is but an attempt at undoing the long history of time and its aporía through reducing it to subjective perception. Hypothetically remaining in the field of phenomenology, we can only say that physical time is experienced by us as something not entirely accessible to our imagination.[107]

We saw a variant of Zeno's aporía returning in Bergson's *Matter and Memory*: he opposed duration as pure quality to spatialized time, time as endowed with quantity, and intuition as our means of understanding genuine time to intelligence, a capacity we acquired through evolution in order to be able to deal with temporal—and causal—relations in a profitable way. But even before proposing such an enigmatic solution for our problems of *understanding* time, he coined the paradox in a simpler form. This time, it is not motion, but the *now* that is hard to understand. He developed this difficulty in a model. The model shows a cone SAB containing our memories (fig. 9). The point S marks the *now* as it goes on moving into the future. It drags behind it an increasing mass of memories—we thus have to imagine the cone as constantly increasing. At S, it meets the plane P, which stands for everything that happens or exists now. The *now*, thus, is a composition of what we experience at this very moment and of things that we know are occurring or being at the same time, even if we do not perceive them or do not even think of them at this very moment. The *now* is therefore more hypothetical than everything that passes into the past, into the depth of the memory cone.[108]

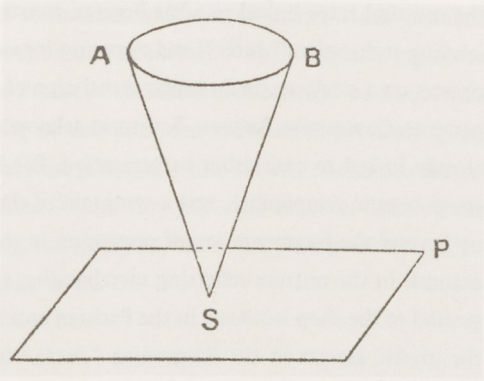
Marcel Proust read Bergson's *Matter and Memory*, but literary scientists controversially discuss his own conceptualizing of temporality in a novel.[109] Instead of opposing "mémoire-habitude" and "mémoire-souvenir," he juxtaposed a spontaneous, unpredictable form of memory, the "mémoire involontaire," to conscious remembrance. At the end of *À la recherche du temps perdu*, Marcel, the hero, tries to remember a trip he made in happier times to Venice. He looks at old photographs of Venice, but they "did not say anything" to the narrator. This incapacity to attain a truly authentic form of vital remembrance the author links to what up to this moment he felt as his being unable to

Neske, 1990). For a psychophysical approach to subjective evaluations of time, see Marc Wittmann, *Gefühlte Zeit. Kleine Psychologie des Zeitempfindens* (Munich: Beck, 2014 [2012]).

107 About various time conceptions as being irreducible to one another, see Gerald James Whitrow, *The Natural Philosophy of Time* (Oxford: Clarendon Press, 1980).

108 Bergson, *Matière et Mémoire* [1896], 159–379, 295.

109 For important documents around Proust and Bergson, see Marcel Proust, *Le carnet de 1908*, ed. Philip Kolb (Paris: Gallimard, 1976), nn. 113 and notes 483–485; Proust's interview with Elie-Joseph Bois: Marcel Proust, *Textes retrouvés*, ed. Philip Kolb (Paris: Gallimard, 1971), 217; Proust's letter to Georges de Lauris, end of April 1908: Philip Kolb, ed., *Correspondance de Marcel Proust*, vol. 8 (Paris: Plon, 1971–1993), 106–107; Proust's letter to Georges Blum, November 1913: *Correspondance de Marcel Proust*, vol. 12, 195–296. See also Joyce N. Megay, *Bergson et Proust. Essai de mise au point* (Paris: Vrin, 1976).



9 Henri Bergson, memory cone, from *Matter and Memory*, 1896.

translate his life into a novel. It is well known that the *Recherche* is, in a certain sense, the story of an author who, at the end of the immense novel, is finally capable of writing the very text the reader is about to finish reading.[110]

When he finally stands in the courtyard of the Hôtel de Guermantes, a new form of remembrance, not linked to photographs—and to what Bergson had called "mémoire-souvenir"—transports the author into the past. Marcel has to step aside in order to make room for a carriage and comes to stand on two paving stones that are not precisely on the same level. The corporeal experience of standing insecurely on uneven ground catapults him back to the experience of having stood in the baptistery of San Marco in Venice, where he was similarly forced to stabilize his standing position, normally a totally unconscious activity.[111] The attempts to interpret the "mémoire involontaire" cannot be resumed here; suffice it to underline that Proust emphasizes the corporeal aspect of memory as an activity introduced, as we saw, by Hering and his followers.[112]

Walter Benjamin translated Proust in the 1920s, and still at the end of the 1930s, when he was developing what remained the final version of his philosophy of history, he recognized that he was indebted to Bergson. Of course, Benjamin did not fall into

110 Hans Robert Jauß, *Zeit und Erinnerung in Marcel Prousts "À la recherche du temps perdu". Ein Beitrag zur Theorie des Romans* (Frankfurt am Main: Suhrkamp, 1986 [1955]); Volker Roloff, *Werk und Lektüre. Zur Literaturästhetik von Marcel Proust* (Frankfurt am Main: Insel-Verlag, 1984); Rainer Warning: *Proust-Studien* (München: Fink, 2000).

111 Marcel Proust, *À la recherche du temps perdu*, vol. 4, *Le temps retrouvé* (Paris: Gallimard 1989 [1927]), 433–451.

112 Sefano Poggi, *Gli istanti del ricordo. Memoria e afasia in Proust e Bergson* (Bologna: il Mulino, 1991); Stefano Poggi, "Proust, Bergson und der aphasische Symptomkomplex," in *Marcel Proust und die Philosophie*, ed. Ursula Link-Heer and Volker Roloff (Frankfurt am Main: Insel, 1997), 158–174; Philipp Engel and Irene Albers, "Prousts Poetik der "affektiven Erinnerung'. Historische und aktuelle Perspektiven," in *Comparatio* 2, no. 2 (2010): 199–218.

the mystical traps linked to what Bergson constructed as a pure form of temporality, labeling it duration ("durée") and opposing it to time as reduced to space, such as the ciphers on a clock, an unauthentic translation of time into two- or three-dimensional patterns. Contrary to Bergson, Benjamin acknowledged that time and space are always already linked to each other in perception. For Benjamin, Bergson's "durée," understood as pure temporality, was a symptom of the search for some form of authenticity beyond the fragmentation of perception in the phantasmagorias of capitalism, for example in the mirrors reflecting merchandise, and the potential clients, in the background of the shop windows in the Parisian arcades.[113] However, if Benjamin criticized the mystic aspects in the Bergsonian "durée," he was impressed by the concepts of "mémoire-habitude" as opposed to "mémoire-souvenir," as he was by Proust's concept of "mémoire involontaire."[114] And he reverted to both Bergson and Proust when he constructed his model of configuring past and present in a "dialectical image": a moment of the past, reduced to an image, interprets the present in a way that it suddenly calls for action.[115] Like the "mémoire involontaire," the element that finally gives access to the past is not a bunch of dead memories, not the library, not the archive, but action: if images of the past—here, Benjamin's notion of an image is close to Bergson's, for whom an image was a scheme of at least latent action—are fit to interpret the present in a way that it becomes open for action, only then do they make us fully realize the present and its potentialities. For Benjamin, seeing what is going on is tantamount to seeing what we could, even what we should, do. For Proust, the "mémoire involontaire" was something completely unforeseeable, and in that sense almost miraculous. Similarly, in his later years Benjamin tends to describe the moment when a "dialectical image" activates the present as an awakening, even as a moment of "auratic" presence. Benjamin, thus, argued in favor of constellations of past and present, and against continuity, against tradition.

Georges Didi-Huberman insisted that, in a "dialectical image," the past thus resurrected in present action operates not as a sequence of things already known, already integrated into our ideas of what is good and valuable in history, not as *tradition*, a slice

113 Adrian Rifkin, *Ingres Then, and Now* (London and New York: Routledge, 2000), 41–85 (chapter 1, "Ingres and the Arcades").

114 Walter Benjamin, "Über einige Motive bei Baudelaire" [1939], in Walter Benjamin, *Gesammelte Schriften*, vol. I, 2 (Frankfurt am Main: Suhrkamp, 1974), 604–653. Walter Benjamin, "Das Paris des Second Empire bei Baudelaire" [1937]; "Zentralpark" [1938–1939], in Benjamin, *Gesammelte Schriften*, vol. I, 605–653, 511–604, 655–690. See also Christine Schmider and Michael Werner, "Das Baudelaire-Buch," in *Benjamin-Handbuch*, ed. Burkhard Lindner (Stuttgart and Weimar: Metzler, 2006), 567–584.

115 Ansgar Hillach, "Dialektisches Bild," in *Benjamins Begriffe*, vol. 1, ed. Michael Opitz and Erdmut Wizisla (Frankfurt am Main: Suhrkamp, 2000), 186–229.

of what Nietzsche, in 1874, described as monumental remembrance, which is linked to a canon and based on repetition, but as an *anachronism*.[116] From Semon's *engram* to Bergson's "mémoire-habitude," from Proust's "mémoire involontaire" to Benjamin's *dialectical image*, all of these conflicting models are interconnected in postulating the inscription of memory into practice, at least potentially into action, whether conscious or unconscious, whether actual or latent.[117] And they join each other in defining the present moment not as just happening, just going on, but as happening *to* and lived *by us*, as constantly challenging our capacity to act.

Cultural Memory: Seeing as a Collective Practice

From Hering to Semon and from Bergson to Husserl, theories of memory most often were based on inquiries into what we first experience as our *individual* remembrance. Warburg and Benjamin already took the step from individual experience—or from memory in general, but studied by dealing with a single conscience—to collective emotions or actions. But it was Maurice Halbwachs, who—first in 1925, then through a book published five years after he was killed by the Nazis in Buchenwald—invited us not to deal with collective memory as if it were only a generalization of individual remembrances.[118] Since the late 1980s, Halbwachs has been reread by Jan Assmann, the Egyptologist from Heidelberg, and by Aleida Assmann, a specialist in English literature and a cultural theorist in Konstanz.[119] Together with the French historian Pierre Nora,[120]

116 The notion of "anachronism," as introduced by Georges Didi-Huberman, who takes it from Carl Einstein, is derived from a concept of a not continuous, not traditional model of history. Georges Didi-Huberman, *Devant le temps* (Paris: Minuit, 2000), 99–111. Friedrich Nietzsche, "Vom Nutzen und Nachteil der Historie für das Leben," part two of *Unzeitgemäße Betrachtungen* [1874], in Friedrich Nietzsche, *Sämtliche Werke*, ed. Giorgio Colli and Mazzino Montinari (Berlin: de Gruyter, 1988 [1967–1977]), 243–334.

117 Anselm Haverkamp, *Figura cryptica. Theorie der literarischen Latenz* (Frankfurt am Main: Suhrkamp, 2002); Hans Ulrich Gumbrecht and Florian Klinger, eds., *Latenz. Blinde Passagiere in den Geisteswissenschaften* (Göttingen: Vandenhoeck & Rupprecht, 2011).

118 Maurice Halbwachs, *Les cadres sociaux de la mémoire* (Paris: Albin Michel, 1994 [Alcan, 1925]); Maurice Halbwachs, *La mémoire collective* (Paris: Albin Michel, 1997 [PUF, 1950]). See also the introductory book: Dietmar J. Wetzel, *Maurice Halbwachs* (Konstanz: UVK, 2009), and the collection of essays: Bruno Péquinot, *Maurice Halbwachs: le temps, la mémoire et l'émotion* (Paris: Harmattan, 2007).

119 Jan Assmann, *Das kulturelle Gedächtnis. Schrift, Erinnerung und politische Identität in frühen Hochkulturen* (Munich: Beck, 2007 [1992]), 34–47; Aleida Assmann, *Der lange Schatten der Vergangenheit. Erinnerungskultur und Geschichtlichkeit* (Munich: Beck, 2006), 21–61; Aleida Assmann, *Erinnerungsräume. Formen und Funktionen des kulturellen Gedächtnisses* (Munich: Beck, 2006 [1999]), 27–61.

120 Pierre Nora, *Les lieux de la mémoire*, 8 vols. (Paris: Gallimard, 1984–1992).

the Assmanns have certainly revolutionized modern theories of collective memory. All of these authors succeeded in reinterpreting, systematizing, and actualizing the ideas of the French sociologist. Halbwach's book *The Social Frameworks of Memory*, published in 1925 but not much read beyond sociology circles, was certainly the most important impulse for recent discussions of *collective* memory.

With him, contemporary theory of remembrance has followed a radically new approach: the starting point is now collectively or culturally coded memory ("Gedächtnis"), which he, like the Assmanns later, strictly kept apart from individual remembrance ("Erinnerung"). Halbwachs is the first who does not develop collective memory through a metaphoric movement, by generalizing the mechanisms of individual remembrance. For him, without being placed in the contexts of social interaction and language, there is no memory at all, not even individual remembrance. In a purely private sensation, the individual would blindly remain embedded in the moment, in the here and now of the flock of sheep following their instincts, as Nietzsche discussed at the beginning of *On the Use and Abuse of History*.[121] For Halbwachs, as soon as we remember something, we are already capable of coding it in words and of sharing it with other people. Language is not originally a means of communicating private sensations, but is always shared by various individuals before it can be used, for example, for an inner monologue.[122] He uses the example of a dream, seemingly a radically private experience, before we remember it, put it into language, narrate it, and interpret it—one might infer, before we even realize that we have dreamt.[123] As soon as a dream enters into the realm of experience, it is already coded in collective, cultural terms. In the end, the private character of dreaming is unraveled as an illusion. Collective memory, thus, comes first, and individual remembrance is derived from it—and it would be erroneous to think that the process operates the other way around. Our normal way of starting with individual experience—or memory—taking language only as the means to express it to others, turns the real process upside down. In a similar operation, as Jan Assmann

121 Friedrich Nietzsche, "Vom Nutzen und Nachteil der Historie für das Leben," 249–252.

122 Still impregnated with Bergson: Halbwachs, *Les cadres sociaux de la mémoire*, 1–39 (chapter 1, "Le rêve et les images-souvenir"). A reconstruction of Halbwachs's arguments about the limitations of a purely private memory could be based on a reading of Wittgenstein's way of dealing with a private language, a language an individual might have invented exclusively for use in monologues. Kripke reconstructed (or constructed?) it in a famous book: Kripke, *Wittgenstein on Rules and Private Language: An Elementary Exposition*. Accordingly, as there would not be any criterion for ascertaining that, for example, the word for apple would be used the next day for a pear, a private language could not be considered a language at all.

123 Halbwachs, *La mémoire collective*, 51–96; Jan Assmann, *Das kulturelle Gedächtnis. Schrift, Erinnerung und politische Identität in frühen Hochkulturen* (Munich: Beck, 2007 [1992]), 39–40, 47.

argues, remembrance as a phenomenon of culture is wrongly transformed into a conception of culture as a phenomenon of remembrance. Whereas culture as a phenomenon of remembrance starts with individual remembrance, in order to derive cultural memory from it, the origin of remembrance as a phenomenon of culture is to be found in memory, which is always already collectively shared.

Art historians have scarcely taken up the challenge of modern theories of memory. All too often, we still tend to believe that thoughts are freer—and more individual—if they have to do with visual imagination, and that what we see or imagine is in the first instance a private affair. Instead of realizing that even the images appearing in a dream are conditioned by the media culture of the society we live in, we often tend to treat images as a product of private intentionality we only translate into media images once we want to communicate them to others. Memory theory obliges art history to change its most common prejudice about perception: vision is not a private process we just translate into images, symbols, and narrations once we want to communicate them. It is an action always already structured according to the languages of the media used in a group, a people, or a culture.

It is only after having followed this radical shift from the primacy of individual remembrance to collective memory that we can use the conceptual repertory of modern memory theory. The Assmanns, following Halbwachs, differentiate between communicative memory and cultural memory. Communicative memory is linked to the remembrance of a group, a family, or even a generation, following what a single person remembers for herself or what parents and grandparents have told her. Cultural memory, instead, is the institutionalized form of remembrance of a community, an institution, a nation, or even transcultural formations such as Europe or the Western world. In his second important book, *Collective Memory*, Halbwachs insisted that memory is not a blind continuation of a past somehow drawn into the present, but a construction: it is what people wish to remember, and it structures the actual consciousness of communities. Memory structures behavioral dispositions; it makes people prepared to do this instead of that.

Theorists from Hering to Benjamin, from Halbwachs to Jan and Aleida Assmann, and from Gaston Bachelard to Hans-Jörg Rheinberger, realized that memory is a repository of things past constantly actualized in present experience. Conversely, the present does not take shape ("Gestalt") if unrelated to memory. Vision, the act of seeing, thus, is constantly reiterating that tension of a present in which what is visually given depends on its realization in the very act of seeing—which in turn cannot be but an act of actualizing the past kept through memory. Seeing, thus, is cultural action. It means shaping and reshaping time. The recent discussions, continued in this volume, around George

Kubler's *The Shape of Time* demonstrate that seeing means not only constructing *space* in a phenomenological way, but also shaping *time* as stretched between remembrance, presence, and expectation. Our way of seeing is thus not only involved with placing ourselves within time, but it implies shaping it through our own action. If seeing is (somehow also) a practice, if it is inscribed into activities, it is not just happening, and we are responsible for how it is performed, how it takes place and shapes time. By cultivating our ways of seeing, we are shaping the courses of time ourselves, their geneses and their ends. New configurations of *vision in motion*, thus, are a prerequisite for coping with the great challenges we face.

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Fig. 8: Henri Bergson, memory cone, from *Matter and Memory*, 1896. Illustration taken from *Matière et mémoire* (1896), in Bergson, *Œuvres* (Paris: PUF, 1970), 159–379, here 295. "Si je représente par le cône SAB la totalité des souvenirs accumulés dans ma mémoire, la base AB, assise dans le passé, demeure immobile, tandis que le sommet S, qui figure à tout moment mon présent, avance sans cesse, et sans cesse aussi touche le plan mobile P da ma représentation actuelle de l'univers. En S se concentre l'image du corps; et, faisant partie du plan P, cette image se borne à recevoir et à rendre les actions émanées de toutes les images dont le plan se compose."

Fig. 9: Ernst Mach drawing himself while sitting in an armchair, from Mach, *Die Analyse der Empfindungen und das Verhältnis des Physischen zum Psychischen* (Berlin: Xenomoi, 2008; Jena: Gustav Fischer, 1911), 26.