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Guarding the Eye in the Age of Show

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GUARDING THE EYE IN THE AGE OF SHOW

Interface

We are gathered to reflect on "The Image in the Age of Digitalization," a theme promoted by makers of software and hardware. Hypertext and virtual reality attract viewers to shows that appear on computer screens in the atrium and, to my great astonishment, to the laser-generated light show reflected off Hamburg harbor smog last night. The prevalent "language" in the aula is that of information.¹ As motto for the affair you have chosen "InterFace."² The use of just this 1964 coinage surreptitiously prejudices the orientation of any discussion on the image. By reducing relationship to interface you invite us to equate systems, be they "born of woman" or designed by a cyber-freak. As a Medievalist, I am a fish out of my water in this crowd that studies informatics and communication. In spite of the fact that I am an outsider, I have been invited to speak on das Bild, a term that in German means picture as well as image. I will do so by comparing the image that befits interface with the image I know from the past.³ By presenting a historical mini-sketch of the notion of image, I want to clarify concepts that I believe relevant to ethics.

When I pick up "image," and think of it as a mountaineer's rope to crawl down from today's paradigm-screen back to Plato's ideas, I notice that the fiber that runs through my hand changes

¹ My view on language use is shaped by Uwe Pörksen, Plastic Words (State College: Penn State University Press, 1995). The author recognizes the historically incomparable function that connotative stereotypes, which are a polluting fallout of scientific terminology, play in ordinary language. "Information" is one of the crown witnesses for Pörksen's argument.

² The word is far from innocent. "Interface" as "a means or place of interaction between two systems" appears in M. McLuhan, Gutenberg Galaxy. The Making of Typographic Man (Toronto: University of Toronto Press, 1962). "The interface of the Renaissance was the meeting of medieval pluralism and modern homogeneity and mechanism," p. 141. He probably coined it in analogy to "intercom," a colloquial shortening of "intercommunication equipment" by which loudspeaking telephones were designated in the US military after 1940. M. McLuhan, Understanding Media. The Extension of Man (New York: McGraw, 1964). "The close teamwork and tribal loyalty now demanded by electrical intercom again puts the Japanese in positive relation to their ancient tradition," p. 236. According to the OED Supplement, by the mid-sixties interface means almost anything. "The interface between physics and music is of direct relevance to ... the psychological effects of hearing," (Nature, 1970), p. 684. "Educationalists are convinced that the need for the interface of lecturer and students will not diminish," *ibid.*, or "The issue of insanity as a defence in criminal cases ... is at the interface of medicine, law and ethics," (Scientific American 51 (1972): 3).

In physics, especially crystallography, the adjective "interfacial" has been used since 1837 for phenomena between two faces of a crystal or other body, in connection with surface energy, polarization, tension and adsorption (sic!). In 1964, The Annals of the New York Academy of Sciences 115:574 informs us that the "collection of components which connects the analogue and the digital computers to each other and controls and converts the data is generally termed the 'interface'."

"To interface" as an intransitive verb also goes back to McLuhan, The Medium is the Message (1967). "A strange bond often exists among antisocial types in their power to see environments as they really are. This need to interface, to confront environment with a certain antisocial power is manifest in the famous story 'The Emperor's New Clothes'," p. 88. Within five years after McLuhan's invention of the verb, management systems interface with functional organisations, as the Linguistic Society interfaces with UNESCO.

³ Frieder Nake, ed. Die erträgliche Leichtigkeit der Zeichen: Ästhetik, Semiotik, Infomatik (Baden-Baden: Agis, 1993) speaks of "being bracketed by semblance" ("Das Sein, eingeklammert zwischen Schein"), p. 14. I could follow him by speaking of the history of that image that can bracket being.

from epoch to epoch. The name by which the image goes, the power it holds, the respect it commands, changes in each iconic regime. The more I study the history of the image, however, the clearer I see how its function and place have changed, and the more forcefully I have been led to three intuitions:

- First, the polemical status of the image is a distinguishing characteristic of western history.
- Second, dissension about the nature of images has until very recently been experienced as an ethical issue.
- Third, in today's age of interface, the image that has been a subject of dispute gives way before something new that I call a show. It is the historian's task to find and weigh the evidence establishing whether show is heterogeneous to what has been called image in the past. This historically distanced view of show is in two ways fundamental for an ethics of the gaze: It is necessary to insert ourselves into the tradition of ethical iconology, and to recognize the totally new ethical challenge that has come into being with the age of show.

When I speak of ethics, I mean disciplined reflection on my actions insofar as these are the source of my habits - my hexis, the Greeks would have said. What pedagogues call growing up and psychologists call development, the ethicist understands as the formation of a personal stance, attitude or propensity, which can be made up basically of "virtues" or of "vices."

I am concerned here with the ethics of the gaze, with the way seeing and looking is shaped by personal training (the Greek word would be askesis), and not just by contemporary culture. The ethics of the gaze is important because the hexis or "total character" of the person is dependent on the way that person acts. Within this broad framework, I focus on the image in the gaze. About this I ask two questions:

- When did the image become an essential element of the gaze?
- How does the Bildwelt ("picture-world") affect the image within the gaze?

Dealing with image and show, I regard them as a challenge primarily to the viewer, rather than to the creator. I am concerned with ethical rather than political iconology, the formation of habit rather than of milieu. I ask, "What can I do to survive in the midst of the show?" not, "How do I improve show business?"

Being concerned with the ethics of the gaze throughout history, my theme is a narrow issue. I focus my attention on one major obstacle to the recognition of the gaze as a subject of ethics. As a matter of course, many assume a bond between gaze and image. I think I can show that this bond has a historical genesis; that the "image in the eye" is not a fact of nature but, rather, a constitutive characteristic of one particular stage in western culture. Only by recognizing the historical nature of the step by step bonding of image and gaze that originated in Byzantine iconoclasm can we appraise the moral consequences of vision reduced to an interface between show and gaze. There is an ethics of icons; that of the gaze is a much broader subject.

I want to speak of the steps by which image became the determinant for vision. In doing this I can draw on iconography,⁴ iconology,⁵ the history of perspective,⁶ and of mapping,⁷ though the bulk

⁴ I am particularly concerned here with the conditioning of sensual self-perception that is shaped by Christian deportment towards pictures. On this subject, my teacher is Dr. Lenz Kriss-Rettenbeck, the former Director General of Bavarian Museums - philosopher, art historian and theologian. From him, I take the distinctions between devotion (Frömmigkeit), piety (Andacht), ritual and superstition which I

of this literature does not deal with the image as a historically conditioned experience. And this subject is almost absent from the literature on semiotics, information theory and neurophysiology, not to speak of research that deals with the design, creation, manipulation and sale of images.⁸

During the last few years, the literature on the history of scopic regimes has been growing.⁹ Those who contribute to it must not be confused, a) with those who study the history of optics, the science that deals with the generation, propagation and recording of electromagnetic waves that are

consider fundamental for the interpretation of sensual experience during the epoch of Christian bonding between image and gaze. In a lecture (Lenz Kriss-Rettenbeck, "Vorbemerkungen zu einer volkskundlichen Gebildelehre," Bayrische Blätter für Volkskunde 7 (1980): 26-40, he formulates the hypothesis that the understanding and perception of the flesh are the result of self-embodiment in expressions and signs, which corresponds to the embodiment of the time- and place-specific environment. Elaborating on the thinking of Alfred Schütz and Thomas Luckmann, Kriss-Rettenbeck proposes a schema for the ethnological study of physiognomy, posture and gesture that includes neuromotor activities such as goose pimples, red face, sweat, tears or sneezing and turgor. See his article, "Zur Bedeutungsgeschichte der Devotionalien," in Konrad Köstlin and Hermann Bausinger, eds., Umgang mit Sachen. Zur Kulturgeschichte des Dingegebrauchs 23, Deutscher Volkskundekongress (Oktober 1981): 213-239 (Regensburg: Regensburger Schriften zur Volkskunde, 1983). This is a dense and controversial exposition of the criteria by which Roman Catholic devotional objects - frequently ex-votos representing body parts - must be interpreted. "Devotion" is defined as "eine buchstäblich in den Leib geschriebene kulturelle Wirklichkeit" (a cultural reality literally inscribed in the body). Neither the believer's existential awareness, nor the object that articulates it can be interpreted without reference to this belief, which is ultimately related to faith in the Incarnation. See also, Kriss-Rettenbeck, Ex Voto: Zeichen, Bild und Abbild im christlichen Votivbrauchtum (Freiburg: Atlantis, 1972).

⁵ For the distinction I make here between iconography and iconology as historical conditioners of the gaze in different epochs, see the last two chapters in, Barbara Duden, Anatomie der Guten Hoffnung (Stuttgart: Klett-Cotta, 1995).

⁶ A good introduction to the relation between gaze and visual space: William Ivins, On the Rationalization of Sight, with an Examination of Three Renaissance Texts on Perspective (New York: Plenum, 1973). Originally published by the Metropolitan Museum of Art in 1938. The opposite position has been angrily defended by M.H.Pirenne, "The Scientific Basis for Leonardo da Vinci's Theory of Perspective," British Journal for the Philosophy of Science 3 (1952-53):169-185. "Far from being artificial, Renaissance perspective is only the natural system of perspective. With a high degree of approximation, it corresponds to the way we actually see the world around us. In comparison, rival systems, such as Hauck's curvilinear perspective, are inaccurate," *ibid.*, p. 170.

⁷ I cannot forget my hostess on my first visit to Japan; I could not shake her off. She did not trust my ability to read the Tokyo subway map. She knew her way through the labyrinth from personal experience, and could not imagine my western presumption to learn my whereabouts by constant reference to a map. For the origin of map gazing, see Patrick Gautier Dalché, La 'Descriptio mappe mundi' de Hughes de Saint Victor: texte inédit avec introduction et commentaire (Paris: Études Augustiniennes, 1988). For general mapmaking until the eighteenth century, see Leo Bagrow and R.A. Shelton, History of Cartography (New Brunswick: Transaction Books, 1985).

⁸ A big surprise was in store for me after I had prepared the May, 1994 version of this paper and sent it to my friend, Thierry Pacquot in Paris. He brought my attention to: Régis Debray, Vie et mort de l'image. Une histoire du regard en Occident (Paris: Gallimard, 1992). See also Susan Buck-Morss, The Dialectics of Seeing: Walter Benjamin and the Arcades Project (Cambridge: MIT Press Paperback, 1991). Originally published in 1989.

⁹ Martin Jay, "Scopic Regimes of Modernity," in Hal Foster, ed., Vision and Visuality (Seattle: Dia Art Foundation, 1988), pp. 3-27, has popularized the term. He uses it to stress that vision can be privileged at different historical moments in ways that are not continuous with one another.

longer than x-rays and shorter than microwaves; b) with historians of physiology, neurology and cognitive psychology; c) with historians of philosophical doctrines who take the metaphors of light, sight, and eye as their themes.

Historians of scopic regimes are people who concentrate their attention on the ethology of sense activities in different cultures and epochs. If I had to choose a name for their discipline, I would call it "historical opsis" to distinguish it from the history of optics. It is this focus on the image that interests me here.¹⁰

Opsis is the Greek work for gaze, and is a verbal noun. It bespeaks a human activity, gazing, which is analogous to the activities of speaking, walking, eating and listening. To gaze is a widespread action. While only some people swim or hunt, all look and see. Like other activities which can become the subject of a historian's attention, the gaze is the outcome of a natural endowment, the result of just growing up. In some times and places, the gaze is also the subject of reflection and training. My motive for studying the gaze of the past is a wish to rediscover the skills of an ocular askesis. My concern is to make clear the distinction between an earlier and a contemporary gaze, the European gaze wedded for several centuries to the image, and the gaze of today, absorbed in interface with show.

When I speak of the asceticism or training of the eye, I mean much more than the apprenticeship of Zen archers, skeet-shooters, mystical navel-gazers, or the downcast eye of Victorian spinsters. My grandmother learned to use aquarell to "open" her eyes in preparation for her first trip to Italy. Prussian civil servants, no matter their profession, had to pass tests in calligraphy and draftsmanship. Even in my own childhood, drawing was still part of the distinguishing skills; it trained the eye as music the ear and dancing the gait. Under the tutorship of a widow from Bremen, I had to paint flowers and views to improve my attention. Each age, craft and milieu places its own demands on ocular techniques.

Not only the acuity, but also the moral quality of the gaze was trained. One was admonished not to stare. At puberty, Jesuits taught us to guard our eyes. It was part of good behavior to know how a boy may look at a lady and when he is supposed to look away. More than that: As Catholics, we were trained to experience some looks as defiling, and to mention them in the confessional. Even today, I feel guilty if I find my attention distracted from a medieval Latin text by the afterglow of the MTV to which I exposed my eyes. Until quite recently, the guard of the eyes was not looked upon as a fad, nor written off as internalized repression. Our taste was trained to judge all forms of gazing on the other.¹¹ Today, things have changed. The shameless gaze is in, but I am not speaking of leering at porn or sado-masochism.

¹⁰ I know of no better introduction to this field than Martin Jay, Downcast Eyes: The Denigration of Vision in Twentieth-century French Thought (Chicago: University of Chicago Press, 1993). The main theme of the book is the French critique of ocularcentrisme, from Bergson, Bataille, Sartre, Merleau-Ponty to Lacan, Foucault, Barth, Derrida and Irigaray. However, the three introductory chapters to the body of the book, which deal with the gaze from Plato to Descartes, and the large bibliography - usually critically evaluated in the footnotes which refer to English and German twentieth-century authors - make this volume a reference tool of a new kind.

¹¹ An example of research on the gaze in literature: Fritz Hellermann, Mienenspiel und Gebaerdenspiel in Conrad Ferdinand Meyers Novellen: Die Ausdrucksbewegungen mit besonderer Beruecksichtigung der Augen (Hamburg: Fremdblatt Druckerei Broschek & Co., 1912). Meyer, a contemporary of Darwin (author of "The Expression of Emotions in Man and Animal," 1872) was a Swiss German novelist.

The Information Age incarnates itself in the eye. Speed reading, pattern recognition, symbol management are part of elite skills. I am also not speaking about the gaze of the defensive driver, or of the program debugger, nor of the annual meeting in Texas of the International Society for the Study of the Windshield View.¹² All this information grabbing and coding is only faintly related to the ethical cultivation of the gaze. The contemporary paradigm is instrumental: The eye is trained to compete with Word Perfect's search command. The eye is entrapped in an interface with Microsoft Window icons, and modern eye-training cuts the gaze down to a form of scanning.

Dozens of words for shades of perception have disappeared from usage. For what the nose does, someone has counted the victims: Of 158 German words that indicate variations of smell, which Dürer's contemporaries used, only thirty-two are still in use.¹³ Equally, the linguistic register for touch has shriveled.¹⁴ The see-words fare no better.¹⁵ Your glances can still be called leery, dirty or kind; but hardly in textbooks of physiology. The words that qualify the gaze are now taken as metaphors.¹⁶ Formerly, a penetrating, dark, luminous, menacing, kind gaze had distinct powers.¹⁷

¹² A.G.Gale, Vision in Vehicles (Amsterdam: North Holland, 1991). A three-volume report on the third interdisciplinary conference of this organization. It can serve as a trivial example of ocular engineering.

¹³ Arthur Kutzelnigg, "Die Verarmung des Geruchswortschatzes seit dem Mittelalter," Muttersprache 94, nos. 3-4 (1983/4): 328-345. The author identifies 158 words in Middle German that designate different smells (and often tastes) which fall into about sixty-two major categories. At best thirty-two of these are still recognized, many of them only in local dialects. See also Leo Weisgerber, "Der Geruchssinn in unseren Sprachen," Indogermanische Forschungen 46 (1928): 121-150. A seminal article on the methodology by which semantic fields and the shape of experience can be related.

¹⁴ Ashley Montagu, Touching: The Human Significance of The Skin (New York: Harper and Row, 1986). Didier Anzieu, Le moi-peau (Paris: Dunod, 1985). English translation by Chris Turner: The Skin Ego (New Haven: Yale University Press, 1989). Reflections on the analogy between "ego" and "skin" by a practicing psychoanalyst (Anzieu); valuable for the historian mainly for the clarification of skin as an experience that can be discussed.

¹⁵ Carl Darling Buck, A Dictionary of Selected Synonyms in The Principal Indo-European Languages: A Contribution to the History of Ideas (Chicago: University of Chicago Press, 1949). See pp. 1017-1083 for sense perception. "The majority of the words for 'see' belong to certain inherited groups pointing to a variety of Indo-European roots [that] ... doubtlessly have a differentiation of application which is now beyond our ken," p. 1040. Leo Weisgerber, "Adjektivische und verbale Auffassung der Gesichtsempfindungen," Woerter und Sachen (Heidelberg) 12 (1929): 197-226. Remarkable also is the functional shift in German from verb to adjective in terms referring to visual experience.

¹⁶ For a discussion of "dormant visual metaphors," see Colin Murray Turbayne, The Myth of Metaphor (Columbia, S.C.: University of South Carolina Press, 1970, 2nd edition). Unlike other language groups (for instance Dravidian), there is a tight connection between knowledge and sight in Indo-germanic languages. Stephen A. Taylor, "The Vision Quest in the West, or What the Mind's Eye Sees," Journal of Anthropological Research 40,1 (1984):23-39. More generally, this point has been made by Ian Hacking, Why does Language Matter to Philosophy? (Cambridge: Cambridge University Press, 1975).

¹⁷ A historiography of the evil eye, focusing on the history of the idea and its socio-psychological effects: Thomas Hauschild, Der Böse Blick: Ideengeschichtliche und sozialpsychologische Untersuchungen (Hamburg: Kunst and Leben, 1982, 2nd edition). Unfortunately, the study is limited to Italian and German materials.

And some people in Mexico are still fearful of the mal de ojo, the evil eye.¹⁸ But my colleagues mostly laugh at Sheldrake, who studies how people turn around when he stares at their back. They are willing to attribute symbolic, not physical power to the gaze.¹⁹ I have difficulties explaining why Medusa, the Gorgon, with her empty eyes should be taken as symbol for interface.²⁰

Among the several major headings under which the history of the gaze could be envisaged, I here focus on the image which, during a certain epoch, became prominent within the gaze. My theme is the worldwide replacement of the Renaissance image formed within the gaze by the encroachment of an intrusive commodity. This happens when sense perception is understood as the result of an inter-face between two systems, one of which is an artifact and the other a person. I shall argue that this replacement of active image formation by insertion into an interactive system is characteristic for contemporary existence in a 500 HDTV-channel world.

I acknowledge that most people take the advent of such a world for granted. Further, they take the image as a natural given. They do not distinguish the interocular product of digital programs from the image formation solicited by a painter of old. Informaticians share this naïveté with semioticians, cognitive scientists and a considerable number of philosophers. It is the main obstacle preventing one from following the route on which the image mutated to the point of becoming a trap for the gaze. I argue that this entrapment has a history, beginning in a complex adventure and now reaching the stage of a ménage à trois: At times our gaze is still solicited by images, but at other times it is mesmerized by show. An ethics of vision would suggest that the user of TV, VCR, McIntosh and graphs protect his imagination from overwhelming distraction, possibly leading to addiction. There can be rules for exposure to visually appropriating pictures; exposure to show may demand a reasoned stance of resistance.

Since the sixteenth century, the gaze seems incapable of neglecting the image. Etymologically, to neg-lect means "not read." For several centuries now, our eyes have ceased to be windows through which the world comes to us. We read what light paints on the retina. It was Kepler who mounted a cow's eye into an apparatus and discovered that it worked like a camera obscura.²¹ Since then, the eye is no longer the gate through which things enter the soul, but the instrument by which images are imprinted.²² Rather than being the threshold for fleeting visits from visible things, the

¹⁸ See the classic article, George M. Foster, "The Anatomy of Envy: A Study in Symbolic Behavior," Current Anthropology 13,2 (1972):165-202.

¹⁹ Gudrun Schleusener-Eichholz, Das Auge im Mittelalter, 2 vols. (München: Fink, 1985). This work studies the historical semantics of the eye, its symbolism and its metaphorical use during the Middle Ages. For the same theme, see also Heinrich Schipperges, Die Welt des Auges (Freiburg: Herder, 1978).

²⁰ Jean-Pierre Vernant, La Mort dans les yeux: Figures de l'autre en Grèce ancienne, (Paris: Hachette, 1985). This is a collection of essays on the social significance of gazeless sight in ancient Greece.

²¹ David C. Lindberg, "The Genesis of Kepler's Theory of Light: Light Metaphysics from Plotinus to Kepler," Osiris 2nd series, 2 (1986):5-42. N.R. Hanson, "The Copernican Disturbance and the Keplerian Revolution," Journal of the History of Ideas XXII (1961):169-184.

²² Clara Gottlieb, The Window in Art: From the Window of God to the Vanity of Man: a Survey of Window Symbolism in Western Painting (New York: Abaris Book, 1981). This is the major iconography of the "window" theme, relevant to the history of perception: the eye as window, and the window as an eye. Robert Kugelmann, The Windows of the Soul: Psychological Physiology of the Human Eye and Primary Glaucoma (London: Associated Univ. Presses, 1982). For the author, twentieth-century culture's image of the body is expressed in the descriptive language of anatomy and physiology. Kugelmann listens to the

eye of European science is equipped with a net (Netzhaut!) to capture their shadows. The post-Enlightenment is acquisitive: Denis Diderot's Encyclopédie refers you to the last several volumes in which you "get the picture" of what you have read. For several hundred years, "to see" has meant to visualize. The act of "making oneself a picture" in the eye of the brain has been taken as a neurological given. This identification of vision with inward visualization must be recognized as a crucial achievement of European modernity. Understanding this, one can see that the replicative interiorization that results from interface with a show is something quite unique.²³

I would like to call attention to the changing way in which the gaze is experienced and used as a metaphor by examining the relationship between Weltbild and Bildwelt. The first, "image of the world," Weltbild, is old, but in nineteenth-century German usage, it was used in opposition to "worldview," Weltanschauung, which means the active "gaze upon the world." The second word, Bildwelt, is very new; it has not made any of the dictionaries I use. It suggests a "universe of pictures" by which I am surrounded and which hides from me the world of raw things. As different as the two notions are, the current usage of both is modern. They both legitimately issue from the wedding of image and vision. Their opposition suggests the transition from the visualization of the world to the reduction of the world to a picture.²⁴

The image as a symbolic form.

I want to deal here with the image, not just as a tangible object or neurological state but primarily as a symbolic form. Taken in this sense, it is an a priori mediation that overshadows vision in a particular sequence of scopic ages. Since when does the gaze capture colors or shapes as image? Since when does an image become the symbol which determines my outlook on reality? These are the questions I want to raise here in Hamburg, right next to the site where Aby Warburg's

metaphors of scientific language. Seeing the world with glaucomatous eyes, he peers into the blind spots of the flesh. By quoting from medical texts as if they were myths, he reconstructs the myth of Glaucos in a new dress.

²³ The distinction between image and show in the act of vision, though subtle, is fundamental for any critical examination of the sensual "I-thou" relationship. To ask how I, in this age and time, still can see you face-to-face without a medium, the image, is something different from asking how I can deal with the disembodied experience of "your" photographs and telephone calls, once I have accepted reality sandwiched between shows. Emanuel Levinas, Humanismus des anderen Menschen (Hamburg: Meiner, 1989), challenges one to pursue this reflection.

²⁴ I argue that "show" stands for the transducer or program that enables the interface between systems, while "image" has been used for an entity brought forth by the imagination. Show stands for the momentary state of a cybernetic program, while image always implies poiesis. Used in this way, image and show are the labels for two heterogeneous categories of mediation. Teachers of meditation have traditionally been concerned with the necessity of standing guard at the door of the heart. See Marcel Viller, S.J., ed., Dictionnaire de spiritualité, ascétique et mystique, doctrine et histoire (Paris: Beauchesne, 1932-1995), vol. 11, col. 110-118. Centuries earlier, Iconoclasm fostered a conceptual framework within which the picturing faculty of the outer and inner eye could become a subject of analysis. Greek monks were already concerned with the establishment of psychic habits by which appearances could be filtered out at the threshold of memory. The tradition of ocular askesis precedes the wedding of gaze and image. During the Middle Ages and well into modern times, it dealt primarily with protecting the heart from distracting or destructive images. The question that is profoundly new today is a different one: How can I eschew not pictures, but the flood of shows?

library stood.²⁵ It was there that Erwin Panofsky wrote his seminal article on Renaissance perspective as a symbolic form in 1925.²⁶ Up to that time, the skills of Renaissance artists had been interpreted as techniques through which painters could finally simulate what had always been seen. Panofsky suggested that through perspectival representations, a new way of looking and seeing was expressed, and this form of vision was characteristic of a new age. His thesis, turning the history of art topsy turvy, is still under debate. I want to build on it. However, the symbolic a priori of vision that I am discussing is not the perspectival technique of the fifteenth century, but the very fact that the image came to appropriate the western gaze.²⁷

To tell the story of this embodiment of the image, I distinguish between scopic regimes or "eye frames" that historically shaped the glance, dwelling mainly on the contrast between the first and the fourth.

In the classical regime, the gaze is experienced as a trans-ocular organ. In this scopic epoch the gaze radiates from the pupil to embrace an object, to fuse with it, so that the eye is dyed the object's colors. The end of this regime of the all-embracing gaze begins in Fatimid Egypt, around 1000 A.D.

A second, scholastic regime still keeps to the idea of an active, outgoing imageless gaze. However, vision no longer happens where the object is: The eye is now empowered to extract "universals" from the shapes that things emit by their radiation. This scopic epoch fits the time of Gothic windows and miniatures, the epoch of the transcendent gaze.

A third regime is brought into being by the union of the picture and the gaze in the early Renaissance. Increasingly, the eye is now experienced as an instrument on the model of what we know as a camera which, in turn, can be enhanced by devices that extend its range. Some call it the age of the humiliated or mediated gaze.²⁸

Only with the onset of a fourth regime, around 1800, do those certainties come into existence that enable us today to speak about visual communication, global view, or interface. It is the epoch dominated by isometry rather than perspective, the epoch of untrammelled horizons, of viewpoints unaffected by standpoint. We may call it the age of diagrammatics, the age of the hermeneutical rather than the exegetical vision. I prefer to call it the age of show, during which the eye becomes dependent on interface rather than imagination.

²⁵ Shortly after World War I, Aby Warburg proposed a monumental research project on the nexus between collective memory and the epoch's cultural forms. See Jan Assmann, "Kollektives Gedächtnis und kulturelle Identität," chap. I-1, in Jan Assmann and Tonio Hölscher, eds., Kultur und Gedächtnis (Frankfurt: Suhrkamp, 1988), pp. 9-19.

²⁶ Erwin Panofsky, "Die Perspektive als 'symbolische Form'," in, Vorträge der Bibliothek Warburg 1924-1925 (Nendeln, Liechtenstein: Kraus Reprint, Ltd., 1967), pp. 258-331. Original publication in Leipzig-Berlin, 1927. English translation: Perspective As Symbolic Form (Cambridge: MIT Press, 1991). Panofsky argues that perspective is in no way a natural given which could be discovered, but a historically contingent symbolic form in the sense of Ernst Cassirer.

²⁷ Martin Kemp, "Perspective and Meaning: Illusion, Allusion and Collusion," in A. Harrison, ed, Philosophy and the Visual Arts (Dordrecht: Reidel, 1987), pp. 255-268, gives a brilliant and compact orientation to sixty years of discussion of Panofsky's view of perspective as an historical a priori form of perception, with special emphasis on the critique by E.H. Gombrich.

²⁸ I purposely use this expression because I want to refer to Jacques Ellul, The Humiliation of the Word, Transl. by Joyce Main Hanks (Grand Rapids: Eerdmans, 1985), which is a summation of every imaginable religious complaint against the domination of sight.

The radiating gaze.

Euclid's *tà optiká* (300 B.C.) can be read as the ethical complement to his much better known geometry. The book deals with rays emitted by the eye.²⁹ These rays are something for which both words and sense have been lost. I cannot avoid dealing with this gaze when I speak to my students about medieval friendship. Freud has made it difficult for them to grasp how Sister Diana of Verona could embrace Friar Jordan of Saxony, doing so with chaste glances. They tend to attribute Voodoo deaths in Haiti, which are inflicted by the *bokor's* fulminating eyes, to hysteria, not to the striking power of the gaze. It is hard for many people today to experience their own gaze as an offensive touch. Modern vision is something which happens to me, not to her whom I see. When I speak of the visual cone of antique opticians, my students tend to misunderstand it in the likeness of a flashlight that lights up the visitor at the gate. Almost inevitably, they think of radar. The carnal transcendence of body limits by the antique visual cone just cannot be reduced to these electromagnetic similes and metaphors.

From pre-Socratic³⁰ Alcmaeon via Plato, Aristotle, Epicurus,³¹ Euclid and Ptolemy,³² well into the High Middle Ages,³³ all those who deal with optics make this ocular effluent into the subject of their study.³⁴ Their object is not light but a trans-pupillar emanation. Since Euclid, they construe the shape of this corporeal prolongation as a cone, and vision as an outgoing activity. What interests the opticians is the fusion of this transcending flesh with the color in the object; they do not deal with the light reflected from the thing and that strikes the eye. Optics is the critical analysis of the gaze and not of light.³⁵

²⁹ The following study can be used as a classified repertory of references to the eye in classical literature: Waldemar Deonna, *Le Symbolisme de l'oeil*, Ecole française d'Athènes, fasc 15. (Paris: Ed. Broccard, 1965).

³⁰ John I. Beare, *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle* (Oxford: Clarendon Press, 1906), aims to provide a well organized account of what was achieved for the psychology of the senses by pre-Aristotelian philosophers. Marginal summary glosses and ample Greek citations in the footnotes make this an important instrument for the student even today.

³¹ Friedrich Solmsen, *Aisthesis in Aristotelian and Epicurean Thought* (Amsterdam: North Holland, 1961).

³² Albert Lejeune, *Euclid et Ptolémée: Deux stades de l'optique géométrique grecque* (Louvain: Bibliothèque de l'Université, Bureau du Recueil, 1948). Lejeune, *Recherches sur la catoptrique grecque* (Bruxelles: Mémoires de l'Académie Royale de Belgique, 2.ser. Classe de Lettres, 1957). Both these works are rich collections of texts which the author, however, tends to interpret according to modern conceptions about the propagation and reflection of light.

³³ Gudrun Schleusener-Eichholz, "Naturwissenschaft und Allegorese: Der 'Tractatus de oculi morali' des Petrus von Limoges," *Frühmittelalterliche Studien* 12 (1978): 258-309.

³⁴ David C. Lindberg, *Theories of Vision from al-Kindi to Kepler* (Chicago: University of Chicago Press, 1967). This is the most reliable and ample history of optics. Large sections deal with the distinction of *lux* (light) from *lumen* (visual ray). This clarification makes it all the more surprising that the author does not stress the marginal function that electromagnetic rays in the visual range play in antiquity.

³⁵ Gérard Simon, *Le regard, l'être et l'apparence dans l'Optique de l'Antiquité* (Paris: Edition du Seuil, 1988). This is my most important authority about the gaze in antiquity. The author is a renowned scholar of

Ópseis can be thrown, as English throw glances, or Germans Blicke, or the French, who can "jeter un coup d'oeil." Looks can set objects aglow, in analogy to the sun, or like a candle into whose wax the bee has gathered the sunlight. Homer and Aeschylus compare the human eye to the sun, whose light kindles color and life. Where the sun cannot reach is Hades, where only shadows dwell. There are many images used for the way these rays work. Alexander of Afrodiasias compares them with sticks. Hipparchus compares them with fingers. They are referred to as psycho podia, the limbs of the soul.³⁶

In spite of the distinct theories different schools held about the way these rays work, this organic extroversion of the eye is a common assumption in all of them. For Plato, the gaze never reaches reality; it fuses with the color from the thing somewhere halfway, between the glimmering eye of the cave dweller and the blazing light of the idea. For Democritus and Epicurus, the gaze detaches visible scales from the object. These philosophers all deal with a human deed, an activity - the glance - and not with the reception of light. It is the glance that is broken when the stick is immersed in water. It is the glance that is captured, dislocated or darkened by the mirror. And, finally, it is the glance through which visibilia come to be.

Visibilia are as foreign to our optics as the visual ray. To explain them I rely on Aristotle. When he speaks about vision, he establishes three conditions. There must be an object that under the brightness of the sun shows colors. These colors belong to the thing, and are brought forth from within it by the light that has struck it. So light is a second condition for sight. It is not that which we see, but the solar energy that brings forth the colors from the object. The third condition is the existence of translucent media like air or water, or the crystal in the eye. These diaphaná are the opposite of a canvas. They are media tinged by the color that the visual ray has grasped, and allow the soul to be colored.³⁷

Greek, has an excellent grasp of the sources, and has found reliable help in the study of their Arabic reception. Responses to his book have been generally very favorable. He places the stress of his study on the formerly neglected opposition between the object of antique optics and optics since the late Middle Ages. Werner Kutschmann, "Wissenschaft des Blickes: Eine Studie über die antike Optik von Gérard Simon," Frankfurter Rundschau (Sept.30, 1992), speaks of Simon's anti-hermeneutical method "insofern nämlich, als es die aneignende Deutungskraft etablierter Traditionen zunächst einmal auszuschalten, oder zumindest zu suspendieren sucht" (as it exercises its appropriate interpretative power, once the established [or conventional] tradition is eliminated or at least suspended).

³⁶ The historian of Greek optics has available an excellent reference tool: Charles Mugler, Dictionnaire Historique de la terminologie optique des Grecs: Douze siècles de dialogue avec la lumière (Paris: Klincksieck, 1964). Some of the articles occupy a dozen pages. The dictionary can be used as an index; quotations are reliable and sufficiently voluminous to reflect the corpus of Greek literature on light. From the way Greek texts are translated into French - as Simon notices - it is obvious that the author interprets the sources as if they were dealing with the behavior of electromagnetic light waves.

³⁷ The attempt to understand what color in general and, further, colors were and meant in other epochs is a formidable task for the historian. An illuminating, encyclopedic guide to this subject is John Gage, Colour and Culture: Practice and Meaning from Antiquity to Abstraction (London: Thames and Hudson, 1993). By studying the practice of color in art, the author tries to separate cultural from non-cultural factors that impinge on color perception: 1) the unstable way in which the field of colors is sliced up by language; 2) the perceptual tie between certain materials and a sub-class of colors, e.g., scarlet, the name for a fine, shorn, woolen cloth, and purple, which refers to the common social status of several shades; 3) the recognized hierarchy among colors; 4) theories about the meaning of certain colors which appear in all cultures, and are very different from one to the other. When, therefore, traditional optics speaks of a tinging of the gaze, we ought not to think primarily in terms of wave-lengths, but of language, materials,

Given these three conditions, the glance turns into the vision of something that Aristotle calls emphasis.³⁸ What we see are these epiphanies, the revelatory manifestations of the world in the eye. What appears are visibilia, those qualities of the world that correspond to the sense of vision.

Visibile and emphasis are strangers in our TV world. In that Greek world things themselves have a quality that corresponds to the eye. This is the opposite from the Bildwelt ("picture-world") that techniques, all the way from woodcuts to hypertexts, have brought into being. Greek vision presupposes a connaturality between the eye and things. Vision in this self-manifesting world is a form of contemplation. Theoros is the spectator, theatron the stage, and theoria the highest kind of activity possible. The eye is made to see everything that can show colors.

Aristotle lacks an equivalent for picture. Image, as we take it today, implies some kind of representation, facsimile, or formal equivalent. It can be like a sketch or photograph, a sign, an emblem, an isometric or perspectival illustration. But it is always a medium between the thing and sense perception. The Aristotelian emphasis implies no conformity in shape; it is not light that radiates from the object, or that is reflected by it.³⁹ Even less has it something to do with mapping in the brain. It does not affect nor is it affected by the diaphanon of the air, water or crystal through which it comes, emphatically non-instrumental media. It stands for a non-mediated appearance of the world's hues.

When I speak about emphasis in German, I can call it Gesicht. The word can still mean two things: first, countenance, and then vision, illusion, specter, or appearance, which the English "face" meant until the fifteenth century. When used in this second sense, it still has in common with the Greek emphasis the absence of a distinction between visual perception and its object.⁴⁰

In contemporary understanding, the gaze has at least three aspects: it includes a wave-mechanical, a neurophysical and a mental-computational side. In Antiquity, none of these notions makes sense. For Ptolemy (c. 100-170 A.D.), sight happens where the ray fuses with the object's color. The distance from the object is sensed as the length of the visual ray. For Hero, a Greek

evaluations and symbolisms that give what since the seventeenth century one would call "tone and hue" to the eye.

³⁸ From emphainein, to appear.

³⁹ A. Mark Smith, "Saving the Appearances of the Appearances: The Foundations of Classical Geometrical Optics," Archive for the History of the Exact Sciences 24 (1981):73-99, p. 99. Euclidian geometry was the fundamental instrument of expression for sciences, geometrical optics and mathematical astronomy. Far more than a linguistic convention or interpretive device, though, it was the true language of the immanent Truth in all appearances, informing the real locative space within which all visible events are eternally played out for us as we watch. Thus, in its perfect Euclidean uniformity, the visual ray itself became a critical scientific instrument, a final adjudicating rule, as much for mathematical astronomy as for geometrical optics. Through its own inviolable rectilinearity, it is our one sure inductive link to the inviolable, intelligible nature behind the visible appearances in both celestial and terrestrial realms. So, by permitting us to elicit the inherent, perceptible Truth behind the visibilia, whether cosmic or mundane, the visual ray provides the necessary warrant of certainty that legitimizes and universalizes scientific concepts, while "saving the appearances."

⁴⁰ If in English I were to use "vision" as a translation of emphasis, I would be open to misunderstanding because the word implies something unreal. On the other hand, "visualization" is a modern word, and since its appearance during the nineteenth century, it implies the formation of mental images.

engineer (c. 150 A.D.), the object itself would not be colored without an eye made to perceive it. To speak in a modern language, our distinction between the organ and the function is absent.

Ptolemy further enriches our understanding of the proper gaze. He examines the devices that can entrap the gaze. His optics deals with pitfalls: the discoloration of objects through a shaded glass, the dislocation of the gaze by means of a mirror, and its deformation by the speed with which an arrow or bird move. His optics remains a foundation for the art of grasping reality. The eye remains a haptic organ that can finger and fondle, poke and paw: the criterion for the existence of visibilia.⁴¹ Images during this epoch remain things to be seen, like vase painting, frescoes, amulets and statues.

The image.

Occasionally, image (eikon) could be used not just for the bust of the Emperor or the stamp of a signet ring visible to the outer eyes, but also when speaking of inner perceptions. However, even when the word is used for perception with this spiritual sense, the eikon designates the figment, and phantasticòn the real, the emphasis that appears with closed eyes. When Plato or the neo-Platonists use image as a technical term, they deprive it of all factual and sensual qualities and use the term to designate a relation.⁴² Pagan antiquity did not elaborate a theory about the picture.⁴³

The first well-rounded iconology we owe to the Greek Church Fathers.⁴⁴ They needed a theory about the eikon to interpret key passages of Paul in his letters to the Colossians and Corinthians where Christ is said to be "the image of the invisible God" (Col. 1.15; 2 Cor. 4.4). The exegesis of such a statement forces them to reflect upon the concept of image. Christ as image is not something comparable to the technical product of a seal; nor is He the natural result of an act of generation like a son, nor the fruit of an artist's imitation of the appearance of the Emperor in wax, color or marble.⁴⁵ His very being in the flesh is "likeness to the splendor of the Father's glory."⁴⁶

And not only Christ, God-in-the-flesh, is substantive image. It is written in Genesis, the first book of Moses, that God created man "according to His image and likeness." Among learned

⁴¹ Engelhard Weigl, Instrumente der Neuzeit: Die Entdeckung der modernen Wirklichkeit (Stuttgart: Metzler, 1990). The author is a student of Hans Blumenberg and this short book first appeared in Japan. It is a pithy summary by a historian of science of a broad range of instruments that disestablished the authority of the sense organs, introduced hermeneutic observation, and deprived the exegesis of raw sense data of their trustworthiness.

⁴² P. Aubin, "L'image' dans l'oeuvre de Plotin," Recherches Sciences Religieuses 41 (1953):347-379.

⁴³ R. Daut, Imago. Untersuchungen zum Bildbegriff der Römer (Heidelberg: Winter, 1975).

⁴⁴ See Kenneth Mayer Setton, Christian Attitude Towards the Emperor in the Fourth Century (New York: Columbia University Press, 1941), especially the section beginning on p.198 for the innovation that Christian theorizing brought to Neoplatonism.

⁴⁵ Plato's key texts for these distinctions are found in the Republic, 509d-511e; 595a-608b; the Sophist, 234b; 266b-c. Here one sees that, for Plato, the image presupposes mimetic rather than technical skills, and belongs in the neighborhood of the joke.

⁴⁶ Gerhart H. Ladner, Images and Ideas in the Middle Ages (Rome: Edizioni di Storia e Letteratura, 1983).

Christians in Asia Minor, iconology becomes as fundamental for thinking about man as thinking about God. This turn towards a philosophy of the image takes place shortly after Ptolemy wrote his a-iconic optics in Alexandria. Iconology becomes a foundation for Christian ethics: The human being created in the image of God is now assigned the task to grow in the likeness of Christ.⁴⁷ During the centuries after Ptolemy, the last classical optician, the onset of a new scopic epoch in the High Middle Ages brought two important changes: in the meaning given to light as a metaphor for truth, and in the birth of iconology.

Greek religion did not have a deity of light,⁴⁸ precisely because light was too comprehensive to be grasped: Light was the "where-in" of nature, not a component part. Under the sun, the world is bathed in light; light could be no peculiar, special dimension of experience. Classical Greek light is seen only in the colors it brings out. Darkness is inhabited by shadows, not things.⁴⁹ Greek tragedians do show the dark underground of human existence: Not, however, as something upon which they direct a beam of attention or a beacon of consciousness; they do not let the conspicuous clarity of the sun's gaze intrude on it with pitiless brightness. In the Hellenistic period, the brightness that so far had filled the cosmos like a medium is withdrawn and light is objectified. One sees this in the philosopher, Cicero, methodically directing light onto the object of his inquiry and, later, in the mystic endeavors to approach the blinding light of truth in the Thebaid. This history of light as a metaphor for truth has been well studied.

Much less attention has been given to the second Hellenistic transformation, the discovery of iconology, along with a critical inquiry into the nature of the image.⁵⁰ In 726, the Byzantine Emperor, Leo III, won a battle that stopped the advance of Islam through Asia Minor. Right after this victory over the notoriously iconoclastic Muslims, he went to the Bronze Gate of his palace, removed the image of Christ enthroned above it, and replaced it by a simple cross. With this ceremony he started a fierce debate that raged, sometimes with violence and war, for several generations. Its issue: Can Christians bow and pray before images? The Emperor's party, the Iconoclasts, held that this was idolatry, worship of creatures, unworthy of the martyrs who had died refusing to light incense before the bust of earlier (pagan) emperors. The Iconodules held that the cult of images was a legitimate form of piety, a devotion and liturgy customary since the origins of the Church. This controversy produced an outbreak of civil war about the character of the image within the gaze.

⁴⁷ This Christian pursuit is called Bildung by Meister Eckardt much later.

⁴⁸ Hélios, the sun, like his brother, Eos, dawn, and his sister, Sélénè, the moon, are pre-Olympian titans. Hélios is the eye of the world, he who sees everything.

⁴⁹ I follow the observations of Hans Blumenberg, "Light as a Metaphor for Truth: At the Preliminary Stage of Philosophical Concept Formation," in David Michael Levin, ed., Modernity and the Hegemony of Vision (Berkeley: University of California Press, 1993), pp. 1-29.

⁵⁰ F. Boespflug and N. Lossky, eds. Nicée II, 787-1987. Douze siècles d'images religieuses. Actes du Colloque International Nicée II tenu au Collège de France, Paris, 2-4 Oct., 1986 (Paris: Cerf, 1987). This is the result of a long and carefully prepared international meeting reporting on the state of art in studies about Byzantine iconoclasm. E. Kitzinger, "The Cult of Images in the Age before Iconoclasm," Dunbarton Oaks Papers 8 (1954):83-150. A most important book which would certainly have influenced my understanding of iconoclasm - Greek, Christian and modern - has just been published but could not be used in preparing this paper: Alain Besançon, L'image interdite: Une histoire intellectuelle de l'iconoclasm (Paris: Fayard, 1994).

John of Damascus - the most articulate defender of Christian cult images - prevailed in the Second Ecumenical Council of Nicea (787). He distinguished the Christian icon from the pagan statue. Through the latter, the presence of a person or god is conjured. He further distinguished it from the mosaic or fresco in which an artist lets others see what he has fancied internally. An icon, so the Council says, is a form of revelation: the light of Christ's resurrected body showing itself. The icon is like a threshold beyond which the devout eye reaches into the realm of the invisible. For the believer, it provides color to the Truth that he has accepted and come to know through his act of faith in the Word of God.

The regime of the radiating object.

This transformation of light metaphors on one hand, and the rise of iconological thought in the Christian Mediterranean on the other, was complemented around the year 1000 by a Muslim breakthrough in optics. Like Euclid and Ptolemy, Hakim Ibn al-Haytam wrote in Alexandria. He was a mathematician, physician and astronomer.⁵¹ To be able to observe an eclipse, he transformed a tomb into a camera obscura. By reflecting upon the sun's image on the dark wall, he concluded that we see not what our gaze grasps from the object, but light reflected from the object that reaches the eye. His writings, known as the Alhazen, had a decisive influence on Latin Scholastics during the thirteenth century. Peckam,⁵² Bacon and Grosseteste accepted the action of light upon the eye which Al Haytam suggested. However, and this is the crucial point in the history of vision, medieval optics preserves the immediacy of the gaze.

Gothic light is not a painter, it does not generate an image in the eye.⁵³ This appears strikingly in a treatise, De oculo morali, written by a physician, Pierre de Limoges, contemporary with the optical treatises of Roger Bacon and Grosseteste. Though the little book elaborates the new optical theory, it still stands in the tradition of ethical optics. Its friar author deals with the physiology of vision in order to clarify the moral duties connected with this human activity. He demonstrates how

⁵¹ Jean Vernet, "Ibn al-Haytham, Abu 'Ali al-Hasan (965-1039)," H.A.R. Gibb, J.H. Kramers, E. Lévi-Provencal, J. Schlacht, eds., " Encyclopédie de l'Islam, III, 811-812. Latinized as Alhazen, Avenathan, Avenetan. Charged to dam the river Nile, he convinced himself that it could not be done, "disappeared" for fear of the sultan, and made ends meet as a scribe. He left an unusual treatise on the cotangent, a treatise on astronomy that influenced Averroes. From the increase of the size of the setting sun, and the moon, he correctly calculated the height of the atmosphere. "Il établit, comme Ibn Sina Biruni, que les rayons de la lumière partent de l'objet pour aller vers l'oeil et non le contraire, comme le soutenaient Euclide, Ptolémée et al-Kindi" (He established, as did Ibn Sina Biruni, that rays of light come from the object toward the eye, and not the contrary, as Euclid, Ptolemy and al-Kindi had maintained). See also I.Sabra, The Optics of Ibn al-Haytam. Translation of the first three books (London: Warburg Institute, 1989).

⁵² David C. Lindberg, "Alhazen's Theory of Vision and its Reception in the West," Isis 58 (1967):321-341. Lindberg, John Peckam and the Science of Optics (Madison: University of Wisconsin Press, 1970).

⁵³ Robert Javelet, Image et ressemblance au 12ème siècle de St. Anselm à Alain de Lille, 2 vols. (Paris: Letouzay, 1967), is a richly documented, closely argued major study on the theology of image in the early part of the twelfth century. For the time of Bonaventure, see Ludwig Hödl, "Die Zeichengegenwart Gottes und das Gott-Ebenbild-Sein des Menschen in des hl. Bonaventura Itinerarium mentis in Deum, c.1-3," in Albert Zimmermann, ed., Der Begriff der Repraesentatio im Mittelalter: Stellvertretung, Symbol, Zeichen, Bild, Miscellanea Medievalia 8 (Berlin/Koeln: de Gruyter, 1972).

the virtus visiva (the power of sight) descends from the front lobe into the crystal of the eye to welcome and embrace the incoming light.⁵⁴ He deals with the right dispositions needed to welcome true light and the need to resist temptation by illusions.

It would be a misunderstanding of thirteenth-century certainties to think that in this period it is an image of the thing within the eye that causes visual experience. Neither the notion of light nor that of image in this century leads to such a development. To interpret De oculo morali, the relationship of things to God "who is light" must be understood. This is the century suffused by the idea that the world rests in God's hands, that it is contingent on Him.⁵⁵ This means that at every instant everything derives its existence from his continued creative act. Things radiate by virtue of their constant dependence on this creative act. They are alight by the God-derived luminescence of

⁵⁴ "In this common nerve which is hidden within are we morally informed so that we avoid misleading judgment and do not judge things as they first appear, but have recourse to the deliberation of the internal censor." D.L. Clark, "Optics for preachers: the oculo morali of Peter of Limoges," Michigan Academician 9,3 (1977):329-43, examines the function of theology in the spread of Al-Haytam's theory of light.

⁵⁵ Hans Blumenberg, "Kontingenz," in Die Religion in Geschichte und Gegenwart, eds., Hans Frhr. v. Campenhausen, Erich Dinkler, Gerhard Gloege, Knud E. Logstrup (Tübingen: J.C.B. Mohr, 1957) 3rd ed., vol. 3 (1959), col. 1793. Contingency is one of the few concepts that are of specifically Christian origin, even though the term is derived from a Latinization of a concept in Aristotelian logic. Contingency expresses the ontic state of a world that has been created from nothing, is destined to disappear, and is upheld in its existence through the divine will, a state that is measured by unconditional and necessary Existent Being. Aristotelian metaphysics knew the fundamental opposition of possibility and reality. It did not recognize something between possibility and necessity, except insofar as this was touched upon in connection with logical modalities. The God of Aristotle is, characteristically, pure Reality (actus purus). He is necessary only in a retrospective contemplation, insofar as he is the principle of the world process. The ontologization of the possibile contingens will be concluded only toward the end of the thirteenth century. Only then will the world be considered as contingent, that is, as a reality indifferent to its own existence, and that does not bear within itself a reason or right to exist. At this moment, the world's very existence assumes the nature of something gratuitous, something that is a grace.

The coming into existence of the antique cosmos was in no way dependant on the act of someone's will, neither in its genesis nor in its continuation. It was but the fullness of expression of what was eidetically fit for existence. However, since Augustine answered the question, "Why did God create the world?" with the quia voluit, because he willed it, the world's existence is the result of a sovereign act.

As a consequence of this conception of contingency, we then find the scholastic real distinction between essence and existence, which also indicates the structure of the whole cosmos. Even in Dante, contingency reaches only to the sphere of the moon, an idea that is well within the Aristotelian scheme but does not really fit Christian ideas.

With the "voluntarism" of the Franciscan school, God himself is dragged into the realm of contingency. For Duns Scotus, God wills the world only because will is will. Necessity is no longer legitimated by contingency. Contingency now comes to mean what it still means in English and French, mere chance.

The beginning of modernity coincides with the attempted breakout from a world- and self-view defined overwhelmingly by contingency. With Occam, contingency is still deduced from the fact that finite creation by an infinite potency could only be "factual" in the way it was, and that it was. With Bruno, contingency loses its roots; an infinite cosmos becomes a correlate of the infinite God. Since Descartes, a different logic leads in the same direction. Each being now finds in its nature a reason and claim not only to existence but also to being what it is.

their truth.⁵⁶ The illuminated pages of medieval manuscripts show things in this way, glowing from within and casting no shadows.⁵⁷

Thirteenth-century philosophy relies on the metaphysical assumption of contingency to explain vision. When Thomas Aquinas refers to imago, he directly means the fresco on the refectory wall or the illuminated initial.⁵⁸ What the eye does, according to Thomas, has nothing to do with the creation of such an image in the mind.⁵⁹ The sense of vision has the purpose to extract a visual species.⁶⁰

The word species is of late Roman coinage. It means something like "the looks" of a thing, but since antiquity, species also means the characteristics or nature of something. What the eye grasps in the act of vision is for Thomas the species, the visible sign of the substance or essence. The gaze of Aquinas is in-sight into the essential shape of the object. It is not principally the color but the "shape" of things from which the gaze can derive the species.

The third scopic epoch.

Only during the early Renaissance does the gaze turn pictorial. One way to illustrate this innovation consists in following the meaning of a word, perspectiva. Boethius introduced it to translate τὰ οπτικά,⁶¹ and in this instance, as in so many others, his vocabulary served as a foothold

⁵⁶ Christl Meier, "Malerei des Unsichtbaren. Über den Zusammenhang von Erkenntnistheorie und Bildstruktur im Mittelalter," in Wolfgang Harms, Text und Bild, Bild und Text (Stuttgart: Metzler, 1990), pp.35-65.

⁵⁷ Wolfgang Schöne, Über das Licht in der Malerei (Berlin: Mann, 1954), demonstrates that medieval paintings show persons and objects that glow in their own light, which he calls Eigenlicht.

⁵⁸ Thomas Aquinas, Summa theologiae, I, q. 35, art. 1, corp. "De ratione imaginis est similitudo. Non tamen quaecumque similitudo sufficit ad rationem imaginis, sed similitudo quae est in specie rei, vel saltem in aliquo signo speciei. Signum autem speciei in rebus corporeis maxime videtur esse figura. Videmus enim quod diversorum animalium secundum speciem, sunt diversae figurae, non autem diversi colores. Unde si depingatur color alicuius rei in pariete, non dicitur esse imago, nisi depingatur figura." (Image has the character of a similitude. But not just any kind of similitude suffices; only that similitude which reveals the nature [species] of the thing, or at least some sign of the nature. The sign of the nature of corporeal things is especially evident in a form [figura]. For we recognize animals of different natures by their forms, not however different colors. Therefore, if the color of some thing is painted on the wall, it is not said to be an image unless it is painted as a figure.)

⁵⁹ Mary Caruthers, A Study of Memory: A Study of Memory in Medieval Culture (Cambridge: Cambridge University Press, 1990), is most pleasant to read because it is full of anecdotes and recent scholarship. She deals with the subject since the art of memory is closely correlated to the concept of image.

⁶⁰ Thomas Aquinas, Summa theologiae, I, q. 14, art. 2, corp. (and many other places): "Ex hoc enim aliquid in actu sentimus vel intelligimus, quod intellectus noster vel sensus informatur per speciem sensibilis vel intelligibilis, et secundum hoc tantum sensus vel intellectus aliud est a sensibili vel intelligibili, quia utrumque est in potentia." (We actually sense or understand something when our senses or intellect are formed through a sensible or intelligible form [species], and in this way the senses and the intellect are something other than the sensible or intelligible thing, because each [the senses and the intellect] is only potentially [in potentia] [that sensible or intelligible thing]). Louis Marin, Des pouvoirs de l'image. Gloses (Paris: Le Seuil, 1993), examines the being and power of images in scholastic thought.

⁶¹ Commentary on the "Posterior Analytics," 1, 7. Can be found in J.P. Migne, Patrologiae cursus completus, patres latini, vol. 64, col. 721. Referred to as "PL".

on the farther shore for medieval Latin. Even more powerfully than the Greek, the Latin neologism stresses the liveliness of the gaze. Perspicere means "to look with attention," to examine, to look into or through.⁶² The term was admirably apt to speak about the "species-reading" vision of the thirteenth century.

This is not the meaning, however, which the Tuscan painters after Giotto gave to the word. The medieval perspectiva naturalis had been understood as the ars bene videndi, the art of the skilled gaze. The Florentine painters redefine it as perspectiva pingendi, an artificium, or visual technique. They no longer insist in the same way on the ascetical training of a virtuous gaze, rather, on the aesthetic skill which enables the painter to transform the three-dimensional view through a window into its framed optical facsimile on a wall or canvas.

At this point, the image was transformed from an object into a geometrical construct. In today's language, we might say that the perspectiva artificialis rests on a tomography of the visual cone. The image which the painter is to transform into a picture is visualized as a cut through the visual pyramid.⁶³ Leon Battista Alberti creates a technical device that has had immense symbolic consequences: An optical scalpel which, arguably, has been more important for the transformation of the gaze than the telescope or microscope two centuries later. This device is a wooden frame filled with a transparent screen covered by a grid. Albrecht Dürer, in a famous woodcut, shows how it is used. The draftsman places this optical knife between his drawing table and a woman who lies on a couch in front of him. The artist's chin is fixed by a support and his left eye covered. Thus immobilized, and reduced to monocular vision, he surveys the woman's anatomy, as well as the folds of the couch's robes, square by square. In front of him, on the table, lies a sheet with a grid that corresponds to the instrument (a velum), and with the pencil in his right hand he traces his observations in square after square. The image that results from geometrically slicing the visual cone becomes an optical facsimile called "a picture."⁶⁴

Leonardo da Vinci already understands that the new technique implies a violence perpetrated upon the gaze. He knows that looking is an activity that proceeds not just from the eye, but from a body in lively movement, that the gaze results from the coordination of two eyes. He is well aware that with growing distance visible things change the distinctness of their contours and the vivacity of

⁶² Both perspectare and perspicere are classical words.

⁶³ Two recent studies of the perspectiva pingendi: Samuel Edgerton, The Renaissance Discovery of Linear Perspective (New York: Harper, 1976). Edgerton, The Heritage of Giotto's Geometry: Art and Science on the Eve of the Scientific Revolution (Ithaca: Cornell University Press, 1991). " ... [T]he picture in perspective of a scene or set of objects is not a replica of the retinal image produced by the objects in the artist's eye. It is rather a substitute of the actual objects themselves, so constructed that it sends to the eye a distribution of light similar to that which would be set by the actual objects, with the result that, for any given eye, the picture produces retinal images similar in shape and dimension to those which would be produced in the same eye by the actual objects ... geometrical perspective is simply the mapping of space, not sight" p.7. See also Kim H. Veltman (in collaboration with Kenneth David Keele), Linear Perspective and the Visual Dimension of Science and Art (Munich: Deutscher Kunstverlag, 1986).

⁶⁴ Werner Kutchmann, Der Naturwissenschaftler und sein Körper. Die Rolle der "inneren Natur" in der experimentellen Naturwissenschaft der frühen Neuzeit (Frankfurt: Suhrkamp, 1968), deals with the physical effects of the new scientific attitude in front of reality, which is increasingly hermeneutical. Observation replaces contemplation. "Observation" is the word used to designate the new stance. "To observe" means to look through the view of a device, for example, a stick that measures the height of a star, or a lens.

their colors. Not only as a painter of "pictures" is he far ahead of his time; some two hundred years earlier than others he grasped the epistemology on which the new science would be built.⁶⁵

He knows that much of nature cannot be "seen" unless it has first been drawn. When he opens the belly of a hanged man, his eyes are faced with a bloody mess. He must finger the gut, cut out and shape an organ before he can draw, and then see it. He must look at the specimen that he has prepared like a meat cutter, from one and then the other side before he can observe nature - bones, arteries or innards as they really are. He recognizes knife, crayon and paper as the instruments through which nature can be made to open herself to the gaze.

Most historians ascribe the transition from the naked to the armored eye to the action of the lens in the mid-sixteenth century. I prefer to follow those who place the transition 150 years earlier, and assign it to the new perspectiva artificialis made possible by two techniques: monocular, linear perspective, and the practice of shading through which attention is drawn to incident light, depth and the passage of time. Art academies train the new gaze, and the eye comes to be experienced as another piece of equipment. The notion of image is wedded to that of vision. The painter is aware of the image that his picture will generate in the viewer.⁶⁶ Since Alberti, this image has been located at the place of the velum - between the eye and the object. As noted above, Kepler brought it from outside inside, using a cow's eye to show that it works as a camera obscura, making an inverse miniature picture appear on the eye's inner membrane.

The screen on the farther shore.

Under the regime of the picture, the paradigm of vision remained for several centuries the image on the wall. By the late eighteenth century, the Claude glass came into fashion among tourists. This is an object that looks like a cigar box and allows the sightseer to turn his back to the view and to observe a section of it well framed and mirrored. Finally, there came Daguerre's camera that fabricates a picture in the absence of an image. In the obscurity of the chamber, vision arises from the union of picture and gaze. The camera, then, became an emblem for the eye. At first, the camera is truly a chamber, a darkened room into which the spectator enters. Later, the camera lucida is a device that projects the image of an object onto a surface where it can be contemplated and traced.

It is tempting to speak about the day of the first Daguerreotype as the birthday of the Modern Age. I, too, was for a long time convinced by the beautiful pages of Roland Barthes,⁶⁷ Susan

⁶⁵ I here use "observer" in a narrow, almost technical sense, referring to a form of attention that is not only careful but also guided by reference to an instrument, measure or model.

⁶⁶ E.H. Gombrich, Art and Illusion. A Study in the Psychology of Pictorial Representation (Princeton: Princeton University Press, 1960). Original title: "The Visible World and the Language of Art." He insists that the fine arts use a language that has to be learned anew by each generation. A recent, critical restatement of this argument appears in John Shearman, Only Connect. Art and the Spectator in the Italian Renaissance, Bollingen Series XXV, 37 (Princeton: Princeton University Press, 1992). He stresses the intention of the painter to draw for the eye of the beholder.

⁶⁷ Roland Barthes, Camera Lucida: Reflections on Photography, Translated by R. Howard (New York: Hill and Wang, 1981).

Sontag,⁶⁸ and John Berger,⁶⁹ and conceived of photography as the decisive turning point towards the new scopic age of today. I now argue that the camera was then and remains now the pivot for the survival of the third scopic regime within the fourth, and that one of the most fascinating and least explored aspects of the last two hundred years is the coexistence of two heterogeneous scopic forms.⁷⁰

Some art historians speak of scopic regimes that are replaced one by another, for example, when Rafael is followed by Carravaggio.⁷¹ To the cultural historian of the gaze, however, no scopic regime ever achieves perfect monopoly. Past forms of gazing survive; and the survival might be group-specific. The touching gaze is still with us, marginally, like a horse and buggy in the age of the car. The monopoly of wheeled locomotion does not peremptorily deprive me of the use of my feet. In an age of universal transportation, walking to work or hiking, albeit luxuries, are still possible. If I treasure a walk, and take the time for it, I can at least try to arrange my life in such a way that I walk to work. The freedom to walk is conditioned by my willingness to engage in an askesis of the feet. In a similar way, an imageless gaze at my friend's face can be cultivated only through a continual guard of the eyes; it has become a fought-for ideal that I can pursue only by constant training, behavior that runs counter to the surrounding Bildwelt that solicits me to deliver myself to the show.

The people among whom I live, more often than not, are armed - not just with cameras but with camcorders. The symbolic effects of recording as an activity, medium and object have given rise to a literature that is even vaster than the literature on the symbolism of cars. But only rarely is our dependence on the act of recording understood as a crippling of the gaze. The gaze comes to be understood and, further, actually sensed as a digital process. Surreptitiously, the act of recording becomes a filter that dulls the light in the other's eyes and removes me from his fleshly presence. What I call the "invitation into the show" lets the image in the gaze fade.⁷²

At this point it is useful, once more, to compare the eye as camera and the eye as participant in the show. Perspectival representation creates a facsimile of the view-point as it appears from an

⁶⁸ Susan Sontag, On Photography (New York: Farrar, Straus and Giroux, 1977). See especially, "In Plato's Cave," pp. 3-158, pages that have renewed my curiosity about the gaze each time I have reread them.

⁶⁹ John Berger, Ways of Seeing (London: BBC and Penguin Books, 1972).

⁷⁰ Jonathan Crary, Techniques of the Observer: On Vision and Modernity in the Nineteenth Century (Cambridge: MIT Press, 1992). Reading this book has effected a major turn in my thinking on the gaze. The book is about vision and its historical construction: "... the sweeping reconfiguration of relations between an observing subject and modes of representation that effectively nullify most of the cultural established meanings of the terms observer and representation ... [this happens through] ubiquitous implantation of fabricated visual "spaces" radically different from the mimetic capacities of film, photography and television since the mid-1970s. [These latter] ... corresponded to optical wavelengths ... a point of view, static or mobile, located in real space. [The new techniques] ... are relocating vision to a plane severed from a human observer ..."

⁷¹ Martin Jay, "Scopic Regimes of Modernity," in Hal Foster, ed., Vision and Visuality (Seattle: Dia Art Foundation, 1988), pp. 3-27.

⁷² André Malraux, Intemporel - La métamorphose des Dieu (Paris: Gallimard, 1976), speaks of "le passage de l'art de la spiritualisation à celui de l'idéalisation, ou du surnaturel à l'irréel," (the passage from the art of spiritualization to that of idealization, or from the supernatural to the unreal).

observer's stand-point. It places an eye or its counterfeit in front of an object. The picture implies that the observer and the observed are in the same space, that they have a common ground.

Leonardo's wrist bones are convincing because they tempt your fingers to reach out and try to touch them. Even if psychopodia, the limbs of the soul that reach out of the eye, have long been forgotten outside of lyrical poetry, perspective supports synaesthesia, the never dimmed certainty that the experiences of all senses mingle somewhere in the brain.

In Antiquity, the eye had been the criterion or mirror for truth. In the Middle Ages, it was endowed with the narrower power to extract universal essence from flimsy shapes. Since the Renaissance, it has been the model for making and interpreting pictures. In front of the screen, it has become a gateway for moving into the show.

A Renaissance picture must not only be looked at; it must be understood. This understanding can be compared with the exegesis of a text. The picture invites the viewer to remember where he stands. The painter forces the viewer to become conscious of his feet. He is invited to share the stand-point of the painter. Through a window, the viewer looks into a room in which the Archangel Gabriel addresses the Virgin Mary; or from a balcony, he watches a funeral. Standing with the artist next to Dr. Hunter's dissecting table, he follows the progress of a lesson in anatomy. The space in which the viewer stands, the space in which he touches and grasps, and the space in which the object is shown are homogeneous. Even in most photographs, the viewer can figure out the angle from which the snapshot of him was taken by a visitor. The common ground or soil on which both the viewer's feet and the depicted scene rested was a presupposition for understanding the Renaissance picture.

With the transition from the age of pictures to the age of show, step by step, the viewer was taken off his feet. We were trained to do without a common ground between the registering device, the registered object and the viewer. The replacement of the picture by the show can be traced back into the anatomical atlases of the late eighteenth century. Beginning with the Dutchman Albinus, anatomists after 1740 tried to replace the perspectival views of skeletal representations with blueprints. As Barbara Duden shows in the last chapters of her book on the very first fetal representations by a Dr. Soemmering, in 1798, anatomists looked for new drawing methods to eliminate from their tables the perspectival "distortion" that the natural gaze inevitably introduces into the view of reality.⁷³ They attempted a re-education of the scientific gaze that would then "see" every bone as through a tele-lens. Even the tiniest organ, which in reality the anatomist has to inspect by holding it close to the eye between his two fingers, is now shown in the new type of atlas orthogonally, as seen from infinity. The specimen in the textbook is removed from the space into which fingers can reach or feet can walk, and placed on a farther shore.

The new naturalists want the object to be shown as it is in itself; they want a blueprint of the object that can be used by an artisan who has to reconstruct it as a three-dimensional model. They want measures, not views. They look at the world, *more architectonico*, according to the layout of architectural drawings. They do not want a facsimile of vision, but an isometric plan of things. They want to adorn their textbooks, not with views, but with maps. They want to show a biological specimen, not as it looks when you hold and turn it in your hand, but as you can photograph it with a powerful telephoto lens on the farther shore of "objective reality."

⁷³ Barbara Duden, *Anatomie der Guten Hoffnung* (Stuttgart: Klett-Cotta, 1995).

The old image was a geometrical construct resulting from the cone of light rays reflected from the surface of the object to the lens in the eye. The new show is a technically generated display that records the measurements taken with an instrument. It is the result of a program that transforms binary columns into an arrangement that fits some prejudice in the mind of the viewer. I want to distinguish this manipulated arrangement of shades and colors from Alberti's perspectiva artificialis. I call it a show to distinguish it from the image.

With the nineteenth century, a new scopic will affirms itself outside of medicine, too. Not only anatomists, but geologists and zoologists also condemn the mode of illustration that fills the textbooks of the eighteenth century. A new technique, wood engraving, makes finely-drawn, cheap book illustrations possible. Draughtsmen galore are trained for blueprinting reality, leaving it to the viewer's eye to imagine the model. Carefully executed plates show distant cities, jungle ecotopes, never imagined animals, and become an essential complement to the description of text and legend. Thanks to the new printing techniques, the study of nature increasingly becomes the study of scientific illustrations.

The first break occurred with the stereoscope, a novelty that became the rage of the later nineteenth century. This is how it works. Two simultaneous exposures are made next to each other on the same photographic plate through two lenses distanced from each other by a few inches. The developed picture postcard is placed into a box and viewed through a pair of special spectacles. The result is a "surrealist" dimensionality. The foreground and background that lie outside the focus are fuzzy, while the focused object floats in unreal plasticity. My Grandmother still brought back boxes of such pictures from Sicily, but the instrument was widely used by pornographers. The stereoscope replaces the camera obscura as an emblem. It is the symbol for the gaze captured by a show.

Those who are now over sixty can remember the effect which the moving camera had on moviegoers used to pre-World War II films; some felt seasick at the first experience. Wide angle, telephoto and zoom lenses became commonplace. The Washington commentator in the window of a TV screen, transmitting "live" from India, came to fit our expectations. The satellite record of the earth was dubbed a view. In our present fourth scopic epoch, to view means to take in a show.⁷⁴

In textbooks, as well as in news magazines, the graphic show first encroaches upon and then overwhelms the text. The text is frequently reduced to a legend for the graph. Further, the eye is trained to take in objects that in nature are invisible; molecules smaller than the shortest visible frequency are made to appear. But, even more importantly, abstract notions are given "shapes" in tables and charts that seduce the eye toward misplaced concreteness. We are trained to be horrified, anguished, or encouraged by the graphic representation of quantitative data to which nothing corresponds that the gaze could grasp: Gross National Product, population growth, the incidence of AIDS. The show weans the gaze from the image.

I want to call attention to the beginning and end of a scopic epoch characterized by the wedding of the gaze to the image. Their bonding began to be loosened two hundred years ago. New optical techniques were used to remove the picture of reality from the space within which the fingers can handle, the nose can smell and the tongue can taste it, and show it in a new "objective" isometric space into which no sentient being can enter.

⁷⁴ Jean Baudry, "Ideological Effect of the Basic Cinematographic Apparatus," in Theresa Hak Kyung Cha, ed. Apparatus (New York: Tanam, 1980), insists on the contrary: In cinema, "it is the perspective construction of the Renaissance which originally served as model ... it repeats easel painting" p. 27.

We are threatened by the emergence of an epoch which takes the show for image.