follow is always to be found in pictures containing the "gesture of demonstration."

The Picture as "Scanning Matrix." The idea of "reading" pictures in a literal sense refutes Gotthold Ephraim Lessing's famous eighteenth-century dichotomy between the temporal arts—literature, music—and the spatial ones—painting, sculpture, and architecture (Lessing, 1965). As Paul Klee wrote in his "Creative Credo":

In Lessing's *Laokoön*...there is much ado about the difference between time and space in art. Once we examine it more closely, this is really just a bit of erudite hair-splitting, for space, too, implies the concept of time. It takes time for a dot to start moving and to become a line, or for a line to shift its position so that a plane is formed...The act of viewing the work of art, too, is in essence a function of time. The beholder focuses on one section and then on the other...The work of art, then, results from physical movement; it is a record of such movement, and it is perceived through the movement [of the eye muscles]. (quoted in Grohmann, 1985)

Similarly, the French scholar Louis Marin described the "built-in" scan path for the viewer's eye as a "matrix of meaning":

The picture forms an organic totality of eye movements and the finished picture is the impregnation of the surface texture by a compound of signs both topical and dynamic in character whose aim it is to differ the final unity of the scene as a structured totality both in time and space, in opposition to the view that claims that a picture can be "seized" at a glance—Lessing in his *Laocoön*. This circuitous route inscribed on the surface for the gaze of the spectator is not a fixed one. The points of fixation imply possibilities of choice. Yet, the picture forms a "matrix" of trajectories [for the eye to follow] from which each viewer—and each generation of viewers—generates the global meaning of the picture. (Marin, 1968, p. 863)

[See also Lessing, Gotthold Ephraim; Poussin, Nicolas; Riegl, Alois; and Wölfflin, Heinrich.]

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CLAUDE GANDELMAN

IMAGE THEORY. A much-cited line from Raymond Williams's *Keywords* (1988) is that the word "culture" is "one of the two or three most complicated words in the English language" (p. 87). Although he does not state what those other complicated words might be, we might readily include the word "image." Williams offers only a short entry on the concept of the image, but like the word "culture" we could equally point to its varied historical development (in different contexts), and also, importantly in how the term is adopted across a range of distinct intellectual disciplines and in a variety of ways that are not always compatible.

Philosophical Precedents. Current debates about the meaning, interpretation, and status of images are based on a rich and complex history. Ancient Greek philosophy, for example, continues to underline a great deal of writing on images in our present time. Two of the most defining accounts of the image are Plato's "Simile of the Cave" (from Republic) and Aristotle's writings on mimesis and imitation (from the Poetics). Of the former, as one of the most influential passages on images in the history of philosophy, Plato presents the idea that rational thought (the "right" way of seeing) can dispel illusion, providing access to true knowledge and emancipation. Of the latter, by contrast, Aristotle argues that it is through forms of simulated representation and imitation that we can properly reflect on the world. He considered human beings by nature as mimetic beings. Later, with the development of modern philosophy, key statements of the image and aesthetic theory emerge with, among others, René Descartes's writings on optics (as part of natural philosophy), John Locke's account of the human mind as being initially a blank slate upon which our experiences are "written," and Immanuel Kant's consideration of representation and imagination. During the Middle Ages

(and up until the seventeenth century) images had been linked primarily to the sacred. However, following the critical revolution initiated by thinkers such as Kant, the products of social and cultural activity began to be seen as autonomous objects warranting special attention. Kant identified and differentiated between particular cognitive capacities, but imagination was shown to organize the "schema" that the mind applied to empirical sense data in order to produce a unified image of the world in our minds, linking experience and understanding. For Kant, the mind's "imaging" capacity is a precondition for our perception of images of the world. This view contrasts directly with Locke's empirical notion of a passive mind upon which images of the world are reflected.

Image and Power. The relationship between image and power remains a deep-held concern. Two predominant attitudes arise in biblical writing and early Greek philosophy: iconophobia, the fear or hatred of images, and iconophilia, the love of images. Iconophobia is associated with a deep mistrust of images, or particular kinds of images. Iconophobes have often sought to challenge established beliefs by breaking or decrying images and are also known as iconoclasts. The controversy over icons in the eighth- and ninthcentury Byzantium marked a deep conflict over the nature and uses of icons within social and political spheres. Iconoclasts—upholding the doctrine against "graven images" sought to purify the church of idolatry, while iconophiles considered the value of specific icons as a means to propagate ideas and maintain social order. Over the ages there has been a recurring pattern whereby some images are overturned by iconoclasts in favor of other specific unifying political symbols, which are later denounced. The Cultural Revolution in China and the rise and collapse of communism in Europe are fairly recent examples from the twentieth century. Further back, the English Civil War (1641-1651) is a prominent example.

Iconoclasm entails an epistemological and an ethical claim. The nineteenth century gave rise to what has been referred to as a "school of suspicion," epitomized by three major iconoclasts, Karl Marx, Friedrich Nietzsche, and Sigmund Freud, whose work seeks to demystify the world through a critique of consciousness. To see "truth," they would argue, requires an act of interpretation. If things cannot be taken at face value, everything in need of interpretation can be considered an image, or an illusion. Marx, for example, considered social reality as projected into the minds of citizens like an image in a camera obscura, as social relations produce their own distorted, ideological version of reality. Critique turns that image the right way up by deciphering its effects on social consciousness, thereby dispelling the power of the false image on the mind of its observers. Describing an existing political status quo as a false reality has been a tactic employed by many thinkers, from Plato through to Marx, Nietzsche, Guy Debord, and Theodor Adorno-most of whom ground their ethical claims in epistemological terms. Interestingly, however, the influence of such thinkers seems to owe a great deal to the strength of imagery that they deploy in their writings.

Pictorial Turn. Philosophies of the image bring to the fore important considerations of the relationship and difference between text and image. The concept of the "text" is embedded in the practices of the human sciences and feeds into wider popular discourse. It underpins a whole way of thinking and interpreting the world, situating us in what the philosopher Richard Rorty (Philosophy and the Mirror of Nature, 1979) describes as the "linguistic turn." Rorty's history of philosophy portrays a series of different underlying problematics, labeled as "turns," starting with medieval philosophy concerned with things, enlightenment philosophy with ideas, and finally, contemporary philosophy with words, or language. In response, and in light of growing interest in visual culture, W. J. T. Mitchell (1994) considers a new challenge to this history, suggesting "that once again a complexly related transformation is occurring in other disciplines of the human sciences and in the sphere of public culture" (p. 11) leading toward what he calls a visual or "pictorial turn."

Typically, when using the word "image" in everyday language we do stop to assess exactly what we mean by it. The philosopher Ludwig Wittgenstein (influential for his "picture theory" of language) argued it futile to definitively pin down a term such as "image." A word in itself does not show us the essence of a thing, but rather a word's meaning comes from its use in language. Thus another way of considering the use of the term "image" is how it takes on meaning in the manner in which it appears in everyday use. There is no single definition or "essential nature" of images, and different meanings and use can overlap. For Wittgenstein, we make sense of the term not only by perceiving a complex network of relations between the different meanings, but also by being in these networks.

In another direction, the philosopher Nelson Goodman provides a much-debated distinction between not only image and text, but also image, text, and notation—the latter referring to a nonlinguistic symbol system able to possess certain functional and systematic qualities. A primary example is the music score, which is the transcription of music into a visual script using an established, sharable system of notation. Notation is not a picture, nor is it text—it is something inbetween. There have been extensive debates about Goodman's work, particularly his book *The Languages of Art* (1968). The art historian, James Elkins (1999), however, makes the case that while Goodman's work has generated a large secondary literature within the philosophic community, within the field of visual arts various confusions and ambiguities have not received the critical attention they deserve.

Image as Thought. The act of thinking has been considered by some as a visual or image-based activity. Psychology

textbooks have tended to separate chapters on perception. (or the senses, as means to gather information) and thinking (as a means to process information). The hierarchical division goes back a long way. Indeed, ever since Aristotle's claim that the soul never thinks without a mental image there has been an ongoing dispute about the currency of consciousness or the medium of thought, in particular whether humans think in pictorial images or language (McGinn, 2006). The study of mental imagery was central to early, prebehaviorist psychology. When the topic returned to the agenda with developments in cognitive psychology, the question was whether there are two separate, equally valid forms of representation: one pictorial and the other propositional. Debates have been reawakened and furthered with developments in neuroscience (Kosslyn, 1996). Antonio Damasio (The Feeling of What Happens, 1999) proposes an ambitious theory that takes images in a broad sense to refer not only to interior representations of the exterior world but also to interior representations or maps of the state of the body in relation to the environment. Images in this case are taken to be the "currency" of the mind; as such "thought" is a word to describe a "flow of images." Through Damasio's work we are introduced to a key problem for contemporary neuroscience and the study of consciousness, namely, how physical, observable occurrences in the brain are also part of an individual's subjective process of reflection. In another direction, the relationship between image and thought connects with the analysis of metaphor. Paul Ricoeur (The Rule of Metaphor, 2003) considers metaphor the process through which linguistic imagination creates and recreates meaning. Bringing to mind Kant's role of the imagination in constructing schema and Wittgenstein's later conception of language, Ricoeur claims that the poetic image is at the heart of human language and being. In this view, it is not necessarily surprising to find metaphor as central, rather than incidental, to philosophical discourse (Le Doeuff, 1989).

Image Analysis. The image has been of long-standing interest to a number of disciplines and fields within the arts and humanities, giving rise to distinctive analytical approaches. Art history cannot be said to present a single theoretical approach, but nonetheless, its enduring practices of aesthetic judgment, close attention to detail, elaboration of historical and contextual issues, and variety of interpretative techniques are invaluable to any conception of image-based research. As part of the emergence of visual culture studies (in the 1990s), art historians emphasized aspects of historical continuity in artworks and other images, and began writing about the nature of the relationship between art and image.

Semiotics, the so-called science of signs, is concerned with the structures of meaning and representation. Arguably, it has made the strongest claim to holding the key for understanding visual and linguistic signs, but its ambitious scope and scientific aspirations have been challenged. In conjunction with psychoanalysis, semiotics came to prominence at the height of French structuralist thought in the 1950s and 1960s, and is widely applied in the analysis of images in media, communication, and cultural studies. Various semiotic approaches have been adopted and adapted across a whole range of disciplines outside of the arts and humanities, including medicine, law, business studies, engineering, and the cognitive sciences.

Psychoanalysis is an area of investigation that came to prominence in the late nineteenth century through the celebrated work of Freud. To this day its scientific claims are contested, but that has not diminished its reputation for acute analysis of the unconscious. Freud sought evidence of the unconscious mind in the mental imagery of dreams. The field has always had a special relationship with images because of the role they are said to play in the formation of the psyche. Jacques Lacan reworked Freud's ideas along structuralist lines, claiming the psyche consists of an imaginary, symbolic, and real order. The "imaginary" refers to a psychic register or realm of images, the "symbolic" to language (and the lawlike ordering of society), and the "real" to the unobtainable sense of fullness that escapes symbolization. Significantly, Lacan defines identification as a transformation of the subject assuming an image of one's own self. Psychoanalysis has had a pronounced influence on film theory, which among other issues has examined the gaze as a gendered activity.

Phenomenology lends itself to consideration of the conscious and unconscious perception and experience of images, while also providing insights for scientific, cognitive approaches to images. The philosopher Martin Heidegger put forward the view that artworks have the potential to emancipate consciousness because they elicit an imaginative and creative response to living in a world constrained by convention. A phenomenological approach to images is first outlined by Edmund Husserl in his seminal work Logical Investigations (1970). Husserl's basic insight is that consciousness and the world are coconstituting. Since phenomenology attempts to deal with individual experiences, it often begins with a detailed analysis of a particular image, or type of image, in a similar way to art history. The phenomenological approach broadly understands images positively, so generally stands in opposition to iconoclastic views of images, such as ideological critique and semiotics.

Image Domains. Following the growth in visual studies in recent decades, there has been an appetite to consider a wider set of image domains.

Science Imaging. Science imaging has been of particular interest (growing out of the development of science studies). In many cases scientific images are visualizations of data, which can be the end result of an experiment or technical process, or used to communicate information. Equally, however, they are often part of a more extensive unfolding

process. Regardless of their purpose and provenance, scientific images can often be very striking, yet in many cases will be discarded once they have been used. The science studies scholar, Peter Galison (1997), draws attention to the oscillation between iconoclasm and iconophilia within science imaging. Returning to the scene set by Plato, Galison reviews whether the nature of scientific knowledge is essentially imagistic and pictorial or abstract and logical. Science images do not simply present data in visual form for convenience or pleasure. In fact, images can be considered not only to represent but also to constitute scientific knowledge, which in turn can be translated back into data. The making of science images is also the making of scientific knowledge.

Making Images. In combination with understanding the significance and place of images across a variety of historical, cultural, political, and economic contexts, an equally vital aspect to understanding the image is the practical matter of making and manipulating them. Different processes, materials, and forms define different image types, while cultural practices in one field, such as scientific experimentation, can influence image-making practices in another. For the painter, the process of making an image is usually considered a form of creative experimentation or a study of forms and qualities as they attest to figurative or abstract concerns. For a radiologist, however, image production is about securing a precise form of visual information. Yet in both cases the results can lead to complex and intriguing visual images. Similarly, a wide variety of materials and equipment are used in image making. Both the filmmaker and astrophysicist, for example, need to use increasingly sophisticated visual technologies in order to carry out their work. In one case this might be to create a virtual environment in which to stage a science-fiction drama or, in another, to visualize far-flung dimensions of our universe, which normally remain invisible to the naked eye.

In order not to institutionalize the distance between image making and image analysis, Elkins (2003) suggests we need to find ways "of bringing image-making into the class-room—not just in theory but in actual practice" (p. 158). He argues the making of images (from drawing and painting to video editing) ought to be practiced in the *same* seminar rooms where historical and interpretative work takes place. Otherwise, there will always remain a gulf between making and thinking about images; and at worst, "[image] theory will be able to consolidate the notion that study is sufficient to the understanding of images, and independent of actual making" (p. 159).

Image Studies. In defining "image studies" we can ask the deceptively simple question: What is an image?—which we soon acknowledge is no simple matter. If anything, the image does not exist in any singular sense, but is always a plural term (Elkins and Naef, 2011). It is perhaps not surprising one of the central concerns of writers has been to categorize images into different groupings that attempt to

account for the full range of visual and nonvisual images. Mitchell's (1987) canonical essay, "What Is an Image?," proposes a family tree of images (to include graphic, optical, perceptual, mental, and verbal images), while Elkins's Domain of Images (1999) puts forward a diffuse genealogy of image types. In both cases, these taxonomies are an attempt to give an inclusive account of what might be included in an expanded understanding of the image. Hans Belting (2005) offers an explicit development of Mitchell's account of a "family of images," arguing: "Images are neither on the wall (or on the screen) nor in the head alone. They do not exist by themselves, but they happen...They happen via transmission and perception" (p. 302). In consolidating these accounts, Image Studies (Manghani, 2013a) seeks to establish an interdisciplinary approach to the study of images, which looks across a range of domains and disciplines. The approach it sets out is to think critically about images and image practices and simultaneously to engage with image-making processes. At the heart of the book is the idea of an "ecology of images," through which we can examine the full "life" of an image as it resonates within a complex set of contexts, processes, and uses. Elsewhere, under the banner of Bildwissenschaft (image science), and notably through the prolific work of the publicly funded Eikones project (at the University of Basel), a broad consortium of researchers has been brought together to plot new pathways, including the intersection between science and visual culture. Overall, image studies seeks to offer critical frameworks within which interdisciplinary research can take place. In the last decade or so, alongside developments in visual culture studies, image studies—if not fully established in institutional terms—has taken up its place within intellectual debates and scholarship.

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SUNIL MANGHANI

IMAGINATION. This entry comprises three essays on a notion central to the creation of art and to aesthetics:

The Imaginary
Contemporary Thought
Phenomenological Accounts

The first is a survey of the history of philosophical and literary treatments of the "imaginary," focusing on Jean-Paul Sartre's term for speaking about the imagination. The essay reflects contemporary thinking about the imagination, particularly within Anglo-American philosophy. The third discusses the phenomenological conceptions of imagination, starting with Husserl. For related discussion, see Creativity; Epistemology; Fiction; Husserl, Edmund Gustav Albrecht; Perception; Play; and Sartre, Jean-Paul.

The Imaginary

The "imaginary"—a relatively modern term—has gained currency in the face of mounting skepticism concerning the "true nature" of imagination or fantasy. Jean-Paul Sartre

introduced the term "l'imaginaire" into the critical discussion, not least as this human potential manifests itself in rather different ways: With flights of fancy, it can wander off into worlds of its own, or, as imagination, it can conjure up images, or summon the absent into presence. In ordinary experience, the imaginary tends to manifest itself, in a somewhat diffuse manner, as fleeting impressions, projections, daydreams, and other reveries. Small wonder that there have been a great many attempts in human history to come to grips with this protean potential.

Zachary Mayne remarked in his Two Dissertations Concerning Sense and the Imagination (1728) that the imagination is "like the Chameleon, of which Creature it is reported, that it changes its Hue according to the Colour of the Place where it happens to be." This was by no means the first attempt to gain a cognitive hold on the imagination. Already, in the seventeenth century, increasing attention to it had once more focused on Aristotle's conception of fantasy as lying halfway between perception and thought. Thomas Hobbes considered the Greek phantasia as the imagining of an object no longer present, and thus constituting a "decaying sense." Up to the sixteenth century, the imagination had occupied a lower rank, not least because, through its link to the senses and memory, it was present as a latent subversion, if not an actual defiance, of a reasondominated hierarchy. But since then, imagination began its advance, and in the eighteenth century, it gained prominence thanks to its multiple uses. When it became a matter of trying to take possession of the empirical world, knowledge had to be wrested from experience, which meant processing the data that found their way into the mind. Joseph Addison suggested that "the exercise or pleasure of the imagination depends on a full and directed interplay and integration of as many faculties and operations of the mind as possible." Samuel Johnson, unlike Hobbes, considered imagination no longer a "decaying sense" but a central guide, linking past, present, and future so as to enable one to hold a steady course in the midst of all the changes one undergoes.

So long as the eighteenth-century view of the imagination (that it acted as a means of combining) prevailed—and this applies particularly to the first generation of association psychologists, of whom David Hartley was the most prominent representative—it was conceived, in accordance with the guidelines of empirical cognition, as a mechanistic operation linking existing data. As such, it was used as a foundation for cognition without any satisfactory account of how it could achieve such a status. This lack preoccupied the second generation of association psychologists, who revealed the imagination as a synthetic power by describing it as a process of dynamic flow that fuses heterogeneous elements into a unity.

These diverse descriptions of the imagination as a combining agent did not, however, provide a definition of what it actually is. David Hume used the terms "fancy" and "imag-