A Companion to Aesthetics

Second edition

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cognitive science and art  Can an understanding of the psychological processes that subserve our engagement with artworks contribute to discussions of the nature of art or the character of aesthetic experience? Engaging with artworks is a canonically psychological task. In this context, cognitive science can help explain the way artworks induce perceptual and expressive effects associated with aesthetic experience and control for semantic associations associated with their meanings. Understanding these processes would seem central to our understanding of art, as both a category of objects and a set of loosely related cultural practices. Therefore, the answer would seem to be yes. However, philosophers have been generally skeptical about the prospects of a productive rapprochement between the philosophy of art and cognitive science. Their skepticism boils down to a question about whether psychological explanations of our engagement with artworks suffice to explain the artistic salience of associated perceptual and cognitive effects. This is a compelling worry. Nonetheless, it may be too strong as an evaluative criterion. Cognitive science need not provide independent explanations of artistic phenomena to contribute to our understanding of them. The question therefore is, what role, if any, can research in cognitive science play in discussions of issues germane to the philosophy of art and aesthetics.

Research at the confluence of cognitive science and philosophy of art rests on two assumptions. First, cognitive science can explain how artworks function as cognitive stimuli. Second, an understanding of how artworks function as cognitive stimuli can contribute to an understanding of how they function as artistic stimuli. The first claim is trivially true. The function of the formal structure of an artwork is to provide viewers, listeners, spectators, and readers with sets of cues to enable them to recognize its form, representational, and expressive content. We do not need specialized artistic training to recognize these types of features in an artwork. The sets of visual cues embedded in the formal structure of a painting trigger the same sets of visual processes by which viewers perceive depth and recognize objects in ordinary visual contexts. Likewise, sets of cues embedded in the narrative structure of a text trigger the same sets of cognitive processes by which individuals recognize actions and events, interpret the beliefs, desires, and emotions of others, and predict their behavior. Cognitive science can explain how these basic processes work. Therefore cognitive science can explain how artworks work as perceptual and cognitive stimuli.

An artist’s formal methods (e.g., maquettes, drawings, and color studies in the visual arts) can be thought of as tools for recovering sets of formal cues sufficient for artistic production in a medium (e.g., realistic representation in landscape painting) from ordinary experience. However, even in the case of realistic pictorial representations, there is no preferred set of image cues for accomplishing this task. Any number of possible formal vocabularies will suffice (e.g., formal differences between Hudson River School and Superrealist paintings). In this context artists choose the formal features and narrative devices they use to construct a work relative to the aesthetic effects or semantic association they intend them to produce. Therefore, explanations of how artworks function as cognitive stimuli should also explain how they function as artistic stimuli.

The strength of this model lies in its appeal to ordinary psychological processes that are transparent to empirical investigation. However, this strength is also its central flaw. Consider Margaret Livingstone’s explanation of Mona Lisa’s dynamic expression (2008: 68–73). Our ability to discern fine visual detail
is far greater in the central, or foveal, region of the visual field than the periphery. However, this important capacity comes at a cost. Foveal vision is insensitive to coarse-grained visual features (e.g., broad contours defined by shading). Livingstone has demonstrated that Mona Lisa’s expression is depicted using only coarse-grained image features (Leonardo used a technique called sfumato to blur the smile contours around the eyes and mouth of the figure). These coarse-grained features are invisible when one looks directly at Mona Lisa’s face, but reappear when one looks away. This entails that the expression perceived on Mona Lisa’s face actually changes as a viewer scans the painting. Therefore, Livingstone’s research explains how Mona Lisa functions to induce the experience of perceiving a dynamic expression.

This case study illustrates the way artists learn to harness the basic psychological processes associated with a spectator’s engagement with works in their medium. However, the psychological processes appealed to by cognitive scientists in this case and in explanations of other aesthetic effects are not unique to a viewer’s engagement with artworks. Leonardo’s formal strategy for Mona Lisa works precisely because it harnesses psychological processes involved in everyday face perception. This entails that the explanation Livingstone provides for Mona Lisa’s dynamic expression applies equally to aesthetic and nonaesthetic stimuli (e.g., Mona Lisa and the laconic expression on a friend’s face in a snapshot from 1978). Therefore, these types of explanations fail to differentiate our engagement with artworks from our engagement with ordinary, nonart stimuli, and so also artworks from nonart stimuli.

The solution to this difficulty emerges from an examination of the goals of empirically minded philosophers of art. The purpose of their appeal to research in cognitive science is not to generate a novel biological paradigm for understanding art, but rather to provide data to contribute to theoretical debates in philosophical aesthetics (Raffman 1993: 3). Results from research in cognitive science can be used to explain how particular artworks induce aesthetic effects or guide semantic associations. These data can be used to confirm critical interpretations of existing artworks and adjudicate between competing philosophical theories about the nature of art and aesthetic experience. In this restricted sense, cognitive science can make a clear contribution to the philosophy of art. Consider Mona Lisa again. It is often argued that the aesthetic merit of Leonardo’s painting lies in the use of sfumato to generate the dynamics of her expression. Livingstone’s discussion of the painting supports this interpretation. Therefore, although her research does not itself explain why we assign aesthetic value to our engagement with the painting, it contributes confirming evidence to a theory that does. This in turn entails that it contributes to our understanding of how Mona Lisa functions as an artistic stimuli.

Research in cognitive science on art can be loosely taxonomized relative to its methodology. Neuroaesthetics and other research in the cognitive neuroscience of art employ a case study approach. Particular works of art are used to demonstrate correlations between artists’ formal productive strategies and the operations of basic neuropsychological processes (e.g., Livingstone’s discussion of Mona Lisa). These correlations are, in turn, employed to explain a range of psychological issues related to the production, understanding, and appreciation of art, for example, how techniques like half-shadows and irradiation function to enhance the perception of depth in oil paintings. This research is scientifically interesting. However, it is as yet underdeveloped territory in the philosophy of art. The cognitive neuroscience of visual art (Zeki 1999; Livingstone 2002) has received a great deal of attention, much of it skeptical. There is a broad range of focused research in the cognitive neuroscience of music (Peretz & Zatorre 2005). There is also a growing interest in the cognitive neuroscience of dance derived from research on mirror neurons, motor simulation, and our understanding of the intentionality of actions (Montero 2006).

The more prevalent strategy is to apply theories and results from a broad range of research in cognitive psychology and neuroscience to what have traditionally been thought of as uniquely philosophical puzzles. This strategy has been applied to discussions of such diverse issues as narrative understanding in film and literature (Currie 2007), emotional engagement with fictional characters (Goldman 2006), musical comprehension (Raffman 1993), the
expression of emotion in music (Robinson 2005), the nature of pictorial representation (Rollins 2001), the nature of creativity (Boden 2003), and aesthetic responses to dance (Montero 2006). Consider our emotional engagements with fictional characters. Our naive intuitions suggest that some form of character identification, or empathy, plays a critical role in our experience and understanding of narrative fictions. However, there are a number of philosophical difficulties with this intuition. For instance, although we often experience the events depicted in narrative fictions vicariously, our responses would be inappropriate for their characters (e.g., we are frightened of quiet, dark places in horror films because we, unlike the protagonists, know what is coming). Further, we recognize that these are fictional characters in fictional contexts. So it would seem that there is nothing for us to be sad about or afraid of, and no one for us to empathize with.

Philosophical discussions of these issues have focused on the role of imagination in narrative understanding. Participants in the debate can be loosely divided into two camps. Proponents of simulation theory argue that some form of first-person imaginative experience is critical to our understanding of narrative fictions. Although there are a number of variations on this theme, the central claim is that spectators and readers imaginatively project themselves into narratives, adopt the perspective of either one of the characters or a hypothetical observer, and thereby simulate the experience of a participant in the events depicted. Alternative theories deny the centrality of first-person imaginative experience to narrative understanding. They argue instead that fictional narratives contain cues that enable spectators and readers to categorize a character's response as belonging to a particular type without adopting his or her perspective. Therefore, understanding our emotional engagement with fictional characters requires no appeal to first-person imaginative experiences. Philosophers in this debate appeal to research from the study of autism, developmental and cognitive psychology, and cognitive neuroscience in support of their theories. For instance, two types of evidence have been offered in support of the simulation approach.

First, readers are quicker to respond to questions about narratives that track characters' perspectives than those that do not. Second, it has been demonstrated that the same brain areas involved in performing an action oneself are involved in perceiving that action performed by others (see Goldman 2006: 51).

The productive rapprochement between philosophical aesthetics and cognitive science should come as no surprise. These fields are, in one sense, natural bedfellows. Cognitive science is concerned with the way organisms acquire, recognize, use, and manipulate information. Cognition can, in this context, be understood in terms of representational structures that encode information about the environment and computational processes that interpret and transform those structures. Artworks are, by virtue of the practical necessities of working in a medium, abstract, or degraded, stimuli. Questions about the production, understanding, and appreciation of art are, in part questions about the way viewers, spectators, listeners, and readers acquire, represent, and transform information from these stimuli in order to recognize, categorize, and evaluate their content. Cognitive science is, by definition, methodologically well suited to answer these types of questions. The goal of the resulting research program is not reductive, but rather to expand the range of explanatory tools available for examinations of the nature of art and aesthetic experience.

See also DANCE; CREATIVITY; DEPICTION; EVOLUTION, ART, AND AESTHETICS; EXPRESSION; FICTION, THE PARADOX OF RESPONDING TO; IMAGINATION; NARRATIVE.

BIBLIOGRAPHY
Cognitive Value of Art


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cognitive value of art It is a mark of civilization that the arts are cultivated and promoted. Arts education is important and provision of access to the arts for all is thought to be a sine qua non of a good society. The presumption is that art educates and ennobles the mind. It seems that we would know far less if we lived in a world devoid of literature, films, paintings, and music. Yet ever since philosophical reflection about art began, there has been skepticism about the idea that art can teach us anything.

Plato argued that art affords only the illusion of knowledge. The fundamental thought can be articulated independently of Plato’s contentious metaphysics. The creation of and engagement with art draws on the imagination. If we read a novel, look at a painting, or watch a movie we engage with a make-believe world. The artistry is designed to promote imaginings and shape our responses. Artists need have no knowledge about what they represent and appreciators may be unconcerned with truth in participating in games of make-believe. Knowledge requires contact with reality but games of make-believe do not. Thus art cannot cultivate knowledge.

Stolnitz (1992) argues that art cannot afford significant knowledge since it yields only banalities or trivial knowledge. As imaginative creations whose function is to sustain games of make-believe, artworks need not reflect the world. Far from being windows onto the world they are props that enable us to imagine beyond the confines of actuality. Moreover, consider the kind of putative insights we glean from fictions. Goya’s Disasters of War (1810–20) etchings may convey war’s horrors or Austen’s Pride and Prejudice the dangers of self-regard, but do we learn such things from the artworks concerned? The idea that war is horrific or that pride comes before a fall is commonplace and trivial. If we already believe the message of such works then we cannot be said to learn anything from them. If we do not, then how could we learn from make-believe worlds that are not tied to truth about the real world?

First, it is worth noting that many artworks are not fictions. Orwell’s Homage to Catalonia or Ingres’s Napoleon the Emperor (1806) are works of nonfiction that do tell us about actuality. Orwell’s book reveals much about the infighting among the communists in the Spanish civil war and Ingres’s portrait conveys all too well what Napoleon looked like and how he conceived of himself. Second, even if fictions do not give us worthwhile propositional knowledge, it can be argued that art affords significant nonpropositional knowledge (Nussbaum 1990). Artworks can give us practical know-how, phenomenal knowledge, or access to ways of apprehending the world that may not be expressible in straightforward propositional terms. Perhaps there is something about what it is to see another human being as a mere extension of the material world, as a mere organism to be butchered, that Goya’s sketches convey to us. Third, it can be argued that art does afford propositional knowledge. Artworks may be thought of as aesthetically detailed thought experiments that cultivate our imaginative understanding (Carroll 2002; Kieran 2004; Gaut 2007). In real life we are in a poor position to know what someone’s character or intention in action is. By contrast, the artifice of fiction allows the elaboration of pure cases where hypothetically we know the ways in which someone’s thought, action, and character may be intimately related. Consider Pride and Prejudice. Elizabeth Bennett and Mr. Darcy are proud in different respects and prejudiced against one another as a result. Darcy’s pride is a result of the unqualified admiration of his parents allied to extreme standards of propriety. However, as the story develops, we come to see that his defensiveness, scorn, and solicitations of praise manifest an underlying insecurity. Hence it is