

(e.g., guided tours, audiotapes, catalogues, printed wall statements). Patrons surely learn something from these different sources to assist them in making sense of and appreciating the artworks. On the other hand, some patrons resist all outside information about artists and the historical contexts of their artworks and merely observe each piece, trying to experience what it may mean and what emotions it may evoke. Many of these patrons want direct experience of artworks without all the clutter of biography and history.

Both these approaches to appreciating artworks have unique benefits, as well as downsides, yet also mirror different scholarly perspectives on the study of art (including music, dance, literature, and so on). Bullot & Reber's (B&R's) target article argues for a psycho-historical framework that integrates these differing approaches to art appreciation. They describe three main modes of art appreciation and suggest several hypotheses that may be empirically testable to create a more synergistic and scientifically responsible theory of people's experiences of artworks. There is much to like in B&R's thesis, especially their demand for greater sensitivity to art-historical contexts in a science of art appreciation.

But part of the broader context for a science of art appreciation is the important influence that bodily processes have on people's understanding of human action. Embodied theories of cognition emphasize the degree to which minds are embodied, and distributed across brains, bodies, and world (Gibbs 2006). Most of the empirical work on embodied thought and language has focused on the way bodies, and ongoing bodily activity, shapes people's thinking and speaking about concrete objects and events. A key idea in this movement is that human thought and performance are guided by embodied simulation processes. Under this view, embodied simulation is understood as the "reenactment of perceptual, motor, and introspective states acquired during interactions with world, body, and mind" (Barsalou 2008, p. 618). Hence, just as properly seeing a cup sitting on a table requires us to imagine different bodily actions we may perform on that object, so too with language do we imagine ourselves engaging in actions relevant to the words spoken or read, and with art, we imagine ourselves creating the artworks or engaging with the objects and events perceived in what we see or hear. Simulation processes are not purely mental or neural, but involve and effect many full-bodied kinesthetic experiences.

Much experimental research shows that embodied simulation processes are central to how people conceive of concrete and abstract concepts, as well as interpret different kinds of linguistic meaning, including abstract and metaphorical language such as "grasp the concept," referring to actions that are physically impossible to perform in the real world (Gibbs & Colston 2012). Hence, people imagine themselves physically grasping a metaphorical object (i.e., "the concept"), which enables them to inspect and come to know that object. The brain's "mirror neuron" system helps create simulations, which act as if a person were engaging with the objects and actions being observed in the real world or being referred to in spoken or written language.

Many theories of literary appreciation now highlight the importance of embodied simulation processes during interpretive acts of reading (Oatley 2011). Moreover, the mirror neuron system is recruited when people observe artworks ranging from music (Zatorre et al. 2007) to dance (Cross et al. 2006) to aspects of literary experience (Stephens et al. 2010). Not surprisingly, the more experience an individual has with some artistic domain (e.g., dance or music), the greater the degree of activation in the mirror neuron system (Cross et al. 2006). But even people who are highly experienced at watching dance, yet are not dancers themselves, exhibit heightened degrees of mirror neuron activation when seeing a dance performance. In this manner, having extensive experiences observing artworks enhances our

bodily reactions to these pieces. Several proposals have been advanced to think about aesthetic responses to artworks in terms of the mirror neuron system (Freedberg & Gallese 2007), which partly explain why people often feel so bodily engaged, in different ways with different works of art.

The idea that our experiences of human actions, and the artifacts created by people, including artworks, are rooted in bodily activity is not inconsistent with the psycho-historical approach to art. We may observe artworks and imagine ourselves performing the gestures used to create the art, but this automatic process is constantly shaped by our knowledge of the artist and the historical context in which he or she worked. Each of our past experiences with art, including our knowing the contexts for the production of artworks, enables us to create richer embodied simulations leading to more elaborate, sophisticated understandings of artworks. These understandings are not geared toward inferring a "theory of the artist's mind," but to experience for ourselves, in each of our unique full-bodied way, what it must be like to create a specific artwork. With greater exposure to art, and learning more about the contexts for its creation, people can develop refined "tastes" for artworks, that are, once more, the product of dynamic, embodied simulation processes.

Seeing artistic understanding not as a mental activity alone, but as part of embodied simulation actions, highlights the importance of the body, and the body's history, in our always changing interpretation and appreciation of art. B&R are right, then, to emphasize the need for inclusion of historical factors, of all sorts, in the empirical study of artworks. An embodied simulation view, however, does not claim that there are entirely different modes of artistic appreciation, as suggested by B&R, because there is a continuum, or depth, of simulation experiences that always, to some extent, are shaped by psycho-historical constraints.

## Normative and scientific approaches to the understanding and evaluation of art

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**Abstract:** The *psycho-historical framework* proposes that appreciators' responses to art vary as a function of their sensitivity to its historical dimensions. However, the explanatory power of that framework is limited insofar as it assimilates relevantly different kinds of appreciation and insofar as it eschews a normative account of when a response succeeds in qualifying as an appreciation of art *qua* art.

A scientific approach to art appreciation seeks to uncover general truths about our engagement with art, not just characterizations of particular responses to unique works. Many studies in so-called *empirical aesthetics* and *neuroaesthetics* seem to purchase such generalizations about art at the great explanatory cost of ignoring both its historical dimensions and its radical variability beyond a very narrow range of canonical but hardly representative examples. The welcome development in Bullot & Reber's (B&R's) framework is the recognition that a feature that, arguably, all art does share, *artifactuality* (Davies 1991a), imposes certain requirements of historical awareness on the exercise of art appreciation. However, there are two lacunae in B&R's characterization of the conditions governing artistic appreciation. I will discuss these in turn.

First, the authors must more clearly distinguish among two relevantly different kinds of appreciation—understanding and evaluation—that may vary as a function of appreciators’ sensitivity to art-historical contexts. In some places, B&R refer to understanding and appreciation as distinct, yet equally historically informed, kinds of responses. In other places, they identify understanding as one constituent of appreciation alongside another constituent that is, broadly speaking, evaluative: that which is indicated in, for example, emotional responses and expressions of preference and pleasure. However, understanding and evaluation need to be disentangled and their relations of dependence identified for it to be clear that different studies of artistic appreciation are addressing the same thing. *Prima facie*, artistic understanding is a *precondition* of artistic evaluation, even if the two approaches proceed simultaneously.

For the identifying operations constitutive of understanding a work (such as recognizing its functions and discerning its meaning and expression) are required for the evaluative appreciation of the work to be made in light of the properties it has *qua* art. Whether, for example, the cheap hardware-store paint used by the abstract expressionist Franz Kline is, as such, a thematic element in his compositions—expressing hostility to the refinement and preciousness of other traditions—or only the medium he happened to employ, is a determination necessarily prior to any evaluation based on that feature of his canvases. Of course, one’s ordinary awareness of the genre or category to which a work belongs can often serve as a proxy for such identification. For placing a work within a given category—such as still life, pop art, royal portrait, detective story, and so on—reflects an implicit explanatory commitment to certain kind-specific conventions and regulative ideals having been recognized by the artist in creating the work.

Second, although they eschew the *normative* mode of appreciation that they identify with art criticism and the comparative assessment of art, B&R need some such characterization, as found in Budd (1995), of what kinds of responses, under what conditions, count as competent exercises of appreciation. Such a normative conception is required to distinguish the appreciation of art *qua* art from appreciation of it from artistically irrelevant points of view. According to a normative account of appreciation, an artistic evaluation can be distinguished from a mere liking or preferring by being answerable to reasons. We challenge, revise, and approve of artistic judgments on the basis of reasons that speak to facts about a work of art that ground those judgments, for example, facts about its appearance, effects on suitably qualified audiences, satisfied functions, and relations to other works. Of course, appreciators often cannot cite reasons in support of their responses, but those responses—for example, emotional expressions—may correctly pick up on artistically relevant features of a work that are, in principle, identifiable.

No doubt, different theories of artistic value propose competing accounts of what considerations are relevant in judging art *qua* art. However, not just anything goes. That a work has great monetary value or is preferred by others in one’s social milieu are not, in themselves, appropriate reasons supporting an artistic evaluation. Without a normative account specifying the proper conditions under which artistic appreciation is exemplified, the psycho-historical framework may count spurious forms of appreciation as genuine. Such spurious appreciation is made especially vivid in the demonstration that subjects tend to attribute a higher valuation to works that they are more familiar with (Cutting 2006) but the appreciation of art in light of features irrelevant to artistic value is widely exhibited. Kruger et al. (2004) provide evidence that appreciators use an effort heuristic to rate the quality of artworks. This, as B&R note, reflects the design stance that is requisite for artistic appreciation. However, that sensitivity to effort is mistaken or distorting in response to many works, such as the appropriation art of Sherrie Levine or Richard Prince, for which effort in the physical

or creative sense is neither evident nor intended to be. Likewise, pleasure felt before a work is often a good guide to its artistic or aesthetic value (hence its use as a measure of appreciation); however, it can often instantiate a failure of proper response. For some works of art (such as the disgusting and rebarbative performances of the Vienna Actionists) may be designed to cause one a feeling of distress, without any compensatory pleasure. Moreover, in the case of many works, such as conceptual art and art that aims for cognitive or moral enlightenment, it may be a mistake to assume that their artistic value is always or only a hedonic dimension intrinsic to our experience of them. The merits of such works may not be appropriately characterized in an experiential sense (Gilmore 2011).

B&R may propose that a robust adoption of the design stance in the above cases would guide appreciators toward discerning the appropriate bases for their evaluations. However, just because that stance might show that a work of art realizes some sought-after value or satisfies some intended function does not entail that it should be evaluated for that value or function. No scientific account of artistic appreciation can do without a normative conception of when a response to a work of art is properly grounded in features of the work that merit that response.

## Integrating holism and reductionism in the science of art perception

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**Abstract:** The contextualist claim that universalism is irrelevant to the proper study of art can be evaluated by examining an analogous question in neuroscience. Taking the reductionist-holist debate in visual neuroscience as a model, we see that the analog of orthodox contextualism is untenable, whereas integrated approaches have proven highly effective. Given the connection between art and vision, unified approaches are likewise more germane to the scientific study of art.

Vision science—a field with obvious importance for the study of art—has engaged in debate between reductionists and holists over recent decades, wherein the former camp advocates the study of reduced and isolated visual stimuli such as bars and gratings, while the latter group advocates the study of naturalistic stimuli, such as natural scenes, that encompass many stimulus dimensions and replicate characteristic aspects of the natural world (Felsen & Dan 2005; Pinto et al. 2008; Simoncelli & Olshausen 2001). This debate parallels the universalist-contextualist debate that animates Bullot and Reber’s (B&R’s) article, for indeed their contextualism is a variant of holism, albeit an especially radical one.

A number of features of the debate in vision science are illustrative. First, few if any scientists dismiss the viewpoint of the opposing side, as B&R do in relation to universalism. Reductionists have shown limitations in some holistic thinking, but have generally done so without rejecting it outright. Reductionists’ chief complaint is that in using fully natural stimuli, we lose the ability to parametrically manipulate them—which is a problem also faced by the zealous contextualism of B&R. However, even ardent reductionists accept that the ultimate test of their theories is to see how they fare in natural settings (Rust & Movshon 2005).

But although holists have proven that reduced stimuli can lead to incomplete models of the visual system (Olshausen & Field