

Aesthetic Investigations

Published on behalf of the Dutch Association of Aesthetics

Special Issue – Empirical Aesthetics



Emotion and Empirical Aesthetics

Author

SUE SPAID

Affiliation

BRUSSELS

The rise in neuroaesthetics laboratories across the globe has led to scores of experiments designed to grasp people's emotional, cognitive and perceptual responses to artworks, yet few researchers have studied spectators experiencing visual art in actual exhibitions. In 2015, Volker Kirchberg and Martin Tröndle published the results of their five-year experiment, whereby they mapped the physiological, social, psychological and aesthetic experiences of '600 diverse persons with a designed exhibition of classic modern and contemporary art as part of the Swiss national research project *eMotion*'. Their study's most counter-intuitive discovery is the negligible role played by emotional response for those most engaged with artworks, that is, those spectators who regularly assess, evaluate and judge artworks. Given that not all appreciative attitudes reflect emotional responses, this paper concludes that it would behoove researchers to study artworks that *literally* 'move us', causing us to take action, shift perspectives and adopt new values.

I. INTRODUCTION: FROM EMOTION TO *eMOTION*

The rise in neuroaesthetics laboratories across the globe has led to scores of experiments designed to grasp people's emotional, cognitive and perceptual responses to artworks, yet few researchers have studied spectators experiencing visual art in actual exhibitions. In 2015, Volker Kirchberg and Martin Tröndle published the results of their five-year experiment, whereby they mapped the physiological, social, psychological and aesthetic experiences of '600 diverse persons with a designed exhibition of classic modern and contemporary art as part of the Swiss national research project *eMotion*'.¹ Their study's most counter-intuitive discovery is the negligible role played by emotional response for those most engaged with artworks, that is, those spectators

who regularly assess, evaluate and judge artworks. Their results thus pose a special challenge to philosophers who uphold the Affective Theory of Appreciation, such that ‘When we appreciate works, the appreciation consists in an emotional response’.² It also defeats philosophical positions that presume a ‘standard viewer’, who responds to each artwork ‘monadically, savouring each aesthetic experience as a unitary event’; consider aesthetic pleasure a universal value or neglect the artwork’s context and/or presentational history.³ In contrast to philosophical views based on lab data, *eMotion* outcomes were derived from people while actually experiencing artworks.

Data gathered from Kirchberg and Tröndle’s experiment led them to identify three ‘experience visitor types’, that of contemplative, enthusing and social viewers. Their findings could explain why 19th century philosopher Eduard Hanslick changed his mind regarding music’s capacity to elicit emotional responses. Having avowed music’s affective states, he reversed course in 1854, claiming instead that music’s ‘sonically moved forms’ do not ‘arouse, express, represent, or allude to human emotion’. If *eMotion* findings are correct, perhaps he simply evolved from an enthusing listener into a contemplative one. Additionally, *eMotion* findings confirm my earlier hunch that spectators are drawn to different aspects of an exhibition. In the essay that accompanied the ‘2001 Northwest Annual’, I noted that visual, tactile, and narrative materials stimulate ‘zombies’, whereas comparatively empty artworks lure ‘zealots’, who need space to work their interpretive magic.⁴ In retrospect, zombies and zealots anticipated *eMotion*’s enthusing and contemplative visitors, respectively.⁵

In what follows, I begin by describing Jesse Prinz’s oft-cited Affective Theory of Appreciation. Given *eMotion*’s claim that only enthusiasts exhibit emotional responses, I worry that Prinz’s paper is misleading, since it overestimates emotion’s role for aesthetic appreciation. For example, he claims that ‘[p]eople who lack strong positive emotions tend to have less appreciation for aesthetic experiences than others’, yet *eMotion* findings prove just the opposite.⁶ He compares such reactions to anhedonics who consider sunsets greatly overrated or people afflicted with alexithymia who find transcribing feelings difficult. I then discuss *eMotion* results in greater detail so that readers have a greater understanding of how this experiment was conducted and its results.

I conclude that values drive passions, while passions (pinpointed by brain researchers as emotions) signal values. This view is consistent with psychological research that demonstrates that images of disgusting objects seen as artworks (imaginary) are more palatable than those seen as educational documentary materials (real).⁷ Images of disgusting real things effect wildly different values that diminish appreciation. Researchers bent on connecting appreciative attitudes to emotional responses rarely distinguish emotions from passions, yet the latter are value-driven (drives, not gut reactions). Moreover, they tend to conflate art appreciation with aesthetic experience, though these are incomparable. Artworks that inspire our passions *literally* ‘move

us', causing us to take action, shift perspectives and adopt new values. The more Hanslick analysed music's 'sonically moving forms', the more his values changed, enabling him to become a contemplative listener.

II. PRINZ'S AFFECTIVE THEORY OF APPRECIATION

In 'Emotion and Aesthetic Value', Prinz makes three pronouncements that *eMotion* experiments have since disproven. 1) 'Introspection and neuroimaging support the conclusions that emotions arise when we have positive aesthetic experiences'.⁸ 2) 'These studies establish a link between moods and aesthetic appreciation, and given the close link between moods and emotion it is plausible that emotion induction would have an impact as well'.⁹ 3) 'These personality traits can be interpreted, at least in part, as emotional dispositions, and consequently, these findings point to a link between emotion and preference'.¹⁰ Regarding his second point, I imagine that 'emotion induction' is what psychologists call 'priming', an added stimulus that manipulates people's ordinary preferences. Given the allure of famous paintings, *eMotion* experiments indicate that reputations prime no differently than flashing money, celebrity endorsements or flattering comments. Thus, the euphoria associated with experiencing famous paintings is likely artificially-induced via one's associations with the 'prime', not some assessment of the artwork. That is, knowing that an artwork is expensive, historically significant or highly-regarded induces appreciation, which not incidentally impresses enthusing visitors. Contrary to findings associated with contemplative and social visitors, Prinz concludes, 'These studies are all different, but they suggest that some of the areas that show up in emotion studies are also *major players* [emphasis mine] in aesthetic response'.¹¹

For Prinz, aesthetic appreciation entails a 'two-stage model', whereby the first stage is response and the second is assessment, but as *eMotion* studies indicate, people tend either to respond or assess. He attributes the first stage to perceptual factors, which he admits are affected by top-down knowledge and implicit biases for 'certain compositional features'.¹² The second stage reflects evaluators' aesthetic values, those unconscious 'rules stored in long-term memory that can be schematized'.¹³ 'Assessment is an affective process', since one tabulates an artwork's overall goodness (or badness) by subtracting its 'bad-making features' from its 'good-making features', a process that arouses positive and/or negative feelings.¹⁴ This leads him to claim, 'Any feature that we regard as good, whether consciously or unconsciously, contributes a bit of emotion'.¹⁵ Moreover, 'Each feature that we assess in this way contributes to the total emotional state that results from our encounter with the work, and the valence and intensity of that total emotional state ordinarily constitutes our aesthetic appraisal'.¹⁶

One might wonder why Prinz ever suspected that emotions underlie response and assessment. He began his 2011 article by referencing scores of lab

experiments linking people's experiencing 'beautiful' images to their exhibiting brain responses indicative of emotions.¹⁷ He writes, 'There is evidence that emotions co-occur with art appreciation', which grounds his notion of aesthetic appreciation.¹⁸ He claims that 'introspection' shows this, since people invariably describe art experiences as 'invigorating, stimulating and exhausting'.¹⁹ Problem is, there's no telling what qualities researchers used to assess 'beautiful' images. Most likely, they flashed images of art-historically significant paintings, whose beauty owes more to recognition than actual assessment. It's thus difficult to discern whether people's positive emotional responses reflect appreciation, priming or familiarity. If as Prinz claims, we store unconscious rules for evaluating artworks in our memories, then unfamiliar artworks that lack appropriate rules cannot stimulate appreciation, let alone arouse emotional responses. If this is correct, contemporary art is a non-starter.

Although Prinz backs up his views with scientific data, I view this research with suspicion, not because it was primarily collected by quickly flashing photographs of artworks in labs, but because such experiments confuse subjects' preferences with aesthetic appreciation. People need not assess their preferences, but aesthetic appreciation usually takes time. He cites James Cutting's use of Impressionist paintings as background images for psychology slides. Cutting's students expressed a preference for the lesser known examples, whose popularity he boosted by projecting them more often. Prinz deduces, 'familiarity induces positive affect and positive affect increases preference'.²⁰ He continues, 'If this interpretation is right, Cutting's result adds further support to the claim that preference is linked to affective states'. It's hardly surprising that familiar artworks arouse positive feelings, since their assessment requires far less cognitive effort. It thus seems that accompanying feelings reflect subjective preferences more than aesthetic appreciation. Perhaps such feelings signal stability, security and/or serenity, owing to their familiarity. Most problematic, lab experiments presume artwork neutrality, such that artworks alone trigger physical responses; yet as Prinz admits, myriad external factors are actually at play, such as thematic frames, context, background information and cultural conditioning, a view originated by John Dewey's *Art as Experience* (1934) and reasserted by Leder et al. (2004).

Komar and Melamid's 'Most Wanted Paintings' project (1995) illustrates how radically diverse people's painting preferences/aversions are across fourteen countries and the web. Prinz cites this survey, yet he attributes these differences to the fact that people 'can be conditioned differently in different cultural settings. Differences in taste are easier to pin on differences in passions rather than differences in beliefs –it's far from clear what the relevant beliefs would be'.²¹ While measuring people's passions may be scientifically easier than getting them to articulate their beliefs, it's not clear what causes said passions other than underlying beliefs, as experiments devised to elicit subjects' preferences show. For example, Komar and Melamid discovered that

the Dutch have a unique preference for abstract paintings, yet everybody else wants what resemble 16th Century Flemish paintings.²² To demonstrate cultural conditioning, Prinz offers the example of Americans shooting close-ups of a seated model, whereas Japanese photographers depict the model in a scene.²³ As we shall see, this difference could also reflect divergent values regarding the need for vanishing points, the photographer's privilege or the significance of context/background environments.

Prinz credits Peter Goldie with doubting that assessment is an affective process.²⁴ He continues, Goldie's worry 'seems hard to reconcile with the fact that we often give reasons for our appraisals of art. The view just sketched, wherein we begin by tabulating units of positive emotions, seems insufficiently cognitive. We don't justify our positive appraisals of art by just saying how good they make us feel: we offer arguments. This suggests that a cognitive approach is at work, even if emotions play a role'.²⁵ To my lights, the reasons people give actually reflect values underlying their appraisals (beliefs), rather than affective feelings, so there could be a moral dimension as well. Consider the earlier case dealing with images of disgusting things that *disgust* viewers if real, yet fascinate if imaginary.

If art lovers are 'reason shoppers' as Kevin Melchionne contends, then Prinz's view has another problem.²⁶ Melchionne remarks that 'reason shoppers' are not only searching for good reasons, but they are just as appreciative of good reasons as they are the objects under consideration. He attributes the quest for interesting reasons as the primary motivation behind contemporary creativity. He considers reasons to 'have their own beauty, which is easily confused with the works themselves. At times, what art world insiders are unwittingly experiencing are the reasons rather than the works themselves'.²⁷ When we identify with the reasons, reasons also prime. One might say that art institutions, whether museums or art schools, are in the 'business' of publicising reasons, priming people to procure new values. As the next section makes clear, Prinz's two-stage model merges enthusing (emotionally-responsive) and contemplative (evaluative) experience types.

III. EXHIBITION EXPERIENCES: EMOTION AFTER *eMOTION*

What makes the *eMotion* experiment relevant is that participants experienced actual artworks, as they freely moved about Kunstmuseum St. Gallen. Not only did the experiment track participants' paths and time spent in front of each artwork/label, but it measured their heart rate and skin conductance. Keen to understand what drives the aforementioned three experience visitor types, they evaluated six factors: pre-visit expectations, socio-demographic characteristics, personal-relatedness to art, visitor's mood prior to visiting, post-visit assessment and potential social dynamics.²⁸ Of 576 visitors, 24

provided insufficient data, yet fully 84.6% of the remaining 552 subjects fell into one of the types introduced at this paper's onset.²⁹

While participants' pre-visit surveys anticipated 'surprise, sensitisation and reflection', their post-visit evaluations credited 'fame, familiarity and silence', suggesting a slight asymmetry between bold expectations and [conventional] experiences.³⁰ When evaluated for each of the three types, however, the researchers concluded that expectations hadn't clouded assessments, which closely tracked their type.³¹ Additionally, they found no correlation between pre-visit mood and exhibition experience, which contradicts Prinz's premise regarding mood's role for aesthetic appreciation, noted above.³² Regarding socio-demographic characteristics, occupation (more likely age, in my view) appears to play a role, as teachers tend to be contemplative visitors, while students are typically enthusing types.

To evaluate participants' emotional reactions, exit surveys requested that they grade nine statements regarding ten exhibited artworks from 1 to 5 (strongly agree) along the lines of: 'This artwork...pleased me, made me laugh, surprised me, made me think, moved me emotionally, frightened me, made me angry, made me happy, made me sad'.³³ As one can already see, what researchers consider 'emotional reactions' align with what respondents likely value as art's role/potentialities, what Prinz terms aesthetic values. People who don't value 'thinking' or 'laughing' are unlikely to relate to artworks on these terms. Additionally, '[v]ariables of the visitor's cognitive reactions were constructed from the visitor's gradings of these eight aspects of the artwork: content/topic, artistic technique, composition, beauty, the artist, its importance in art history, presentation of the artwork, its connection/correspondence to the other artworks in the exhibition'.³⁴

The researchers' next step confirms my view that visitors' gradings reflect core values, though not necessarily emotional responses; otherwise it wouldn't make sense to create indices by averaging people's assessments of ten extremely different artworks. 'For each visitor, we then calculated nine emotional and eight cognitive index variables by averaging the personal assessments of all artworks'.³⁵ The researchers remarked, 'Heart-rate variability was found to be generally associated with "aesthetic quality" (the work is rated pleasing, beautiful; emotionally moving; well-done with respect to technique, composition, and content; artist and importance in art history) and "surprise/laughter"...and weakly associated with "curatorial quality"'.³⁶ Moreover, 'skin conductance variabilities are described as indicators of emotional processes. Tröndle and Tschacher (2012) found correlations with the factor "dominance" (the work is experienced as dominant; stimulating)'.³⁷ They conclude, 'The physiological responses of visitors are significantly related to their aesthetic/emotional assessments'.³⁸

On first glance, Kirchberg and Tröndle's conclusion resembles Prinz's position that emotions co-occur with aesthetic appreciation, 'appreciation has an emotional uniformity' and 'the second stage necessarily involves emotions'.³⁹

Problem is, contemplative viewers totally appreciate art, yet they fail to exhibit emotional engagement. According to Kirchberg and Tröndle, ‘Deeply thinking about the arts, being moved by it, assessing the interaction with the other exhibited works, and considering the specificities of selecting the other artworks are all part of a contemplative experience’.⁴⁰

Contemplative types claim to ‘be moved’, yet they remain emotionally unmoved. ‘Generally speaking, the physiological reactions of the contemplative viewer are weaker than the other two visitor types. . . . Emotionally, they do not engage heavily’. Although contemplative types exhibit less intense physiological reactions, they deeply connect with individual artworks, improve their understanding and evaluate both artworks and the exhibition.⁴¹

The enthusing visitor, who visibly exhibits ‘more heart-rate markers. . . and more significant fluctuations of the skin conductivity’, ‘is driven by an “aha-effect” – wandering around, recognising famous and important artworks, being emotionally aroused’.⁴² For this type, ‘fame and beauty go hand in hand’ as if the former is criteria for the latter.⁴³ ‘For the enthusing type of visitor, his or her emotional reactions to the selected works are highly significant and positively related to this dimension of exhibition experience; . . . for happiness; . . . for sadness. . . . Only one cognitive assessment, beauty, is found to also affect the enthusing visitor significantly and positively’.⁴⁴ Apparently, knowledge about art positively impacts their experiences.⁴⁵ By contrast, ‘[t]here is one emotional reaction to the selected artworks that impacts the social-experience visitor: “This artwork made me laugh”’.⁴⁶ The social visitor rather identifies with his/her companion(s), achieving togetherness with friends or family. They accept the artworld’s ‘star system’ and acknowledge fame and recognition, yet are ‘negatively impacted’ by an artwork’s content.

Not only do contemplative visitors visibly lack emotional responses, but enthusing visitors’ reactions are especially vulnerable to priming, since an artwork’s familiarity due to fame or historical significance is likely to trigger emotional responses. Most worrisome for Prinz’s view is the fact that contemplative viewers appreciate evaluation, yet exhibit little emotional engagement. On this level, their behaviour resembles that of reason shoppers, who enjoy thinking about an artwork’s significance as much as they enjoy actually experiencing it.

IV. CONCLUSION: AN ALTERNATIVE ROLE FOR EMOTION

In 2000, I curated a traveling retrospective for Los Angeles artist Eileen Cowin. In my accompanying essay, ‘The Impossibility of Expression’, I noted that I could name only two other contemporary photographers who dared to explore emotions: Bill Viola and Sam Taylor-Johnson (years before her *Crying Men* (2004) series).⁴⁷ Contemporary artists assiduously avoid obviously emotional content, largely because such approaches risk manipulating

viewers (hardly exemplary of Brechtian distancing). If *eMotion* findings that art cognoscente exhibit few emotional reactions is correct, then why are neuroscientists and philosophers so keen to reinstate it? Consider Aaron Smuts' decade-long philosophical work on the significance of sad songs and why people seek out painful art. Given the growth industry of neuroscience labs with handy gadgets, Prinz's remark that it's easier to pinpoint emotions than beliefs seems about right.

Although Kirchberg and Tröndle's tracking people's heart rates and skin conductivity as they move about exhibitions is wildly different than earlier researchers' identifying 'activations' of brain regions associated with emotions, both groups aimed to identify the significance of emotional responses. In contrast to earlier lab experiments, *eMotion* results suggest that it's actually quite difficult to pinpoint emotional responses even if skin conductance is a good indicator. Not only is priming a huge problem that remains inadequately addressed in the literature, but testing for emotional responses ignores contemplative and social visitors. Finally, *eMotion* surveys suggest that inviting viewers to appraise artworks (beliefs) on a five-point scale eases their ability to identify personal values.

Prinz's claim that those 'lacking strong positive emotions tend to have less appreciation for aesthetic experiences than others' is not only false, but it oddly excludes those zealots (whether art cognoscenti or 'reason shoppers') who likely have the most to say about art, and largely drive its conversation. And here I am reminded of the time I was invited to jury 'Minumental 14' (2001). For this annual contest, Art Academy of Cincinnati students and faculty submit sculptures no larger than 5 x 5 x 5 cm. As remuneration for my jurying, I was invited to select 3 for my personal collection. Being the juror, I scored each object from 1 to 10 in pertinent categories and then tallied points to find 3 winners. And then I chose the 3 that I wanted to keep for the rest of my life. Since it seemed hypocritical that my 'rational' system totally neglected my 'handpicked' favourites, I reassigned mine the actual winners. As Blaise Pascal famously said, 'the heart has its reasons, which reason does not know'.

This asymmetry illustrates what Melchionne calls the 'fallibility of reasons', since my reasons couldn't explain my preferences. Prinz and his ilk are likely to claim that 'my 3' elicited greater emotional reactions. Were I a 'reason shopper', I'd likely defend my top scorers to death. My selection process rather suggests that values supersede assessment (tabulating pros and cons). Moreover, committing to keep something forever trumps rationality, and explains why most museums forbid deaccession, even if it's clearly the most reasonable option. For sure, appreciative attitudes prove key, yet it remains unclear what drives them. Is it beauty, priming, familiarity, emotions, reasons or values? The *eMotion* survey suggests that appreciative attitudes track core or emergent values. For example, some people are driven to construe otherwise ineffable artworks, while others believe that creativity itself

must be protected at all costs. As Melchionne notes, thoughts can be disconnected from objects under reflection.

Emotion responses signal values, but they are not *sine qua non*. What people go to bat for is what they truly value, and thus appreciate. From my two-decades experience working with artists to implement ecoventions, which sorely lack the beauty and fame to ‘move’ enthusiast types, I have witnessed such artworks’ fundamentally altering people’s beliefs about the artist’s role in society and ‘degraded’ nature’s transformational capacity.⁴⁸ And when people’s beliefs change, so do their core values. Changed values move people.⁴⁹ Rather than look for a connection between appreciative attitudes and ‘strong positive emotions’, researchers should track the connection between aesthetic appreciation and values, which coheres with *eMotion*’s findings.

suespaid@gmail.com

NOTES

- ¹Kirchberg and Tröndle 2015, 169.
²Prinz 2011, 71.
³Carroll 1986, 67.
⁴Spaid 2001.
⁵Recently, several NYC art critics (Martin Mugar, ‘Zombie Formalism’ (see URLs), Walter Robinson, ‘Flipping and the Rise of Zombie Formalism’ (see URLs), and Jerry Saltz, ‘Zombies on the Walls’ (see URLs) have started calling abstract paintings that are easily appreciated ‘zombie formalism’, since their formats fail to challenge viewers.
⁶Prinz 2011, 73.
⁷Wagner 2014.
⁸Prinz 2011, 72.
⁹Prinz 2011, 73.
¹⁰Prinz 2011, 73.
¹¹Prinz 2011, 72.
¹²Prinz 2011, 76.
¹³Prinz 2011, 76.
¹⁴Prinz 2011, 77.
¹⁵Prinz 2011, 77.
¹⁶Prinz 2011, 77.
¹⁷Kawabata and Zeki 2004, Vartanian and Goel 2004, Cela-Conde 2004, and Jacobsen 2006.
¹⁸Prinz 2011, 71.
¹⁹Prinz 2011, 72.
²⁰Prinz 2011, 73.
²¹Prinz 2011, 74.
²²Micah Christensen, ‘The Most Wanted Painting’, see URLs.
²³Prinz 2011, 74.
²⁴Prinz 2011, 79.
²⁵Prinz 2011, 79.
²⁶Melchionne 2011, 10.
²⁷Melchionne 2011, 10.
²⁸Kirchberg and Tröndle 2015, 174.
²⁹Kirchberg and Tröndle 2015, 184.
³⁰Kirchberg and Tröndle 2015, 173.
³¹Kirchberg and Tröndle 2015, 175.
³²Kirchberg and Tröndle 2015, 177.
³³Kirchberg and Tröndle 2015, 180.
³⁴Kirchberg and Tröndle 2015, 180.
³⁵Kirchberg and Tröndle 2015, 180.
³⁶Kirchberg and Tröndle 2015, 184.
³⁷Kirchberg and Tröndle 2015, 184.
³⁸Kirchberg and Tröndle 2015, 184.
³⁹Prinz 2011, 72, 81, 75.
⁴⁰Kirchberg and Tröndle 2015, 181.
⁴¹Kirchberg and Tröndle 2015, 177.
⁴²Kirchberg and Tröndle 2015, 185.
⁴³Kirchberg and Tröndle 2015, 177.
⁴⁴Kirchberg and Tröndle 2015, 181.
⁴⁵Kirchberg and Tröndle 2015, 176.
⁴⁶Kirchberg and Tröndle 2015, 181.
⁴⁷Spaid 2000, 9.
⁴⁸Salwa and Spaid 2018.
⁴⁹Spaid 2020.

REFERENCES

- Carroll, Noël. 1986. "Art and Interaction." *Journal of Aesthetics and Art Criticism* 45 (1): 57–68 (feb).
- Cela-Conde, C. J., et al. 2004. "Activation of the Prefrontal Visual Cortex in the Human Visual Aesthetic Perception." *Proceedings of the National Academy of Science of the USA* 101:6321–6325.
- Jacobsen, T. R. I. et al. 2006. "Brain Correlates of Aesthetic Judgment of Beauty." *NeuroImage* 29:276–285.
- Kawabata, H., and S. Zeki. 2004. "Neural Correlates of Beauty." *Journal of Neurophysiology* 91:1699–1705.
- Kirchberg, Volker, and Martin Tröndle. 2015. "The Museum Experience: Mapping the Experience of Fine Art." *Curator: The Museum Journal* 58 (2): 169–192.
- Melchionne, Kevin. 2011. "A New Problem for Aesthetics." *Contemporary Aesthetics*, vol. 9.
- Prinz, Jesse. 2011. *The Aesthetic Mind*. Oxford University Press.
- Salwa, Mateusz, and Sue Spaid. 2018. "The Aesthetic and Material Implications of Ecoventions' Ongoing Participatory Demands." *Art Inquiry: Recherches sur les art* 20:99–119.
- Spaid, Sue. 2000. "The Impossibility of Expression." Armory Center for the Arts, Pasadena, CA.
- . 2001. "'Calling All Zealots and Zombies' (Pacific Northwest Biennial)." Bellevue Arts Museum, 510 Bellevue Way, Bellevue, WA 98004, USA.
- . 2020. "The Aesthetic Enchantment Approach: From 'Troubled' to 'Engaged' Beauty." *Journal of Somaesthetics* 6, no. 1.
- Vartanian, O., and V. Goel. 2004. "Neuroanatomical Correlates of Aesthetic Preferences for Paintings." *Neuroreport* 15:893–897.
- Wagner, V. et al. 2014. "Art Schema Effects on Affective Experience: The Case of Disgusting Images." *Psychology of Aesthetics, Creativity and the Arts* 8:120–129.

URLS

Micah Christensen, 'The Most Wanted Painting (The Flemish Were Not Far Off)': <http://beardedroman.com/the-most-wanted-painting-the-flemish-were-not-far-off/>

Martin Mugar, 'Zombie Formalism: The Lingering Life of Abstraction in New York that Just Won't Die'. *Blogspot*, 2013, Dec.: <https://martinmugar.blogspot.com/2013/12/zombie-artthe-lingering-life-of.html>

Walter Robinson, 'Flipping and the Rise of Zombie Formalism'. *Artspace*, 2014, April: https://www.artspace.com/magazine/contributors/see_here/the_rise_of_zombie_formalism-52184

Jerry Saltz, 'Zombies on the Walls: Why Does so Much New Abstraction Look the Same?', *Vulture*, 2014, June: <https://www.vulture.com/2014/06/why-new-abstract-paintings-look-the-same.html>