response that is overridden by the employment of cognitive distancing mechanisms.

The Leder et al. (2014) data were not collected to test the Distancing-Embracing model, although perceivers’ art expertise and the physiological and self-reported affective responses assessed in the study are closely related to model variables. The noted ambiguities highlight that the empirical testability of the Menninghaus et al. model would benefit from clearer specification of what counts as supporting evidence, including measurement issues and the nature of the expected – and precluded – response trajectories. In our reading, a combination of physiological and self-report measures (Forster et al. 2016; Gernot et al. 2017; Leder et al. 2014) seems promising. Note, however, that any measure attempting to capture the enjoyment of negative emotions in the context of art needs to heed the nature of “mixed” feelings, that is, the simultaneous presence of positive and negative responses. Unfortunately, many measurement attempts fail to do so. Mixed feelings can be identified only by assessing the presence and intensity of each feeling separately (e.g., “not at all” to “very much”). When this is done, even well-established “neutral” stimuli, such as the allegedly neutral pictures of the International Affective Picture System (IAPS), turn out to elicit mixed feelings (Schneider et al. 2016; Schneider & Schwarz 2017). Without the ability to clearly identify mixed feelings and their respective sources, differential responses to different components of the experience may be misinterpreted as reflecting an integrative evaluation of the one component on which a given study happens to focus.

These measurement issues aside, we also note that complex assumptions about differential processing styles may not be needed to account for many expertise effects in art appreciation. A parsimonious model of aesthetic pleasure, Reber et al.’s (2004) fluency theory holds that the “more fluently perceivers can process an object, the more positive their aesthetic response” (p. 364). Fluency increases with repeated exposure, which is part of why an initial dislike for avant-garde art frequently turns into affection as the art form becomes familiar. Supporting this interpretation, repeated exposure to a disharmonious art style has been shown to selectively increase liking for that style (Leder 2003). Repeated exposure to initially disliked art is also a key component of acquiring expertise through art education, and the resulting differences in processing fluency may account for many differences observed in the hedonic responses of novices and experts. From this perspective, the acquisition of schemata that are considered crucial for distancing is likely to be closely associated with differences in processing fluency that offer a more parsimonious account.

As these conjectures indicate, Menninghaus et al.’s (2017) Distancing-Embracing model provides a fruitful heuristic framework for the puzzle of why people enjoy negative emotions in the context of art. Its empirical testing, however, will require more precision with respect to the interplay of the numerous model variables, the temporal trajectory of distancing and embracing processes, and the assessment of the simultaneous experience of negative emotions and enjoyment. We look forward to future empirical tests and the further refinement of the model.

Psychological models of art reception must be empirically grounded

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Abstract: We commend Menninghaus et al. for tackling the role of negative emotions in art reception. However, their model suffers from shortcomings that reduce its applicability to empirical studies of the arts. poor use of evidence, lack of integration with other models, and limited derivation of testable hypotheses. We argue that theories about art experiences should be based on empirical evidence.

Models are fundamental in any scientific field. They summarize and simplify phenomena that are otherwise extremely difficult to grasp, as is the case with the role of emotions – particularly negative emotions – in art appreciation (Silvia 2009; 2012). In this sense, Menninghaus et al.’s Distancing-Embracing model (DEM) is a welcome addition to the literature. But scientific models need to satisfy a set of criteria that establish their validity and ensure their potential to advance scientific understanding of the modeled phenomenon – in this case, the enjoyment of negative emotions in art reception. The validity and relevance of a model depend on the degree to which:

1. It summarizes systematically collected or observational data: Models should be grounded on evidence.
2. It describes and explains the evidence: Models should highlight the causal mechanisms that bring about the evidence.
3. It formulates empirically testable hypotheses: Models should predict future evidence.
4. It brings theoretical clarity by integrating and relating diverse concepts and observations.
5. It is compatible with models developed at other explanatory levels.
6. It clarifies its relation to other existing models.

Menninghaus et al.’s DEM does not fare well when measured against these criteria. First and foremost, the model is not motivated by a comprehensive body of empirical evidence. For instance, Menninghaus et al. produce only indirect and inconsistent evidence supporting the existence and engagement of the art, representation, and fiction schemata they suggest underlie the Distancing factor (sect. 3). The DEM predicts that these schemata, activated by art framing, should influence the experience of negative emotions. However, Wagner et al. (2014) and Gerger et al. (2014) – cited as supporting studies – found no such influence. The DEM is grounded not on empirical data but on assumptions about art and emotion derived from philosophical and poetic theorizing. One such assumption, presented in Section 2, is that negative emotions are resources predestined for the arts’ purposes, implying that the experience of negative emotions is pervasive in art reception. This assumption, however, is clearly untenable, because not all interactions with art involve negative emotions (Martin 2001; Smith 2014), and all forms of art, including prose and poetry, abound with works intended to evoke positive emotions (subgenres of comedy, erotica, lullabies, etc.). Moreover, no evidence is marshalled to bolster the paper’s main claim, namely, that art’s function is to transform negative emotions into pleasurable responses, or to refute alternative possibilities.

Second, the DEM makes no reference, whether in cognitive or in neural terms, to the fundamental explanatory mechanisms underlying the distancing and embracing processes. Impressionistic descriptions are used to illustrate how, for instance, conceiving an art object as fictive can provide “an awareness that no real person (or animal) has been physically harmed” (sect. 3.3, para. 1). The notions invoked by such descriptions are conceptually obscure.

Moreover, the model’s central concepts and processes, such as “experiential spaces” and to “keep felt negative emotions at some psychological distance” (sect. 3, para 1), are inadequately specified, bordering on folk-psychological. No attempt is made to relate them to psychological or neurobiological processes commonly studied by cognitive neuroscience. Does regarding something as fictive elicit top-down regulative mechanisms? What processes would such putative regulative mechanisms modulate? The perceptual processing of the percept being computed? The affective responses associated with these attenuated percepts? The DEM cannot answer such questions. And this is a crucial
limitation, because in addition to describing a phenomenon, a scientific model should be able to explain how it works.

Furthermore, because the DEM does not postulate adequately specified explanatory mechanisms, the role of these mechanisms in the enjoyment of negative emotions cannot be tested empirically (sect. 4). For example, much is made about the co-occurrence of positive and negative emotions during the embracing phase. Testing this would require measuring the occurrence of negative and positive emotions separately and then registering their co-occurrence. Evidence from social neuroscience, however, suggests that rather than being dissociable, emotions are rooted in core affect—an organism’s level of pleasant or unpleasant arousal (Wilson-Mendenhall et al. 2013)– and mapped onto a common reference space (Barrett & Wager 2006; Barrett et al. 2007). Because the DEM does not lend itself to deriving testable hypotheses nor to falsification, its potential to motivate research in empirical studies of the arts is uncertain.

Finally, the DEM neglects existing models and explanations of the role of negative emotions in art reception (e.g., Sachs et al. 2015). For example, our understanding of visual art perception has been advanced recently by incorporating principles that account for the interplay between prediction error and reward (Kesner 2014; Van de Cruys & Wagemans 2011). The basic idea behind prediction error models is that the brain actively anticipates incoming sensory input. When predictions are accurate, efficient processing of the input occurs. Conversely, when there is a difference between prediction and the actual state of affairs, a prediction error ensues. Prediction errors are therefore typically emotional and negative in valence. Van de Cruys and Wagemans (2011) proposed that artists habitually manipulate conditions that initially increase viewers’ prediction error, which is subsequently resolved as the stimulus becomes predictable. This transition from unpredictability to predictability is experienced as rewarding. This account is consistent with evidence that visual perception has an affective component (Barrett & Bar 2009) and that attaining conditions that favor processing fluency is pleasurable (Beber et al. 2004; Zajone 1968).

In sum, because the model presented in the target article fails to meet basic validity and relevance criteria, it has limited potential to advance scientific understanding of the role of negative emotions in art reception. Without strong grounding evidence, clear explanatory mechanisms, and direct testability, the DEM is more a description of the phenomenology of art reception than a causal model that explains how negative emotions can lead to pleasurable engagements with art. What empirical aesthetics and neuroaesthetics require at present are models that make sense of the available mountain of empirical evidence and that make testable claims about neural mechanisms that can advance our understanding of how the human brain, as a matter of empirical fact, produces art experiences.

Art as emotional exploration

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Abstract: The Roman poet Horace said poetry gives pleasure and instructs. A more informative theory is that poetry and art, in general, are less about pleasure than about exploration of emotions. Literary authors concentrate on negative emotions, seemingly to try and understand them. In two studies, reading literary art enabled the transformation of selfhood, not by being instructed but by people changing in their own ways.

The oldest surviving signs of art date back more than 100,000 years (Vanhaerren et al. 2006). They are of shells drilled to make beads, presumably for necklaces. What are we to make of such forms in human evolution? The first stone tools were scrapers, which emerged more than three million years ago. Like other technologies they were meant for purposes in the outer world, but the more recently emergent necklaces had other purposes. We may hypothesize that they helped people fashion their identities, to transform themselves within.

The Roman poet Horace (19 BCE/1932) proposed that the purpose of poetry and, by implication, all art is to give pleasure and instruct. We can see this by being feeling a necklace can give pleasure, but in their article, Menninghaus et al. point out that much art involves emotions that are negative. In this case, how can the first part of Horace’s proposal be right? Why do people listen to music, look at paintings, go to see plays and films, and read poems, short stories, and novels, which concern negative emotions and which evoke negative emotions in them?

Menninghaus et al. say that, first, people know that although a work of art is not real life, it is in the world, so they can separate it and hold it at a distance, while, in their own everyday life, they can remain, as the authors say, in control. Second, while in this state, they say that people can decide to embrace a work. It is a valuable idea that in engagement with art, we can feel both safe and able to embrace the new.

The proposal can also be taken as an invitation to go deeper. Csikszentmihalyi (1998) argued that art is exploration of emotions that we don’t yet understand. It involves an externalization of an aspect of mind in the form of a language that can be of words, of painting, of sculpture, of music, of dance, and so forth. The externalization of consciousness in such forms enables exploration of a kind that is more difficult when concerns remain internal.

The reason art explores negative emotions, such as sadness in losing a loved one, anger at having been let down, as well as anxiety, shame, and disappointment in response to other kinds of upsetting events, is that such emotions are of the kind which are usually the most difficult to understand, which therefore need the most exploration, and which can have the most far-reaching implications for us.

Djikic et al. (2006) analyzed interviews of nine distinguished writers of fiction and nine distinguished physicists, using Pennebaker et al.’s (2001) Linguistic Inquiry and Word Count program. We predicted that the writers would use more emotion-related words as they discussed their work with interviewers, and this is what we found. We found, too, that as compared with the physicists, the writers used significantly more words related to negative emotions: anger, anxiety, depression, and sadness. As part of this study, we compared the interviews of the same nine physicists with a larger sample of interviews with 124 writers, and obtained similar results. So, in their work, literary artists have an inner preoccupation with negative emotions, which did not occur for physical scientists. This can be seen as confirmation of Collingwood’s theory of art as exploration of emotions, with the addition that these emotions may often be negative.

In a piece of art that has been produced by someone else we, who engage with it, can also explore issues with which the artist is concerned—issues that can concern us, too. With a poem, short story, or novel, as with meditation, we can go to a quiet place and put aside concerns and preoccupations of daily life. For instance, by identification, we can take on the concerns and intentions of a literary character. Comparable processes occur with other art forms. In literary art, the emotions experienced are most often those of empathy with a character, in circumstances we may never have been in, but ones we can imagine. We may empathize with the character, but our emotions are not those of that imagined person. They are our own, in the circumstances of the story (Oatley 2016). In this way, we can lead many lives.

Menninghaus et al. ask whether greater emotional depth, with combinations of negative and positive emotions, might lead to greater dynamic change. We have explored this issue empirically. Djikic et al. (2009) asked people to read either a piece of art, Chekhov’s (1899/1990) most famous short story, The Lady with the Toy Dog, or a control version that contained all of the same information, that was of the same length and reading difficulty, and that readers found just as interesting but not as artistic. Before and after