
JOERG FINGERHUT

Berlin School of Mind and Brain,
Humboldt-Universität zu Berlin
joerg.fingerhut@hu-berlin.de

ENACTIVE AESTHETICS AND NEUROAESTHETICS*

abstract

In this paper, I review recent enactive approaches to art and aesthetic experience. Radical enactivists (Hutto, 2015) claim that our engagement with art is extensive, in the sense that it is non-contentful and artifact-including. Gallagher (2011) defends an embodied-enactive account of the specific kind of affordances artworks provide. For Noë (2015) art is a reorganizational practice. Each of these accounts claims that empirical (neuro)aesthetics is incapable of capturing the art-related engagement they want to highlight. While I agree on the relational and enactive nature of the mind and see the presented theories as important contributions to our understanding of art and aesthetics, I will argue that their dismissal of empirical aesthetics is misguided on several counts. A more qualified look can reveal relevant empirical research for claims enactive theorists should be interested in. Their criticism is either too general regarding the empirical methods employed or based on philosophical claims that themselves should be subjected to empirical scrutiny.

keywords

art, embodied cognition, enactivism, externalism, neuroaesthetics

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1. Introduction

In what ways do philosophical theories of our engagement with art and cultural artifacts relate to biological factors and recent scientific insights into our cognitive systems? One widely quoted, founding papers of neuroaesthetics claims:

Aesthetics, like all other human activities, must obey the rules of the brain of whose activity it is a product, and it is my conviction that no theory of aesthetics is likely to be complete, let alone profound, unless it is based on an understanding of the workings of the brain. (Zeki, 1999, p. 94)

On the one hand, this can be seen as trivially true, since seemingly nobody would deny the central contribution of the human brain and nervous system to artistic creativity and aesthetic responses (hence the need to include them in any complete theory). On the other hand, some philosophers of art take issue with the implications such a focus on “rules of the brain” has for the profundness of a theory of art. The artwork seems unduly pushed into the background by a science that aims to advance by focusing on internal, psychological facts (Davies, 2014). Any adequate theory should therefore especially make sure to sufficiently account for both sides of the artifact-organism relation.¹

Embodied-enactive accounts agree on this latter point. They highlight the relational nature of our mind and concur that it is impossible to study this relation without centrally including processes in the body and features of the environment and artifacts in the sciences of the mind. Including the manifold aspects of cultural artifacts seems also central to capture the aesthetic experiences among our mental states, including those that constitute processes of the evaluation of art. Enactivists here also relate the (neural) internalism prevalent in neuroaesthetics to the disregard of theorizing about the artworks themselves. They, in turn, aim to include the artwork and the unique interactions it affords more prominently in their accounts. They do this by either promoting an especially strong

¹ Zeki’s account, as well as Ramachandran and Hirstein’s (1999) claims regarding a neuroscience of art, have been criticized by other neuro-aestheticians for already being overly focused on artifacts and art. According to such critics, a proper foundation of neuroaesthetics should rely upon general appraisals of more mundane objects and social situations such as food and the evaluation of the attractiveness of mating partners (see Brown *et al.*, 2011, p. 250). This is an example of the struggle with uniqueness claims with respect to our engagement with art in the field of empirical aesthetics, that I will address later in the paper.

version of externalism that treats the artifact in certain cases as constituent part of the supervenience base of the respective mental states (see section 2). Or, they highlight another enactive mainstay, namely the focus on praxis and active engagement. Here one could argue that cultural artifacts afford specific kinds of practices different from our everyday encounters. (see sections 3 & 4).

In this paper, I will address objections to empirical (neuro-)aesthetics issued by three prominent defenders of enactivism.² Dan Hutto's radical enactive account objects to what he ultimately sees as a problematic neural essentialism. He proposes an "extensive" reading of our interaction with cultural artifacts that goes beyond the possible purview of neuroaesthetics (Hutto, 2015). Shaun Gallagher's enactive-embodied interpretation of motor theories of our engagement with art (Gallagher, 2011) criticizes mirror neuron accounts of aesthetics, such as Freedberg and Gallese (2007), for their inability to address the difference between actual objects and the representations of such objects produced by artists. Whereas Hutto's criticism is mostly focused on neuroaesthetics' misconstrual of the relation between perceiving organism and artifact, Gallagher also proposes an initial theory of the value of art. Art transcends our everyday encounters and enables us to engage with the purely possible or even impossible. Alva Noë (2015) develops a positive theory as well. He capitalizes on what he calls the "work of art" in a specific way. The work of art is not the material object. It rather is a particular form of engagement with artifacts and with our artifactual practices, namely one in which we undergo a transformation or re-organization regarding these very practices. Neuroaesthetics' stimulus-response model gets this all wrong in several ways: it investigates neural activity independent of the possible ways body and artifacts co-constitute this activity (this is its horizontal mistake, so to say), and neuroaesthetics ignores, as Noë highlights, the role the discursive context plays for the right kind of interactions (this being the vertical mistake, ignoring higher level elements). Based on his own theory Noë brushes off empirical aesthetics more generally because he sees it as concerned with responses to art – such as beauty and preference judgments – that do not figure in the discursive contexts that define the practices we employ when we truly engage with art.

What unifies these accounts is their rejection of internalism. Yet, they provide various versions of externalism and diverging theories of what constitutes an aesthetic interaction. They, therefore, reject the existent empirical approaches to art and aesthetics for different reasons. The present paper aims to identify these reasons and shows that each of them is misconceived to some extent. It is true that empirical studies focus on local, testable hypotheses and in the case of neuroaesthetics are biased towards the inner workings of the brain. They often also focus on responses (such as preference and liking) that are not among the main interests of philosophers interested in the arts. The claims they derive concerning the nature of cultural phenomena might be tainted by those biases. Yet, neither the focus on neural responses (in neuroaesthetics), nor the focus on more generic responses to art (as in empirical aesthetics more generally) is based on principles that cannot be corrected. While adhering to enactive insights about the relational and active nature of our mind, I will argue that in order to arrive at a sounder picture of what empirical aesthetics can contribute to our understanding of art, we should not succumb to a too pessimistic view. I, therefore, will defend

² The theories discussed in the present paper identify themselves as subscribing to an enactive theory of the mind and address art and the limits of neuroaesthetics explicitly. This was the reason to include them in a joint treatment. Moreover, the accounts I discuss do focus on empirical research on the visual arts (although they discuss other artforms) and I to a large extent follow them in this. For a broader discussion regarding aesthetics and enactivism that also includes biological autonomy as a key concept (see Varela, Thompson & Rosch, 1991; Thompson, 2007) see the collection of papers in Scarinzi (2015) as well as a recent application of enactivism to architecture in Jelić (2016).

motor accounts of the arts against the criticism by Gallagher and reject the more radical dismissal of empirical aesthetics prevalent in Hutto and Noë.

2. Art and our extensive mind

Work on the ontology of the artwork in aesthetic theories is only one way that artworks and cultural artifacts can gain center stage. Situated accounts of aesthetics (see Manzotti, 2011a, for an overview), address ontological questions from the perspective of philosophy of mind and provide an assessment of the ways objects, artifacts, and also artworks relate to our mental states that is initially independent of the aesthetic claims one wants to subscribe to. Manzotti (2006, 2011b), for example, defends a phenomenal externalism and claims that the mind is spread: “objects and their phenomenal representations are only two incomplete perspectives and descriptions of the same physical process.” (Manzotti, 2011b, 29). According to such a theory, objects gain center-stage and frame our reality beyond being simply input to our sensory processing: they are part and parcel of the respective experience in the sense that they constitute one aspect of a wide supervenience base of mental states (the way in which they do so is subject to a controversial debate that I will not go into in the present paper). Hutto’s paper on enactive aesthetics (2015) presents a position that can be seen as a corollary of the above, with the addition that he also does away with the relata as they are framed by Manzotti. To his mind the reference to phenomenal representations is dispensable. As he defends elsewhere: basic mental states are contentless (this is what makes them self-proclaimed *radical* enactivists, see Hutto & Myin, 2013).

Both, Manzotti and Hutto, also see aesthetics as a particularly good touchstone for their theories. They do not make it sufficiently explicit why that should be the case, although one can derive some possible reasons from passages in which they identify the limits of neuroaesthetics. There they claim that aesthetics requires a more artifact-including perspective because aesthetic experiences are precarious in a certain sense: without the rich perceptual affordances of the actual artwork they either might not come into existence at all or not develop fully to an aesthetically valuable experience. What they might have in mind could be something along the following lines: in order to appropriately experience the luminance in Van Gogh’s *The Night Café* or the smeared colors on the canvases of William Turner, it might be reasonable to assume that a suitable observer has to interact physically with the artwork, approach it, and engage with it in the flesh (think of the physically protruding clumps of paint in some Turner paintings). What’s more, such artworks themselves seem to engage the observer, guiding her in a trajectory that makes the experience worthwhile (and the same reasoning might hold for music, dance, architecture); elevating cultural artifacts to the status of agents in this respect (Kirchhoff, 2012). By ignoring the details of our interaction and the sensorimotor engagements that specific artworks afford, or so especially Hutto argues, neuroaesthetics only can turn out to be explicitly anti-enactivist. He therefore formulates the desiderata of a theory of aesthetic experiences as follows:

what is needed is a de-intellectualized characterization of mind that rethinks basic mentality, uncompromisingly, in terms of extended interactions with an environment. On such an account, engaged interactions of the right kind – but nothing short of them – would suffice for the occurrence of the relevant aesthetic phenomena. (Hutto, 2015, p. 226)

Thus, only such uncompromising and ontologically more committed views, which treat the relevant mental states as “extensive” and artifact-including (Hutto *et al.* 2014), can be the foundation of an enactive view of our artful minds.

The way Hutto presents neuroaesthetics’ neural essentialism makes it incompatible with such truly enactive endeavors. As Hutto claims this essentialism is based on a representational

theory of mind and accompanied with a strong cognitivist leaning. Zeki (1999), for example, defines the function of art as providing us with essential information about the environment (art is successful when it dispenses with non-essential information). Zeki initially formulated this theory independent of any empirical validation, yet what is troublesome for Hutto is that the empirical data that such a theory aims to gather are limited to internal responses (for example of the visual system that has been geared to accurately represent constancies in the environment and the reward centers related to such successful access).³ To summarize Hutto's points: the responses Zeki is looking for are of the wrong sort (they are cognitive states, in the sense that they aim at knowledge), and Zeki is looking for naturalization in the wrong area, so to speak, by assuming that the neural responses that underlie those cognitive states are necessary and sufficient for aesthetic experience and thereby do not include the artwork in a way that displays its central importance. I will focus on the latter problem and the ensuing disregard of the artwork in neuroaesthetics, but I will touch upon the question of cognitivism towards the end of the section as well.

One can, for example, mourn the fact that reproductions rather than actual artworks, are the stimuli in most lab settings. One should also highlight that only limited possibilities to engage with those reproductions are provided. Both are a consequence of the focus on neural activity in such studies. Yet there already exist commendable attempts to make experiments more ecologically valid, for example, by comparing museum experiences of original artworks to lab experiences and by using physiological measures, motion- and eye-tracking techniques that capture elements of our embodied engagements in museums (Tschacher *et al.*, 2012; Brieber *et al.*, 2014; Walker *et al.*, 2017). Such attempts are on top of those to directly manipulate different (visual) properties of artworks that are also prevalent in empirical aesthetics (see Locher, 2014 for an overview). The latter can be readily employed also in neuroaesthetic research based on fMRI analysis, whereas more situated approaches 'in the wild' that aim to track neural responses are so far confined to fNIRS and EEG measurements. Some of the above studies indeed found significant effects of context and originality of the artworks (compared to artificial settings and interaction with reproduction). Yet, interestingly enough, other studies could not establish such differences with respect to relevant measures such as aesthetic liking for artworks (Brieber *et al.*, 2015). My main objection to Hutto's rejection therefore is that, independent of the specific results of those studies, it remains a matter of empirical fact and for future studies to determine, which elements of our aesthetic interaction with artworks *de facto* contribute to our appreciation. Dismissing all studies that undercut what Hutto, in an armchair attempt, has identified as the relevant fine-grained components of aesthetic experience and appreciation of art, leaves no room for such scientific exploration. Thus, it is far from clear what the alleged "engaged interactions of the right kind" are, and therefore whether only studies that address these kinds of engagements and "nothing short of them" can contribute to scientific progress in the field (Hutto, 2015, p. 226). Hutto has to be careful not to overshoot and to end up with a low-level (i.e. fine-grained) externalist chauvinism regarding the relevant properties of artworks and respectively of our experiences, as the aforementioned quote suggests.⁴

3 Zeki's (1999) paper rather focuses on the experimental character of the artists themselves and how they explored via visual experiments the possibility of visual arrangements to best stimulate or recognitional or perceptual capacities. In general, early neuroaesthetics is purely descriptive and experimental work only started later with studies on the neural correlates of the perception of beautiful artworks and geometrical shapes (Kawabata & Zeki, 2004; Jacobsen *et al.*, 2006).

4 This extends also to what has been labeled the "acquaintance principle" with respect to artworks. The principle states that artworks cannot be judged in lack of perceptual encounters with them (Wollheim, 1980, p. 233). Yet even if

To be clear, this is not to deny that details of the physical artifacts, as well as the specific settings of experiments with respect to our embodied responses, are often not specified enough in empirical studies. This holds for research on object perception and experience more generally. In a meta-analysis of 116 articles papers on object cognition, Chemero and Heyser (2009) showed that many of them did not sufficiently detail the very objects used in the studies and therefore miss out on the specific affordances that might differ even with slightly different objects; a confound that significantly impacts the viability of these studies and that renders many conclusions drawn from them problematic at least. Yet, although this might be proof of an ‘internalist bias’ in large areas of research, one still can account for this with more embodiment-sensitive accounts and studies (that have become more and more prevalent and already guide many studies in the cognitive science) and therefore correct this without dismissing the field as a whole. Most neuroaesthetic studies provide complete lists of stimuli and specify the presentation methods, others just manipulate one stimulus feature in order to explore its effect on aesthetic experiences. In a sense the stimulus has never been ignored and is a major part of the experimental procedure. This not to say that such settings cannot be improved and controlled for situated and embodied aspects. Empirical research thrives on criticism that focuses on the explanatory value (or lack thereof) of existent research. One could therefore argue for ways neural activity should be understood as part of a larger enactive engagement and how that could alter study designs and interpretation of data. This is not the direction Hutto chooses. He rather aims to find neuroaesthetics guilty of ontological fraud: he claims that it disregards the necessary extensive nature of aesthetic experiences. Whether neuroaesthetic research, despite this purported metaphysical oversight, might be able to produce interesting research is not even discussed as a possibility. Overcoming internalist as well as the aforementioned cognitive biases also requires something beyond a theory of perceptual encounters that simply takes the brain-body-artifact nexus more serious. It seems to demand a theory that more directly includes embodied processes of valuing. Such processes might comprise experiences of beauty and even constitute states of appreciation (Hutto himself writes of “appreciation” as one of the relevant aesthetic states), and here bodily feedback as well as details of the artifact might be crucial. Such research could, for example, aim to specify in what ways such a valuing might have an affective, sensorimotor profile related to bodily posture and is influenced by presentational factors of artworks (Seidel & Prinz, 2017). By not discussing any research that might follow such a path, Hutto’s theory threatens to slide into an unqualified anti-naturalistic position regarding what could constitute relevant engagements with art. Accounts of the emotions that underlie our valuing of art as well as accounts of how our aesthetic concepts might be embodied might be possible directions here (see Fingerhut & Prinz, 2018a,b). Yet also theories that aim to explain in which ways perception might be embellished by particular contextual features of the artwork could be helpful in this respect. There already exist enactive accounts that aim to show how an externalist might be better equipped not only to include material aspects of the artifacts but also cognitive elements and the history of their making as part and parcel of perceptual encounters, accounting thereby for the richness of aesthetic experience (Myin & Veldemann, 2011; see also Stokes, 2014). Moreover, the discussion in this section has shown to some extent that the criticism raised against neuroaesthetics is not specific to the field of aesthetics and the arts. Hutto (2015) remains obscure what his contribution to a science of the artful mind might in the end consist

such a principle holds (see Budd 2003, for a critical assessment) there still remains a lot to be said about what we value in those artworks and why.

of. In general, it does not leave enough room for an anti-cognitivist (neuro-)aesthetics, i.e. one that avoids the aforementioned biases and that nonetheless could test predictions about the processes of valuing art and allows for novel discoveries that are not accessible for armchair philosophy. One could wish for a more cooperative attitude in this respect and Hutto's positive claims regarding our art engagement could be instrumental in correcting some cognitivist and internalist leanings of neuroaesthetics. This is despite the fact that he gives no decidedly art-specific reason for doing this and he provides more ontological reproach than guidance for future theory building.

Hutto's criticism remained underspecified concerning the ways neuroaesthetics might progress beyond its cognitivist beginnings and confines it to some extent to some of its inaugural texts. In passing Hutto discusses another empirical approach that might prove helpful, though. Vittorio Gallese's work on motor engagement as the basis of our emotional engagement with visual art, according to Hutto, avoids the perceptual-cognitive bias of neuroaestheticians such as Zeki, but still is dismissed as being neuro-essentialist.⁵ More specifically, Gallese proposes that activation of the mirror neuron system (MNS) is a central component in the engagement with representations of human bodies and traces of embodied action on the surface of such representations (such as brushstrokes and cuts on canvases, see Freedberg & Gallese, 2007; Umiltà *et al.*, 2012).

In this section I will discuss the more comprehensive criticism of the Freedberg/Gallese account in Gallagher (2011) in order to assess how it might nonetheless contribute to an enactive understanding of our relation to artworks. Gallagher mainly takes issue with two things: the concept of 'simulation' and the lack of any art-specific claim in Freedberg and Gallese (2007). Let's start with the first point. Gallagher argues that reference to 'simulation' in the MNS account of social cognition requires a notion of pretense that assumes a differentiation between one's own and the other person's agency as part of the account. Yet, such a demarcation between 1st and 3rd person representations is nothing the MNS can sustain by itself. And neither does it have to. As Gallagher suggests, one can entertain a more enactive reading without dismissing the relevance of the MNS. It indeed plays a crucial role: it prepares for action, and its activation is correlated to anticipatory embodied planning of such actions. It thereby complements the (social, perceptual) affordances the environment offers and prepares the organism for possible engagements. Such "anticipatory kinaesthetics" (Gallagher 2011) in the sense of subpersonal mechanisms of preparation for future actions dovetails nicely with the enactive idea that we bring forth our experiential encounters based on rules incorporated in embodied skills (skills that we have developed throughout our history of interactions with the environment as well as with cultural artifacts).

I will not go into the details of the simulation debate (Gallagher, 2001; 2007 develops this more fully), because the criticism specific to the aesthetic domain lies elsewhere. I included it here, though, because I think that it provides a way to integrate neural activity into a more enactive system of engagement by highlighting its relation to action.⁶ The above paves

3. Motor engagement and the uniqueness claim

5 Hutto slightly misrepresents Gallese as one that deals with explicit aesthetic appraisals while, in fact, Gallese unambiguously aims to avoid a focus on explicit, internal value appraisal and highlights direct emotional-perceptual encounters with artworks. Hutto quotes Gallese and DiDio (2012) who propose a theory that "capitalizes upon the discovery of the mirror neuron mechanism [and focuses on] the dimensions of reward and explicit appraisal of the esthetic [sic] experience" (ibid, p. 688). The latter is actually what they object to and what rather comes, to their mind, in the way of truly aesthetic encounters.

6 This therefore constitutes an account that challenges neuroaesthetics by questioning the way it uses neural data. I think this, *pace* Hutto, nonetheless provides a possible way to move forward by avoiding the biases I identify above.

the ground for Gallagher's more specific criticism: embodied-empathic motor-accounts of art and aesthetic engagement crucially fall short of addressing the differences between representations of action affordances in art and cultural artifacts and the role such affordances play in direct encounters with people, scenes and objects (see Brincker, 2015, for a similar criticism). From an enactive perspective, this is where the explanatory beef enters the soup: what action possibilities are actually provided in a social situation? How do they compare to a situation in an art setting or to actions and emotions portrayed in artistic representations? If mirror neuron activation accounts for both situation, real vs. representation, in the same way, we would have to look for such differences elsewhere (for example in higher cognitive processing) and the MNS would be uninformative on this count. If it indeed can account for the differences, Freedberg and Gallese should have made this difference more explicit or at least hint towards ways it can prove explanatory.

To me it seems that Freedberg and Gallese have a different agenda, though. Their aim is a general defense of the importance of empathic-motor responses for our interaction with art against what they perceive as a prevalent cognitivist orientation in art criticism and philosophical theorizing about art. Here they see in the MNS a basic biological mechanism that is able to underwrite the empathy literature that originated in the late 19th and early 20th century (think of the concept of 'Einfühlung' in R. Vischer, Wölfflin, Lipps, among others, and see Mallgrave & Ikonomou, 1994, for an overview) with a neurological basis: "no esthetic judgment is possible without a consideration of the role of mirroring mechanisms in the forms of simulated embodiment and empathetic engagement that follow upon visual observation" (Gallese & Freedberg, 2007, p. 411). We already saw how Gallagher corrected what he saw as at fault with the simulation part of the explanation.⁷ What he additionally demands from Freedberg/Gallese to drive home their message of the centrality of the MNS for aesthetic experiences is that they should detail its contribution to making an experience an aesthetic versus, say, a pragmatic one. But Gallagher is not shy of a solution here either. Since visual representations and artworks do not primarily afford social or practical interaction, they might instead turn this lack of interaction into an advantage, not by

priming for action or interaction, but for an experience of the purely possible or maybe even the impossible. This kind of affordance short circuits – it does so in a way that comes back to me and makes me aware of my possibilities, and does so in a way that disrupts my ordinary engagements. This is a positive accomplishment of art. (Gallagher, 2011, p. 109)

I think this is a promising account of what art can do. Good art interrupts, challenges and engages us in a way that is directed at something beyond the ordinary, and it might be indeed this perspectival change that we value in art. As a criticism of the Freedberg/Gallese account it seems misdirected, though. This is for several reasons.

(a) As mentioned, their initial aim in the cited paper is more basic: they claim a crucial role of the MNS in explanations of how and why we engage with pictorial artworks at all (to

Gallagher is no less critical of accounts that claim to be embodied and then exclusively focus on neural representations (e.g., representation of the body in the fusi-form body area (FBA), see Gallagher, 2012).

⁷ An enactivist might also object to the temporal order presented: embodied engagement is part and parcel of visual perception and does not "follow upon" visual observation as if the observation would be a completed process prior and independent of the motor assessment. Yet, this seems to be a problem that could also be amended by a more enactive reading.

explain how we engage with emotions outside of social situations) and do not claim to sufficiently describe aesthetic experiences.

- (b) Freedberg and Gallese are also careful to emphasize that MNS activity can be modulated by a “wide variety of contextual factors” (ibid, p. 199).⁸ They thereby make room for the possibility that our responses to cultural artifacts are specific learned embodied skills. Such skills would be employed in artifact interactions in a systematic manner that differs from everyday encounters. The idea here is that certain cultural artifacts have hijacked our embodied engagements and expanded them. As I have argued elsewhere more extensively (Fingerhut & Heimann, 2017), representational media require artifact-specific perceptual and emotional skills. The focus there was film, but also static images require skills related to, among other things, use of perspective and framings in depictions of a scene (plus camera movements and edits, for the case of film) and that those skills have become integrated into our cognitive repertoire. The implication of such artifact-related motor schemas could also be seen as a way to account for the specificity of the artwork-organism relation that builds upon to plasticity of the MNS.⁹
- (c) Closely related to this is a third point: motor activity does not only correlate to the different features of the depicted scene but to those of the medium (e.g., the canvas) and the traces of facture in the medium at the same time. It could therefore be employed to capture how we experience the ‘twofoldness’ of picture perception and how this experience contributes to aesthetic evaluation.¹⁰ Both parts of experience, those that cover the means of depiction (often referred to as ‘configurational fold’) and those that cover the depicted scene and the figures depicted (the ‘recognitional fold’) are present in the Freedberg/Gallese account of motor engagements. Although they do not discuss how these engagements do overlay in picture perception – as them subserving a ‘twofold’ seeing-in experience would require – they nonetheless provide some interesting means that might help us understand the specific processes regarding the two elements of such an experience. Regarding the first fold (surface and design properties) it has been shown that motor congruency of self-executed and primed movements with the movement that have been used to produce the artworks enhances the liking of these artworks (Leder *et al.*, 2012; Ticini *et al.*, 2014). Motor priming is one way to conduct such research that more generally aims to understand the aesthetic appeal of a specific way to portray a scene. Another example comes from the realm of film. Heimann and Gallese conducted neuroscientific studies to investigate how filmic means (e.g. different edits of the same scene or different camera movements to approach it) differentially engage the motor system.¹¹ For both

8 Others have rightly emphasized that the focus on biological mechanisms works to some extent at the expense of art historical context. They criticize especially Freedberg’s insistence on foundational claims regarding basic empathic mechanisms (see Kesner *et al.*, 2017 for this and an account of the multiple modulating factors of our empathic responses to artworks).

9 In Fingerhut & Heimann (2017) we argue, by making ample reference to motor accounts, that in such artifact interactions we entertain the body schema of a “filmic body” that is constituted by habits of perceiving that we have developed through our exposure to the conditions and syntax of film.

10 ‘Twofoldness’ is an important element of Richard Wollheim’s account of the picture-specific capacity of ‘seeing-in’ and has been subject to a large and controversial debate (see Hopkins, 2010, for a critical summary and Lopes, 2005, for an account of how seeing-in might relate to aesthetic valuing). I cannot go into details here, but it stands to argue whether such accounts can be extended to questions of how formal features and the marks of the artist, such as brushstrokes and cuts, interact with posture and emotions of persons depicted in order to foster aesthetically more interesting experiences.

11 Heimann *et al.* (2014) investigate differential motor engagement for presentational features of film, such as zoom, dolly shots (with the camera mounted to a dolly that is placed on rails), and steady cam (a handheld camera device), while controlling what elements are displayed in the scene. A next step will be to extend this research to include aesthetic measures (such as interest and aesthetic liking).

realms (static and moving images) it would be interesting to explore in what ways a certain motor engagement with configurational features makes the presented scene more salient, interesting, challenging, or beautiful. With the relevant modifications – treating activity in the motor cortex as only one part of a larger body-brain-artifact nexus and as being anticipatory rather than representational – this could be a relevant element of an enactive understanding of how specific artistic decisions in the ways pictures and films display a scene constitute aesthetic values for the perceiver.

All this might not satisfy Gallagher’s interest in the specific affordances of art – of what makes art special. Yet, one could in turn wonder whether Gallagher himself provides sufficient criteria to separate our interaction with an everyday representation from representations that are artistically successful. The potential of art to especially display action possibilities that are not realizable, can also be seen as a quality of all representations (that *qua* representation differ from everyday action affordances). He could respond and anchor an account of art in the specific ways artists put “pure possibilities” on display in artistic images, on how artists use the means of representations in more intense, challenging, liberating ways (Gallagher, 2015, might be seem as an attempt to do something along these lines for literature). Interestingly, also Gallese, in recent writings, hints at an account that can be seen as providing the basis for some of the ideas Gallagher seems interested in:

(d) Gallese’s concept of “liberated embodied simulation” (Gallese 2011; Gallese & Guerra, 2012) can be seen as a proposal regarding the kinds of motor engagements that we value in art. Here we also find another more explicit reference to the fact that the affordances in art differ from those of everyday encounters. Gallese’s ideas of experimental aesthetics based on liberated embodied simulations are not fully developed to date, but he suggests a deeper connection to fictional or representations worlds based on the inhibition of actual actions, claiming that we can allocate more neural resources to the motor system and body formatted representations in such situations. He thereby indicates how both could become important elements in a theory of the embodied-enactive (sensorimotor and affective) features that characterize our aesthetic experiences of human cultural artifacts as well as the evaluation of those experiences and artifacts.

In sum, I argued in this section that motor accounts might provide enough material to capture some of the differences between everyday affordance and pictorial representations as well as the artistic usage of such differences. They could – with the aforementioned enactive modifications – be seen as closer to Gallagher’s own proposal than he acknowledges.

4. Art as re-organizational practice

Let’s finally turn to Alva Noë’s *Strange Tools* (2015) and his wholehearted dismissal of empirical accounts to the arts. He generally objects to the idea that neural responses could be used as explanatory *readymades* that, without being related to our body- and world-including engagement, tell us anything about our mental states. Neuroscience provides the wrong model of the mind: it misses out on the organismic active engagement in the different “modes of investigation” through which we gain access to the world.¹² World-involving practices (which are constrained by very diverse things, spanning from embodied engagement to linguistic conventions) is what takes explanatory priority. The result is the same as with Hutto’s extensive externalism: the internalism that is at the heart of neuroscience gets in the way of it

12 Within such modes of interaction “we act right back” on the world (Noë, 2015, p. 196). Noë recently also started to characterize his position as “actionist” (ibid., p. 8). One of the interesting components of Hutto’s externalism is that he remains more impartial with respect to which side of the artifact-organism takes the leading part. See also Kirchoff (2012) as a proponent of the idea that agency in some accounts of externalism should rather be attributed to the artifacts themselves.

becoming a proper science of the mind. I have indicated above that certain ways of embedding neural activity might provide ways around Hutto's problem and that his insistence on low-level features might be misguided. Noë's focus on practice-guided activity targets explanations at other levels of description, which differ from the extensive account of artifact interaction. Noë's art-specific claims take us even one step further by identifying art as a second-order practice and apparently fully outside the realm of neuroscience. I will use the remainder of this paper to introduce his view and argue that neuroaesthetics and empirical approaches, within their confines, might contribute to our understanding of such a practice. It should be clear that for Noë seeing art as a "mode of investigation" would not make it special: every mental state is an instantiation of such a mode. The relevant *aesthetic* engagements are characterized by two things:

- 1) Art¹³ is only successful as a re-organizational practice: it makes first-order practices (such as artifact-related technologies, for example the ubiquitous practice of pictorial engagement and picture making) visible to us on a second-order level by putting them on display and thereby unveiling us to ourselves.
- 2) Aesthetic experiences are emphatic judgments and happen in a communicative situation: "Art is experienced in the setting of argument, criticism, and persuasion. [...] Aesthetic responses, then, are not symptoms or reactions or stable quantities. They are actions. They are modes of participation." (Noë, 2015, p. 132f.).

I cannot discuss Noë's view in detail but will rather emphasize how it relates to the previously discussed accounts.

Claim (1) provides a clearer answer to the problem I raised for Gallagher regarding the lack of a distinction of a representation from a representation that is an artwork. One could say that for Noë first-order artifactual or representational practices are part of our fundamental constitution: as bio-cultural beings we are confined to technologies and organized activities that include a variety of tool-uses. Among those are centrally the picture-practices of perceiving, producing and sharing representations. Art presupposes such technologies and makes something "out of" those practices. Although it is intimately entangled with them, it also contributes something very different and novel by displaying, de-familiarizing, and re-arranging them.¹⁴ The opposition of social (real affordances) versus artifactual engagements we found in Gallagher is therefore enriched by the insight that most of our social encounters are already part of an artifactually mediated praxis, and the relevant distinction is now between such first-order practices and those that put these first-order practices on display in art.

Claim (2) makes Noë's theory one that has aesthetic judgments, appreciation, and the value of art at its heart. He is not interested in simple aesthetic responses – such as liking or enjoying an artwork – but rather evaluations and engagements of a different kind. Aesthetic experiences, therefore, differ from other experiential states: "Aesthetic seeing, in contrast, is something more like the entertainment of thoughts about what one is looking at" (Noë,

¹³ I have throughout this paper avoided addressing the relation of art and aesthetics and I will not attempt to define their relation now. The theories I discussed so far, focused on relational accounts of our experience of art and cultural artifacts. Also in Noë's account the concept of art and aesthetic experience largely collapse because both are described as a practice of reorganization.

¹⁴ This "ineliminable entanglement" of art with its media and first order practices is especially addressed in Noë (2017) and his contribution to the present volume. He therein claims that it has also been the hidden though true focus in *Strange Tools* (2015). As before, I will deal mostly with practices related to visual art; Noë's view explicitly highlights language, dance, and other practices that can become art. The empirical approaches he discusses remain confined to the visual domain though.

2015, p. 51f.). Although not made explicit, his second point brings him close to conversational theories about aesthetics that can at least be traced back to Wittgenstein posthumously published *Lectures and Conversations on Aesthetics, Psychology and Religious Belief* (1966). Wittgenstein emphasizes the necessary dialogical dimension when it comes to questions regarding aesthetics: such questions are settled by availing oneself of further descriptions, and by demonstrative and comparative criticism of particular artworks (see Carroll, 2011). From such a perspective, experimental approaches in psychology look ill-suited to contribute to this conversation.¹⁵ In a similar vein Noë criticizes empirical aesthetics for focusing too much on how we *perceive* artworks and for not properly addressing the question of *why we value* art, and how we engage in such a discursive context. The closest neuroscience comes to answering the question of the value of art, or so he argues, is by looking into preference or beauty judgments (Noë, 2011; 2015, p. 96). Yet, as already also Wittgenstein argued, referring to beauty is not helpful in demonstrating the quality of an artwork, and, as Noë additionally remarks, since not all art is beautiful and not everything that is beautiful should be valued as art, such a focus misses the mark.

What Noë proposes as a theory of art is an interesting step beyond the enactivist accounts discussed so far. Yet also here I will try to push back against his dismissal of empirical aesthetics on two counts.

(a) I want to start with beauty as part of our appreciative practice. Noë is in good company dismissing beauty as a relevant response to art.¹⁶ But, even if it is obvious that beauty does not constitute the most important candidate to capture our appreciative practices, this does not completely disqualify its role for a study of art appreciation. Beauty may not be the foundation of aesthetic experience, but it is a real, important, and often puzzling aspect of it. Ignoring the hedonic aspect inherent to beauty might therefore be a mistake. One has to be careful to distinguish different components or variants of beauty, though. As Levinson (2011) has claimed, beauty comprises attractiveness (physical beauty), artifactual beauty (perceived beauty of an artifact that fulfills the function it was designed for), and others, which all might be different from artistic beauty. Empirical aesthetics has started to devise paradigms that dissociate different beauty responses and aim to identify what the respective beauty concepts track and how they relate to other measures.¹⁷ On the basis of such distinctions one could therefore progress to address whether some beauty responses might be more relevant than others. And, in general, such distinction should precede consideration of a general dismissal of beauty as irrelevant in all contexts of our appreciative practice.

Moreover, beauty does not seem to merely guide the responses of more art-naïve participant. In a study we conducted in our group, we compared ratings of art professionals and laymen on randomly chosen examples of renaissance and 20th century art (taken from a textbook on art history). We found that for both groups beauty ratings highly correlated with liking, indicating that beauty might indeed capture something about the evaluation of art (Prinz et al., *forthc.*). The interpretation of these data is complicated, but one general

¹⁵ “Aesthetic questions have nothing to do with psychological experiments but are answered in an entirely different way.” (Wittgenstein 1966, p. 17)

¹⁶ It is almost a truism that 20th century art severed the link between beauty and artistic success. For a proper defense of this position, see Danto (1997).

¹⁷ Schulz and Hayn-Leichsenring (2017), for example, explore our evaluation of portraits in art and found that attractiveness ratings require less time to be settled than artistic beauty judgments (the latter are also subject to greater revisions). Such an experiment on its own does not say much about an appropriate appreciative practice, yet it contributes to an understanding of what different evaluative beauty judgments might track in art.

line of thought is that beauty experiences might be a consequence of our successful cognitive evaluation of an artwork (and therefore also of a successful re-organizational practice) and constitute a category we apply after we had an understanding of a specific artwork, artform or style.¹⁸ This is expressed in the correlation of liking and beauty even for 20th century art, art that often has an even anti-aesthetic bias. There is some acknowledgement of a related point even in Noë. In the endnotes to his book he discusses the possibility that “the works of an artist—think Andy Warhol, for example—can become beautiful; for these works can contribute to the changing of the very criteria of evaluation by which we aesthetically assess this work itself” (Noë, 2015, p. 327).

Yet, beauty remains a too wide response for Noë. It belongs more to the first order practice of valuing than specific to the re-organizational quality of art. I concede this point. But what I would argue instead is that Noë’s view on art might, in turn, be too narrow and demanding. It therefore misses out on important elements of our appreciative practice. In other words, he seems to provide a normative theory of what good art is supposed to do without looking into how our actual practices of appreciation unfold. He therefore posits an axiology, a theory of the values employed in art, that is an auto-axiology, so to speak, while empirical aesthetics aims to identify such values in a bottom-up fashion. This might turn out to be a more tedious, incremental endeavor than some philosophers interested in art are willing to undergo. It might contain sidesteps and dead-end experiments that in many cases neither get the proper art object (to go back to the point of Hutto) or the work of art (in Noë’s sense of a form of practice) into view. Despite all this, I still believe that our evaluative practice of art can and has to be studied empirically. To illustrate this: many claims about factors that influence aesthetic judgment (motor engagement, posture, mood, culture, social class, background beliefs) are empirical and require testing to confirm. Philosophy and empirical approaches therefore have to interact in order to advance the understanding of why we value art.¹⁹

(b) The final point I want to make is that empirical (neuro-) aesthetics is not confined to either perceptual states or to beauty and preference judgments. Take an example Noë discusses himself: neuroimaging studies on “intense aesthetic experiences”. Vessel and colleagues (2012) presented participants with reproductions of visual artworks and asked them to rate them (from 1-4) based on “how moving” they found them. It turned out that only artworks that were rated highest elicited activations of the “default mode network” (DMN). This is a network whose activity normally correlates with states of rest, day-dreaming or processes related to the self and whose activity is suppressed in exteroceptive-oriented tasks. The finding therefore is surprising: interacting with highly moving visual art generates processes that seem to be inward-oriented and to implicate the self. Noë takes this study as an example of how neuroaesthetics misses out on what characterizes aesthetic experiences (“I doubt that we can operationalize aesthetic experience this way [in ratings from 1-4]”, Noë, 2015, p. 131) and how it overreaches by making essentialist claims about our aesthetic experiences and processes of the self (“it is unclear what we should make of the putative correlation between such activation and [...], aesthetic experience”, *ibid.*).

18 In favor of such a position speaks that with higher art expertise higher beauty ratings are given for more contemporary art, e.g. artworks that are more abstract (Pihko *et al.*, 2011).

19 One could therefore see Noë’s position on second order practice as an important contribution to this kind of interaction and not as a conversation stopper. As such it could contribute to a “cooperative naturalism” as it is defended in Smith (2017). Such a position differs from the reductive naturalistic philosopher, on the one hand, or the “cherry picking” type, on the other, that includes “isolated scientific discoveries for the purposes of decorating non- or anti-scientific speculations than in combining the methods and insights of the human and natural sciences.” (*Ibid.*, p. 3).

Regarding the very same study one could also arrive at a quite different assessment. First of all, I don't see it as just another study on aesthetic experience. Participants had a more complicated task: they were supposed to consider whether they would recommend artworks to an art museum based on their personal experiences.²⁰ Those value ratings were then correlated to neural processing (they, e.g., implicated stronger activation in certain neural networks that have been correlated to specific practices of valuing in previous studies). The main outcome of such research does not have to be essentialist by targeting the 'neural correlates of aesthetic value' (or aesthetic experience respectively). It rather could be used to support claims regarding processes of valuing and those components that play a role in art evaluation (altering our understanding of those components). As such, the finding that only highest ratings implement a specific network of brain regions normally not correlated to exteroceptive engagements invites interpretation. Does something change when we highly value art? How does such valuing relate to preference or beauty judgments? Neuroaesthetics here could contribute to the conversation on art as well. Just take the DMN: Its activity is not only correlated to processes of the self, it recently has been suggested to be involved in the re-structuring of concepts and the evaluations of what could be considered pure possibilities (Feldman-Barrett, 2016, pp. 312-320). Both, re-evaluation of processes central for our identities and the exploration of possibilities through art, are also elements that enactivists have been ascribing to art (see the discussions of Noë and Gallagher above). It is true that identifying neural correlates is in itself seldom informative, but situating these finding and relating them to different practices of valuing should be within the conversational moves also of philosophers of art.

The cursory treatments in the last paragraphs might not have been enough to convince philosophers that insist on the precariousness of aesthetic experiences or the radical re-organizational character of art of the value of empirical approaches to the arts. I agree that in lab settings and given the reliance on averaging data across participants, one should also not expect to find more than traces of such activities.²¹ Yet even if such engagements are rather elusive, this should not prevent us from devising more studies to further our understanding of aesthetic experiences as well as the appreciation of *art as art* using a multitude of paradigms, including neuroaesthetics.

5. Conclusion

In this paper I argued that enactive theories of art do away with empirical approaches to the arts too easily. I reviewed radical enactivists' (Hutto, 2015) claims that our engagement with art is extensive and artifact-including, an embodied-enactive account of the different kind of affordances artworks provide (Gallagher, 2011), and an account of art as a second-order practice (Noë, 2015). Common to all enactivist accounts is their dismissal of internalist tendencies in empirical approaches to the mind. They propose different versions of externalisms against it. For art experience and evaluation they claim that the specific object we engage with (including its material properties) as well as the specific kinds of engagement (pertaining to what makes and encounter aesthetic or of an artwork in a relevant sense)

²⁰ Vessel *et al.* therefore also refer to those ratings as "recommendations" (2012, pp. 2-10). The experiences that participants were instructed to take into consideration for this task include the 'beauty' but also the 'ugliness' of the stimuli (both as putative positive features), and other quite disparate states. with a focus on how moved they personally were.

²¹ Many studies in neuroaesthetics additionally go beyond such a generalization by differentiating the responses of the whole participant group from more individual responses (or those of subgroups), providing thereby two forms of analysis; see e.g. Jacobsen *et al.* (2006).

should gain center stage. Especially neuroaesthetic approaches to the arts, so they argue, ignore the co-constitutive role of the artworks for the aesthetic experiences states and undercut the relevant levels of engagement. They therefore commit horizontal (i.e., ignorance regarding extra-neural properties of body and cultural artifacts) as well as vertical mistakes (i.e., ignorance regarding the more high-level, governing structures of our art engagement). Although I agree with many lines of this criticism, I have argued that a more qualified look at the field of empirical aesthetics reveals explanatory relevant research also for claims enactivism should be interested in. As I have shown, Gallagher's criticism of motor accounts in aesthetics ignores certain traits of those accounts that could be employed to answer his worries. In general, I argued for a more inclusive treatment of neuroaesthetics that avoids the, in my view, overgeneralizing dismissals found in Hutto and Noë. The specific properties of cultural artifacts and artworks as well as our extensive, embodied engagements with them can be studied in neuroscientific projects, and empirical approaches to valuing should inform our theories of evaluative practices in the arts.

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