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THREE VARIETIES OF AFFECTIVE ARTIFACTS: FEELING, EVALUATIVE AND MOTIVATIONAL ARTIFACTS[1]

abstract

Inspired by the literature on extended/scaffolded mind, a debate concerning the contribution of extra-bodily resources to our (extended) emotions is recently gaining traction. Within this debate, inspired by the literature on cognitive artifacts introduces the notion of "affective artifacts", indicating those objects that exert persistent effects on our feelings, possibly altering our self. However, by focusing on feelings, this notion neglects other facets of emotional episodes. Following Scarnatino's tripartition between feeling, appraisal, and motivational theories of emotion, I present three varieties of affective artifacts: Feeling, Evaluative and Motivational Artifacts.

keywords

extended mind, emotions, feelings, cognitive artifacts, extended emotions, extended affectivity.

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THREE VARIETIES OF AFFECTIVE ARTIFACTS:

1. Introduction

Over the last twenty years, several philosophers of mind have entertained the possibility that extra-cranial and extra-bodily resources contribute to mental states. According to the Extended Mind Hypothesis based on Parity Principle (Clark and Chalmers, 1998), extra-bodily objects (e.g. a notebook) can play a constitutive role in implementing mental states (e.g. beliefs), provided that certain conditions are met (e.g. that the notebook is a source always available to, and trusted by, the user). Other flavors of the Extended Mind emphasizing the Complementarity Principle (Menary, 2006), or similar theses such as the Scaffolded Mind hypothesis (Sterelny, 2010) also recognize the contribution of extra-bodily resources to mental processing, although they tend to assign them a supporting role rather than a constitutive one. Regardless of the role that external objects are playing (be it constitutive or merely supporting), the fact that they contribute to cognitive tasks qualifies them as cognitive artifacts (Heersmink, 2013; Norman, 1993).

Recently, philosophers began to wonder whether not only 'epistemic' mental states, such as beliefs, but also affective phenomena, such as *emotional episodes,* could be extended to external resources (Carter *et al.*, 2016; Colombetti, 2017; Colombetti and Roberts, 2015; Slaby, 2014; Piredda, 2019), or at least scaffolded by them (Colombetti and Krueger, 2015; Griffiths and Scarantino 2009; Krueger 2016b; Stephan *et al.*, 2014. For some discussion on the differences between the two approaches see Krueger and Szanto, 2016; Maiese, 2019). The list of external resources evoked within this debate includes other human agents (Leon *et al.*, 2017), primary intersubjectivity (Candiotto, 2016), affective affordances (Caravà and Scorolli, 2020), affective atmospheres (Slaby, 2016), affective arrangements (Slaby *et al.*, 2019), and social norms and institutions (Gallagher, 2003; Griffiths and Scarantino, 2009; see also Ekman, 1972 on display rules).

However, in this paper I am only concerned with a specific kind of external resources: namely, *artifacts* involved in emotional episodes (roughly corresponding to what Krueger [2018] calls "material scaffolding"). The literature abounds with examples of such objects, including music players (Colombetti and Krueger, 2015), autobiographical diaries (Colombetti and Roberts, 2015), and Catholic confessionals (Griffiths and Scarantino, 2009). In a recent paper, Piredda (2019) offers a philosophical analysis of such objects, which she dubs 'affective artifacts'. Inspired by the literature on cognitive artifacts (e.g. Heersmink, 2013; Fasoli, 2018), she construes affective artifacts as objects that have "the capacity to alter the affective condition of an agent, thus contributing to her affective life" (2019, p. 7); she adds that they are "objects with which the agent entertains a constant and persistent affective relationship"

(p. 8), thus contributing to the construction of one's extended self (see also Candiotto and Piredda, 2019); and she specifies that "should we lose such a personal affective artifact, this would alter our affective condition" (Piredda, 2019, p. 8).
This notion is a welcome addition to the literature, as it deals with some central aspects of our affective lives, namely our feelings. But does it account for every possible facet of emotion – or, more modestly, of occurrent emotional episodes? In this paper, I aim at broadening the scope of the notion of affective artifacts, showing that they can meaningfully interact with other facets of emotional episodes.
To do so, I will adopt a rather simple notion of artifact, bracketing many of the controversies that surround the metaphysics of artifacts (see for instance Franssen *et al.*, 2014; Preston, 2018). The Stanford Encyclopedia of Philosophy offers the following ecumenical definition of artifacts: "tools that have been designed for, and are commonly employed for, some specific function" (Preston, 2018). While the relation between proper function (the function tools have been designed for) and system function (the function tools are actually employed for) is a central knot in many discussions in the philosophy of artifacts, for the sake of simplicity in this paper I will readapt the definition above smoothing the conjunction into an inclusive disjunction:

> Artifacts $=_{def}$ tools that have been designed for, *or* are commonly employed for, some specific function.

As I will discuss, the kind of function they play will then offer a criterion according to which they can be sorted out.
My discussion will proceed as follows. First, in section §2 I present Scarantino's distinction between three clusters of emotion theories, which put the emphasis on different features of emotional episodes: the appraisals, the physiological and phenomenal feelings, the motivation push toward certain behavioral outcome. Following his tripartition, I sort out three varieties of artifacts, depending on which of the abovementioned features they primarily affect (§§3—5). Finally, I sum up and make some general considerations (§6).

2. Dissecting emotions to sort out affective artifacts

Paraphrasing Augustine's famous quote about time, Fehr and Russell once remarked that: "Everyone knows what an emotion is, until asked to give a definition. Then, it seems, no one knows" (Fehr and Russell, 1984, p. 464). When back in 1981 Kleinginna and Kleinginna surveyed the literature looking for a unified definition of emotions, they found 92 distinct definitions (along with 9 skeptical statements that argued against their definability), to which they added their own. Neither a consensus has emerged over the following decades. Indeed, while many theories agree on the properties that emotions in general *tend to* have, as well as on many properties that specific emotions most likely instantiate, they often disagree on which of these properties are *essential* and which are *contingent*.
To put some order into the debate, Scarantino (2016; 2018) has taken into account several prominent theories of emotion across the centuries (both scientific and philosophical), and sorted them into three traditions – perhaps at the price of some simplifications. Each tradition privileges some criteria for sorting emotional episodes into specific emotion kinds (e.g. for distinguishing episodes of disgust and fear); and for establishing what is an emotion and what is not. They are the following:

a. *The evaluative tradition.* Theories belonging to this tradition regard some kind of evaluation about salient situations or stimuli as a central feature of emotion. Importantly, this tradition branches into two distinct approaches – i.e. the constitutive and the causal.

According to the former, these core evaluations are themselves emotions (e.g. Nussbaum's neostoicism [Nussbaum, 2001]), whereas for the latter evaluation is but a necessary condition among others[1]. While these theories have the merit of nicely accommodating the normative dimension of emotions, a common objection raised against them is that they sound overly intellectualistic (but see Colombetti, 2007). Yet, they have trouble accounting for recalcitrant emotions: an example would be those situations in which a stimulus that we would not consciously consider dangerous still evokes reactions typical of fear (notably, in phobias).

b. *The feeling tradition*. According to feeling theories, an emotion is essentially a feeling. This set obviously encompasses Jamesian and neo-Jamesian theories that vindicate a pivotal role for the autonomic system's activities, as well as older and newer theories that rather emphasize phenomenal feelings (e.g., Descartes and Hume; Kriegel, 2014; LeDoux and Brown, 2017). Both a merit and a flaw can be ascribed to theories of this tradition, particularly with regard to their phenomenal variants. On the one hand, assigning a prominent role to feelings possibly makes these theories closer to the everyday notion of emotion than the alternatives (e.g. Panksepp, 2000; but see Scarantino, 2016, fn. 3). On the other hand, the well-known problems of introspection (Schwitzgebel, 2019) make it hard to operationalize them.

c. *The motivational tradition.* Theories within the motivational tradition construe emotions as specific patterns of behavior, or at least as dispositions to enact behavioral patterns. This set includes a broad range of accounts, including behaviorism (here Scarantino enlists Watson and Skinner), evolutionary psychology (e.g. the affect program tradition), but also social constructionist account (according to which emotions are culturally-shaped constructs that serve some social purpose). This tradition is rather popular among scientists because behavior is easier to measure than phenomenal states, as well as allowing for cross-species generalizations (see Adolphs, 2017). One problem with these approaches (at least from the philosophical standpoint) is that typically they fall short of accounting for the intentionality of emotions. We are afraid *of something*, we feel guilty *about something*, and so on; but patterns of behavior (or dispositions to enact them) arguably lack this aboutness.

To put it roughly, theories from the evaluative tradition classify emotions on the basis of their input or triggering conditions; those from the feeling tradition on the basis of the inner mental and/or bodily processing; whereas motivational ones on the basis of the behavioral output or function of an emotional episode.

While harsh ontological disputes are being currently fought over which features shall count as the essential properties for emotions, some scholars (notably, Scherer, 2005) ecumenically acknowledge that emotions are complex phenomena with multiple components, neither of which more essential than others. Within the debate on extended emotions, Stephan *et al.* (2014), as well as Krueger and Szanto (2016) seem to endorse this ecumenical approach and invite to focus on the extension of specific components of emotions.

Moreover, within the embodied and enactive tradition, other scholars argue that, while conceptually separable, these components are but different flips of a same coin: for instance, Colombetti (2007) proposes to construe appraisals in terms of motor planning (rather than in the disembodied and intellectualistic ways in which they are typically construed). Caruana

1 Unsurprisingly, Scarantino mentions Scherer (e.g. 2005), who champions a multi-componential account of emotions, a representative herald of this approach; see the main text below.

(2019) leverages on neuroscientific evidence of a same neural basis for experience and expression to reject an ontological seizure between the two.
In this paper I shall not commit to any theory of what features – if any – are essential to emotions. Nor I shall commit to the claim that these features are ontologically separable. Rather, my aim is to discuss how each of these features – the feelings, the appraisals, the behavioral outcome – gets influenced, and sometimes perhaps even replaced, by some artifacts. Based on which of these three features is influenced (or mimicked), I propose to speak of *evaluative, feeling* or *motivational artifacts*, respectively.
As a matter of fact, the various features of emotions are highly intertwined. Hence, an artifact's influence over one facet of emotion is likely to reverberate onto the others. This may make the ascription of the artifacts to one class troublesome. Imagine the following scenario: a Geiger counter informs me about the presence of radiation in some environment (appraisal). This would probably make me sweat (bodily feeling) and willing to leave the area as quick as possible (behavioral disposition). *Prima facie*, we may think that the Geiger counter falls within all three classes of affective artifacts.
A similar situation may likely generalize to virtually every artifact. But then, if every artifact may belong to all three classes, is my three-fold classification pointless? Not really. Indeed, just like I do not commit to any deep ontological separation between the three sets of features of emotion, neither I do commit to any strong *ontological divide* between the three classes of affective artifacts, as if they were mutually exclusive. If someone is willing to argue that the Geiger counter eventually belongs to all three classes, I have no *apriori* reasons to deny this. More modestly, by describing this tripartition I propose a conceptual tool, which can be employed to shed light on some hitherto underappreciated aspects of affective artifacts.
Nevertheless, affective artifacts can be sorted out in the three classes on a weaker, merely epistemic reading. This can be done by establishing which features are primarily or more directly affected by the artifact. In the abovementioned scenario, the effects of the Geiger counter upon our feelings and motivations are only indirect, as they are mediated by its capacity to alter our appraisal of the situation, enabling us to make an otherwise unavailable evaluation. Thus, it shall be enlisted among the evaluative artifacts. Similarly, even though some evidence suggests that one's feeling may impact the appraisals of new stimuli (Schechter and Singer, 1962; see also Petrolini and Viola, 2020), an artifact that alters appraisals by targeting our feelings shall be enlisted among feeling artifacts.
Finally, notice that the class an affective artifact (primarily) belongs to is agent-relative. A motivational artifact that plays a communicative role for agent A will likely count as evaluative artifact for one or more agents B (and C, etc.). I shall come back to this issue in §6.

3. Feeling Artifacts

To feeling theorists, the essence of emotion is some bodily or phenomenal feeling. As these theories are likely the closest to commonsense views of emotions, most scholars in the debate on extended emotions arguably assume some form of the feeling theory. In order to stress the environmental resources that play a role in emotion processing, Slaby explicitly speaks of "'tools *for feeling'* as analogous to [extended mind]'s 'tools for thinking'" (2014, p. 44. Italics mine). Less starkly, Colombetti and Krueger talk about the affective-ladenness of handbags for some (usually Western) women:

> [a] handbag—including its contents—functions as a highly portable, self-styled collection of technologies specifically chosen *for regulating affect*: charms and tokens for good luck and peace of mind, *which influence* one's appraisal of, and ability to cope with, specific situations (2015, p. 7. Italics mine).

The italicized words are meant to stress that, while the authors surely acknowledge that handbags can exert some influence over its wearer's evaluations and motivations, these effects are presented as byproducts ('which influence') of its main and direct effect ('for regulating affect').

The idea of artifacts interacting with feelings is nicely captured by the characterization of affective artifacts recently offered by Piredda (2019). To restate, Piredda defines affective artifacts as objects that have "the capacity to alter the affective condition of an agent, thus contributing to her affective life" (2019, p. 7), and "with which the agent entertains a constant and persistent affective relationship" (p. 8), and whose loss "would alter our affective condition" (*ibid.*).

Just like the authors above, Piredda correctly acknowledges that the artifacts' impact on feeling reverberates into actions and reactions (Candiotto and Piredda, 2019; Piredda, 2019). However, in her discussion, feelings (rather than other aspects of emotions) are primarily at stake, as shown for instance in the following passages:

> Photographs are an example of affective artifacts, as they elicit memories of past events and, at the same time, move something within us: they make us *feel something* (e.g. happiness, sorrow, sadness) (Piredda, 2019, p. 3. Italics mine).
> a doll, a stuffed animal or any other toy can be considered an affective artifact for a child that always wants to keep this object with her in order *to feel good*, or to remain calm (*ibid.* Italics mine).

Piredda's constual of affective artifact may then be taken to constitute an insightful characterization of the class of feeling artifacts. In more general terms, and following the definition of artifacts provided in §1, I propose the following definition:

> Feeling Artifacts $=_{def}$ tools that have been designed for, or are commonly employed for altering (i.e. regulating, inhibiting, enhancing) some bodily and/or phenomenal state.

Classic examples include wedding photo books (which arguably evoke pleasant feelings), gothic cathedrals (meant to instill awe and admiration), movies and other objects of art, or even roller coasters (prompting some mix of fear and amusement). However, some artifacts originally conceived and built for a different purpose may end up becoming a feeling artifacts. For instance, "someone could invest affective value in a post-it that was accidentally in her pocket when she received a life-changing phone call" (Piredda, 2019, p. 11). But redeployments need not be idiosyncratic: cases of social redeployment also exist. For instance, think about vintage cars: their original function of serving as vehicles is overshadowed by their affective (and aesthetic) value. The social nature of this fact is witnessed by the existence of a market and of institutionalized meetings for vintage cars owner[2].

Moreover, the literature on cognitive artifacts usually disregards objects lacking representational properties (but see Heersmink, 2013) and tends to prefer enduring objects over consumables. Yet, as long as one's theory recognizes the centrality of arousal in emotion (as most do: see Feldman Barrett and Russell, 1999), consumable substances such as coffee

2 However, as redeployment of some artifact becomes widespread and institutionalized, its novel purpose may eventually subside the original one as "primary function". Similar challenges are the bread and butter of the philosophy of artifacts (see Preston, 2018).

and marijuana will fall within the definition, as they are thought to increase (Smith, 2002) and decrease (Russell and Mehrabian, 1977) arousal.
It is worth stressing that, since bodily and phenomenal feelings do require a body and a mind, they can be *scaffolded*, but never totally *offloaded*, to artifacts (cf. Stephan *et al.*, 2014, p. 74). This requirement might be loosened for evaluative artifacts, and even more so for motivational artifacts, as we will see below.

4. Evaluative Artifacts

Theories within the evaluative tradition put judgments of the form "X is dangerous" or "I deem my behavior Y blameworthy" at the core of their account. Dating back to stoicism, evaluative theories used to be in vogue among (analytic) philosophers, since they allow to treat emotions as one more kind of propositional attitude, along with beliefs and desires (see Scarantino, 2016, fn. 3).
According to evaluative theories, emotions *are* (*or* at least *involve*) judgments about something, depending on whether they assign a constitutive or causal role to such judgments. Importantly, only constitutive approaches take claims about judgments to be necessary and sufficient conditions for an emotion, thus representing an alternative to theories belonging to different traditions. On the other hand, as Scarantino puts it: "[t]he causal approach [...] is at least in principle compatible with the idea that emotions are essentially feelings or motivations, because it only claims that emotions are caused by evaluations while (at least potentially) remaining agnostic on what emotions are" (2016, p. 15). However, Scarantino also describes some theories that fall somewhere in the middle between the two approaches. These theories regard judgments (or 'appraisals') as being both a cause and a proper part of a multicomponent emotion (here again the reference is to Scherer [2005]). Therefore:

> Evaluative Artifacts $=_{def}$ tools that have been designed for, or are commonly employed for supporting or replacing a human agent in assessing some salient situation or stimuli.

To my knowledge, within the debate on extended emotions only Carter *et al.* (2016) explicitly frame their discussion on the background of the evaluative theory. More specifically, they target theories according to which judgments are (at least) part of the emotion. They argue that, if some cognitive judgment is a necessary ingredient for emotion, and if our cognitive processes are scaffolded by external resources, it follows that some emotions can be partially scaffolded by external resources.
Interestingly, rather than evoking novel types of artifacts, Carter and co-workers exploit Clark and Chalmers' (1998) classic example, a notebook. However, they elaborate on the scenario so that the information retrieved from the notebook triggers some emotional judgment. In one of their examples, Lauren, a vocalist, overhears a conversation about the bad performance that a singer gave at a given café last Saturday. Since her biological memory informs her that *she* was the one playing at that café last Saturday, she gets angry. In a similar situation, Lauren*, Lauren's alter-ego with impaired memory due to her Alzheimer disease, would rely on her trustworthy notebook to gather the same information. Thus, for Lauren* it is the notebook – rather than her memory – that prompts an emotional reaction. Noticeably, here the notebook is first and foremost a cognitive artifact employed to scaffold or subside memory. Then, *a fortiori*, it might also count as an evaluative artifact *qua* cognitive artifact.
An example along the same lines is evoked by Stephan and colleagues (2014, p. 74):

> consider Otto's cousin Arnold, an autistic person incapable of directly perceiving and recognizing the emotional states of others in social interactions. If Arnold is equipped with a headset camera connected to a computer running a program for decoding human emotional states, his appraisal system is supplied with online information in real time about the emotional states of his interaction partners.

Further examples may be found. For instance, xenophobic parties' propaganda poster depicting members of some ethnic group as dangerous may scaffold appraisals of fear in some observers. A handbook on mushrooms might count as an evaluative artifact for disgust, as it scaffolds judgments about which foods should not to ingested. On the other hand, a road sign may work as an evaluative artifact for fear, as it informs about some specific danger along the road. Similarly, metal detectors in airports and other public places scaffold the guards in evaluating the dangerousness of passengers; good and bad marks in exams might be seen as artifacts suggesting that a certain performance is worthy of pride and shame, or even happiness and sadness.

Just like cognitive artifacts may be further classified based on which kind of contribution they provide to cognitive tasks (Fasoli, 2018), evaluative artifacts may be distinguished based on how they contribute to our appraisals. Some, like road signs, merely scaffold our judgments by emphasizing some information that we may fail to notice without them. Others, like the Geiger counter mentioned at the end of §2, or Lauren*'s notebook discussed above, provide information that would be otherwise unavailable, thus playing a constitutive role. Still others, like the mushroom handbook, might even substitute the role of our emotional judgment altogether. A scholar committed to the constitutive variant of the evaluative theory may want to embrace the counterintuitive thesis that the judgments contained in the handbook are themselves emotions; *whereas* the majority of scholars will rather say that the non-emotional judgments in the book prevent the triggering of disgust, and *vicariate* its role by eliciting the corresponding behavior (i.e. avoid ingestion) via a non-emotional route[3].

The distinction between synchronic and diachronic artifacts introduced by Griffiths and Scarantino (2009) seems particularly relevant for evaluative artifacts. Usually, feeling and motivational artifacts can influence an emoter's behavior only when they are in a synchronic coupling with her. Instead, evaluative artifacts can either work synchronically, by informing or substituting a specific appraisal, or diachronically, by shaping her future appraisal via some learning mechanism (being it explicit or not). The notebook employed by Lauren* or the metal detectors are examples of evaluative artifacts that work synchronically, whereas the xenophobic party propaganda posters exert their effect diachronically. Still other artifacts, such as the mushroom book, can work either way: we can study it and keep it in our library when we look for mushrooms, thus exploiting its appraisal-shaping potential diachronically; or we can bring it with us and check it anytime we find a mushroom, to check its edibility synchronically – although apps for smartphones are under development to provide quicker mushrooms-judgments.

The diachronic effect of external resource on appraisal is best seen if we move from artifacts to something more abstract, such as cultural norms. While in this paper I mostly

3 Accepting that the very statements printed in the mushroom handbook *constitute* genuine instances of disgust may sound counterintuitive. However, this conclusion seems to logically follow from the adoption of *both* the constitutive version of evaluative theories of emotion (according to which disgust boils down to judging something as noxious) *and* the thesis of extended emotion (according to which emotions need not be constrained within an agent's body). Hence, such conclusions may be employed as intuition pumps against the conjunctions of these two theses.

focus on physical objects, socio-cultural norms are probably the most interesting kind of external resource to take into account when examining affective artifact from an evaluative perspective (Griffiths and Scarantino, 2009; Slaby *et al.*, 2019). An interesting example here may be represented by Ekman's (1972) Neurocultural Theory. Within this theory, most discussions focus on the controversial *display rules*, that is, a set of social norms that prescribe when it is appropriate to show the facial expression of some emotion and when it is best to inhibit it. Yet, Ekman also predicted that cultural norms influence the appraisal of the same elicitors in different circumstances. For instance, confronted with the news that their son died on the battlefield, a modern mother and one from ancient Sparta might react in different ways. Arguably, the former would cry and the latter would smile proudly, because their cultural norms lead them to appraise a similar situation in terms of different emotions, such as despair and pride. That said, most scholars would be recalcitrant to treat something as abstract as social norms as an artifact. Therefore, even if the investigation of how social norms scaffold emotional judgment undoubtedly represents an interesting endeavor, this is a task for another day.

5. Motivational Artifacts

Roughly speaking, motivational theories see emotions as means to do something. They might identify emotions with certain behaviors (as behaviorists do), or more prudently with an increased disposition to enact them (notably, this is the case of Frijda [1986]). Many of these theories are inspired by evolutionary considerations, and maintain that "each emotion evolved to deal with a particular, evolutionarily recurrent situation type" (Tooby and Cosmides, 2008, p. 117), such as foraging and mating. In other words, emotions play some teleological functions which are pivotal for the survival of the individual and/or the species. The paradigm case of emotions on this view are the so-called basic emotions, whose working recalls that of Fodorian modules (Griffiths, 1990), since they (can) bypass consciousness, arguably by exploiting some subcortical route to achieve fast-and-frugal reactions (Tamietto and DeGelder, 2010)[4]. However, the motivational tradition also includes theories that essentially see emotions as tools playing some social roles. For instance, the facial expressions that Ekman-friendly theorists viewed as vestigial byproducts of some evolutionary behavior may be reinterpreted as tools for social communications (Fridlund, 1994. For a discussion see Griffiths and Scarantino [2009]. For an evolutionary view that also embeds considerations about social roles, see Shariff and Tracy [2011]). Accordingly:

> Motivational Artifacts $=_{def}$ tools that have been designed for, or are commonly employed for supporting or replacing a human agent in some (evolutionary or socially) relevant life task[5].

4 It might be worth noting that such kinds of phenomena are the most problematic ones for evaluative theories: indeed, scholars from these traditions sometimes argue that evaluations need no conscious cognitive processing and establish by *fiat* that every behavior is mediated by cognitive processes. Yet, in doing so they are likely to overstretch *ad hoc* the notion of judgments (see the instructive exchange between Lazarus [1982] and Zajonc [1984]. For a general discussion, see Scarantino [2010]).

5 Some have questioned whether such putative cases of motivational artifacts actually have to do with emotions. Indeed, the notion of "(evolutionary or socially) relevant life task" has vague and porous boundaries. Hence, the class of motivational artifacts risks to be over-inflated. I have a double rejoinder to this worry. On the one hand, recall that my classification has no ambition to capture some deep ontological truth about affective artifacts. More modestly, it is a conceptual toolbox aimed at prompting reflections on how several features of our affective lives can be scaffolded/offloaded onto artifacts. As such, the broad scope of this class of affective artifact may represent a virtue rather than a flaw. On the other hand, parallel to the case of evaluative artifacts (see fn. 3), such examples represent several cases of *reductio* of the conjunction of the extended emotion thesis *plus* the motivational theory of emotion.

To the best of my knowledge, thus far the extension of the motivational properties of emotions via some artifact has only been discussed by Stephan and colleagues (2014; but see Viola, 2020a). Building on the aforementioned case of Arnold, the autistic person with a camera that decodes the emotions from faces of the people he is speaking with, they go on imagining that his futuristic device may also elicit some action tendencies, e.g. suggesting when is time to interrupt a conversation.

But the boundaries of the class of functional artifacts can be further extended by considering not only what happens *upstream* but also *downstream* of a given emotional behavior, i.e. if we take into account those objects that interact with the possible behavioral outcomes of emotions, or that vicariate them. As soon as we consider such objects, we no longer need to imagine science fiction scenarios in order to meet motivational artifacts. In fact, they are already pervasive in our societies.

A most obvious case is disgust. To some psychologists, it is a part of the so-called behavioral immune system (Schaller and Park, 2011), whose scope is to prevent infections by avoiding possible sources of contamination. Indeed, during the Covid-19 pandemic, many countries made compulsory the use of facemasks. As I argues elsewhere (Viola, 2020b), facemasks may be interpreted as a part of technological immune system, enhancing the behavioral immune system represented by disgust.

Moving to less intuitive cases, take anger. Anger is often construed as a tool shaped by evolution to overcome obstacles and consists in preparing enraged agents to undertake aggressive behaviors, e.g. by mobilizing energy for boosting physical prowess. If so, then melee weapons such as clubs or axes are paradigmatic anger-enhancing artifacts, as they are built precisely to enhance the effectiveness of anger outbursts. However, ranged weapons such as bows or rifles recruit other mechanism to achieve the same objectives. In a way, they render the fight-enhancing function of "anger" obsolete, evolutionary speaking, and perhaps even detrimental (an angry sniper is probably less effective than a cold-blooded one).

Alternatively, consider the social function of anger, whose expression is sometimes taken as a means to intimidate enemies, so as to win a confrontation without undertaking actual risks. Again, historical warfare provides good examples of artifacts that mimic anger expression, from war paint to scary ornaments on armors or carriages. More recently, a (in)famous example of redeployed anger-mimicking artifact is provided by the atomic bomb, whose original purpose as weapon faded in favor of that of deterrence since the Cold War. Other examples of artifacts that mimic the intimidating function of anger might include the gallows in medieval towns, the Black Spot in the novel *Treasure Island*, or (moving from classical cases to creative redeployments) the horse head that some member of the Corleone family delivers to Frank Woltz to intimidate him in *The Godfather*. Notice that successful communication involves (at least) two agents, i.e. a sender a receiver. Whenever a motivational artifact fulfils a social role for the sender, it counts as an evaluative artifact for the receiver(s) – recall that the ascription of some artifact to a class is user-dependent.

Other nice examples concern fear. Traditionally, fear is conceived as a mechanism whose main function is to avoid threats (Adolphs, 2013). Throughout history, we invented plenty of tools to help us avoid specific threats. Some of them even to avoid threats in our place – to the point that they may quench our fear, as if we offload the need to feel afraid onto them. In ancient times, towns were surrounded by walls in order to prevent human or animal attacks. However, as technology develops, new threats emerge. Keeping that in mind, the plastic covers of electric wires also work as a straightforward case of artifacts onto which we offload the task of avoiding direct contact with electric wires (also because, evolutionary speaking, we are poorly equipped for appraising wires as a threat). Smoke detectors

with automatic water sprinklers rather represent a paradigmatic example of integrated evaluative-motivational artifact; and so do cars with automatic braking systems. Importantly, some artifacts *inhibit* or *prevent*, rather than enhance or vicariate, the biological or social tasks usually carried out by emotions. Policemen capturing some alleged dangerous criminal during a riot usually restrain him with handcuffs to inhibit both fearful and raging behaviors (e.g. fleeing and fighting back). You may also redeploy sunglasses as tools that prevent people from knowing that you are crying out of sadness. Or they can be used to prevent poker players to notice whether you like your hand (just beware of reflecting lenses!). In a sense, when thus used, sunglasses become a sort of artifactual analogue of Ekman's display rules. Again, if the evolutionary purpose of lust is to drive organisms to mate and breed, then a chastity belt may work as a paradigmatic artifact for contrasting the drives brought about by it (whereas if one settles for preventing breeding, condoms and other contraceptives might also do). Finally, when Ulysses' crew tied him up to the mast of the ship in order to prevent him from reaching the sirens, they redeployed the ropes (originally meant for governing the ship) as a motivational artifact for containing his lust. While undoubtedly many objects qualifying as motivational artifacts have had their share of attention by disciplines studying material culture, their connection with emotions is still underexplored. If we conceptualize human emotions as tools forged by evolution or culture to undertake some task, we can appreciate the relevance of motivational artifacts by trying to address the following question: what would happen to humankind if we only had to rely on these tools, i.e. emotions, barring the possibility to complement them with artifacts?

6. Conclusive remarks

In this paper, I aimed at broadening the notion of affective artifact, which primarily accounts for tools that alter *feelings,* so as to include artifacts that alter other facets of emotion: namely, *evaluation* and *motivation*. To do so, I have started from a deliberately noncommittal definition of artifacts as "tools that have been designed for, or are commonly employed for, some specific function". Then, I have classified affective artifacts according to which functions they play with regard of our affective lives, i.e. depending on whether they primarily alter/vicariate our *feelings*, our *evaluations*, or our *motivations* (see tab. 1 for a summary).

It is worth recalling that this categorization of affective artifacts is agent-relative, so that a same affective artifact may belong to different classes depending on which agents are considered. Notably, the medieval gallows mentioned in §5 count as a motivational artifact for a lord, as they allow him to display his rage *in absentia*, whereas they may count as an evaluative artifact for his servants. Noticing this paves the way for analyzing the phenomenon that Slaby (2016) dubbed *mind invasion*. In his view, a majority of the debate on extended cognition hinges on what he calls the *user/resource model*, i.e. the assumption that extension are due to "a fully conscious individual cognizer ("user") who sets about pursuing a well-defined task through intentional employment of a piece of equipment or exploitation of an environmental structure ("resource"))" (Slaby, 2016, p. 5). Such optimistic expectation has also dominated the debate on extended affectivity thus far. However, he warns us that sometimes the persons who deployed the external resources might differ from the cognizer/emoter on which these exert their effects. In this case, rather than being extended, the cognizer/emoter's minds are *invaded*. Among the other things, thinking in terms of affective artifacts, and adopting an agent-relative classification, may offer a useful heuristic tool to those interested in exploring the political import of mind invasions.

According to...	**Feeling theories** *(e.g. Hume; James, Kriegel, 2014; LeDoux and Brown, 2017)*	**Evaluative theories** *(e.g. Nussbaum, 2001; Scherer, 2005)*	**Motivational theories** *(e.g. behaviorism; Fridlund, 1994; Frijda, 1986)*
...emotions are	Bodily/phenomenal states	Evaluations about some salient stimulus	(Dispositions to enact) patterns of behaviors to address evolutionary or social life tasks
A corresponding artifact is a ...	**Feeling Artifact**	**Evaluative Artifact**	**Motivational Artifact**
	General working definition of an artifact tools that have been designed for, or are commonly employed for [some specific function]		
	...altering (i.e. regulating, inhibiting, enhancing) some bodily and/or phenomenal state	...supporting or replacing a human agent in assessing some salient situation or stimuli	...supporting or subsiding a human agent in some (evolutionary or socially) relevant life task
Examples	Handbags (Colombetti and Krueger, 2015), wedding rings (Piredda, 2019), coffee, marijuana	Notebook (Carter *et al.*, 2016), xenophobic propaganda poster, mushroom handbook, metal or smoke detectors	Sunglasses, weapons, war paint, self-braking cars, plastic covers for electric wires, Ulysses' ropes

Table 1. A summary of the three varieties of affective artifacts, based upon the tripartite classification of emotion theories by Scarantino (2016; 2018).

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