Seeing through the shades of situated affectivity. Sunglasses as a socio-affective artifact

Marco Viola

Rome 3 University, Department of Philosophy, Communication and Performing Arts,
marco.viola@uniroma3.it

Abstract: Debates on situated affectivity have been mainly focused on tools that exert some *positive* influence on affective *experience*. Far less attention has been paid to artifacts that interact with the *expression* of affect, as well as to those that exert some *negative* influence. To shed light on that shady corner of our affective social lives, I describe the workings of an atypical socio-affective artifact, namely sunglasses. Drawing on insights from psychology and other social sciences, I construe sunglasses as a social shield that help us blocking spontaneous emotional expressions, as well as other social processes that heavily depend on the eye region: gaze direction detection, identity recognition, and the sense of intimacy driven by eye contact.

Keywords: material culture; sunglasses; affective scaffoldings; emotional expressions; display rules.

Acknowledgements: I thank all my colleagues working on the research project FACETS for the many discussions about the face and facial accessories, Roberto Gamboni for the graphic editing. I am also very grateful to Marco Fasoli and Trip Glazer for their insightful comments on earlier versions of this manuscript. This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (Grant agreement No 819649 - FACETS).

Seeing through the shades of situated affectivity. Sunglasses as a socio-affective artifact

> Elwood: There's 106 miles to Chicago, we've got a full tank of gas, half a pack of cigarettes, it's dark out, and we're wearing sunglasses.
>
> Joliet Jake: Hit it!
>
> *The Blues Brothers*

1. Introduction: lights and shades in situated affectivity

Starting with Griffiths and Scarantino's seminal paper *Emotions in the wild*, philosophers have begun construing emotion not only as an internal state, but also as "a form of skillful engagement with the social environment that involves a dynamic process of negotiation mediated by reciprocal feedback between emoter and interactants" (Griffiths & Scarantino 2009: 443). Rejecting the internalist approach of classical cognitive science and smirking at the extended and scaffolded mind theses (Clark & Chalmers 1998; Sterelny 2010), several scholars have set up a research program on situated affectivity, aimed at exploring how affective states are influenced by the interaction between the organism and its environment (for a review, see Krueger & Szanto 2016; Stephan & Walter 2020).

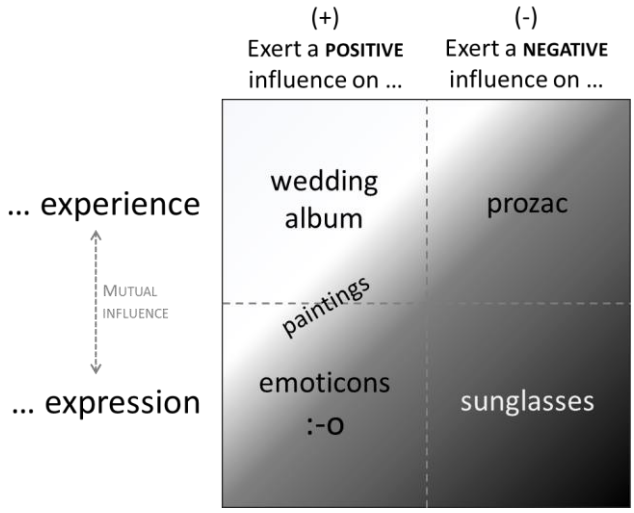
Building on the analogy with cognitive artifacts, i.e. the "tools for thinking" (Heersmink 2013; Fasoli 2018), the literature on situated affectivity is replete with descriptions of several "tools for feeling" (Slaby 2014: 36), i.e. items of material culture that influence affective states. Examples discussed in the literature include trendy handbags (Colombetti & Krueger 2014), autobiographical diaries (Colombetti & Roberts 2015), the digital and physical infrastructure of corporate offices (Slaby 2016), wedding albums (Piredda 2020), paintings (Saarinen 2019), music (Krueger 2019), coffee (Colombetti 2020), personalization algorithms (Heersmink 2021) – to name but a few. These objects are often called *affective scaffolds* (Colombetti 2020). Or, if they are man-made (as in the case discussed in this article) *affective artifacts* (Piredda 2020; Heersmink 2021).

Thus far, most analyses of such objects focused on their *positive* influence over the *experience* of affective states, i.e. tools that enable, foster, or maintain some affective feeling. Far less attention has been paid to artifacts that exert a *negative* influence on some aspect of our affective life, inhibiting or dampening some affective states. And yet, the capacity to prevent some harmful affective states is arguably the main reason why drugstores sell drugs like Prozac (mentioned, but not discussed, by Colombetti & Krueger 2015).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

Similarly, the literature has paid comparatively less attention to the *expression* of affective states rather than on their experience[1]. Take emoticons and emojis: intuitively, they may act as 'avatars' of our emotional expression, imbuing written texts with affective tonality like we do in oral communication[2]. Despite their prominence in our everyday lives seemingly suggests they are salient expressive affective artifact, to the best of my knowledge emoticons are barely mentioned in the literature (by Krueger & Osler 2019: 221), but no comprehensive analysis has been offered within the framework of situated affectivity.

Of course, expression and experience are mutually intertwined. On the one hand, we sometimes express our emotion. On the other hand, producing some emotional expression may provoke some affective reaction both in the oneself[3] and in the observers (motor contagion may underlie emotional contagion; see Palagi et al. 2020). But not only expressing some emotion matters for our affective lives: withholding them when they would be inappropriate may be equally important in those "dynamic process of negotiation mediated by reciprocal feedback between emoter and interactants" (Griffiths and Scarantino 2009: 443) that motivated the interest on situated affectivity in the first place. Therefore, in this paper I aim at shedding some light at the 'shady corner' of the realm of affective artifacts, describing an artifact that exerts a negative influence on expression: the sunglasses.



[1] The experience-over-expression bias is reflected in Piredda's very definition of affective artifacts as "material or non-material objects that have the capacity to alter the affective condition of the agent" (2020, p. 550). Or in Saarinen's (2019) emphasis on the fact that paintings do not only express affects once they are finished, but also that painting scaffold the painter's affective experience (fig. 1). Moreover, while Heersmink acknowledges that emotion needs not be reduced to experience and claims that he "will be neutral about whether emotions are feelings, evaluations, motivations, or a combination of these" (2021: fn.21), he suddenly hurries to reaffirm the primacy of experience, stressing that "at the very least, emotions are subjective states with a distinct phenomenology" (*ibid.*).

[2] The positive influence of artifacts upon expression often *substitutes* the emoter's own expression, whereas the positive influence necessarily *interacts* with one's expression. In other words, in the former case the artifact itself can *constitute* the expression, whereas in the latter it can only *scaffold* it (AUTHOR; cf. Fasoli 2018 on complementary, substituting, and constitutive cognitive artifacts). I thank Trip Glazer for nudging me to mark this difference.

[3] The facial feedback hypothesis holds that maintaining some facial expression promotes a corresponding feeling (e.g. smile promotes happiness). However, systematic replication attempts yield inconclusive results (see Coles et al. 2020).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

Figure 1. A partitioning of the domain of affective artifacts based on two variables: on the vertical axis, the aspect of affect they influence the most (experience/expression). On the horizontal axis, the kind of influence they exert (positive/negative). Positive influences include either scaffolding (e.g. triggering, enhancing, or maintaining) or constituting (e.g. substituting), whereas negative influences include inhibiting and reducing. Light and dark background is meant to exemplify the degree of attention the literature has paid to some tile until now.

The paper is structured as follows. First, I introduce some psychological insights on the saliency of the human face as a source of social information, including spontaneous emotional expressions (§2). Then I claim that we sometimes want to keep those spontaneous emotional expressions in check (especially the negative ones, conveyed by the eye region). By so doing, we display our self-control (§3). Sunglasses can help us doing this. I defend the view that the sunglasses are no mere shield from sunlight, but also social shields that help us hiding our negative emotions and displaying self-control (§4). Moreover, they can interfere with three other social functions of the eyes, namely gaze direction detection, identity recognition, and promoting intimacy via eye contact (§5). Finally, I make a recap and draw some general implications for the field of situated affectivity (§6).

2. The human face as a social and affective readout

The human face is likely the most salient object of the social environment. Face-like patterns as simple as two dots (the eyes) on the top of a third one (the mouth) (∵), attracts newborns' attention far more than other visual patterns, including the inverted pattern (∴) (Goren et al. 1975). Indeed, the attention-grabbing power of face-like patterns has been reported even in late-stage fetuses! (Reid et al. 2017).

This attention-grabbing power of face-like patterns does not fade away in neurotypical adults (Palermo & Rhodes 2007) – even when a face-like pattern turns out to be a *paraeidolia*, that is, a visual pattern that resembles actual faces only by chance (Keys et al. 2021). As soon as an item is detected (or *mis*detected) as a face, a cascade of social cognitive processes quickly follows, resulting in several categorizations with respect to several socially relevant information, including "identity, gender, sex, age, race, ethnicity, sexual orientation, physical health, attractiveness, emotional state, personality traits, pain or physical pleasure, deception, and even social status" (Jack & Schyns 2015: R621). Later (§5) we will discuss some other social processes involving the eyes. For now, let us focus on emotional expressions.

The relationship between facial movements and emotions has been a longstanding matter of debate in Western culture, pre-dating Darwin's milestone book *The expression of the Emotions in Man and Animals*. And it remains a hot topic in contemporary psychology. Several psychologists draw on Darwin's intuition that, although some facial movements currently play some expressive function, this communicative function is derived (or exapted) from a movement with direct significance for function (Shariff & Tracy 2011). For instance, the tendency to close our mouth, eyes, and nostrils conveniently reduces our exposure to noxious substances in the environment (Rozin et al. 2008).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

Building atop of this evolutionary framework, until a twenty years ago the mainstream view was that some emotions – typically "anger", "disgust", "fear", "happiness", "sadness", "surprise", and perhaps "contempt" (Ekman 1992) – automatically trigger specific and culturally-invariant patterns of facial movements. The most influential advocate of this view was Paul Ekman. His *neurocultural* theory of affective displays (Ekman & Friesen 1969) propose a rather convenient division of labor between nature and culture: the former accounts for universality, the latter takes the blame when universality is spoiled by some variability.

More specifically, Ekman posits that phylogenetic inheritance equips us with hardwired *affect programs* that trigger a series of behavioral responses for each emotion, including a stable pattern of facial expression (fig. 2). Cultural learning interferes with this core mechanism either *upstream*, by modulating what kind of events trigger a given affect program, or *downstream*, by exerting voluntary (albeit imperfect) control over innate facial expressions. This voluntary control is often exerted for the sake of complying with some cultural norms that prescribe when and for whom it is appropriate to display certain emotions. Ekman and Friesen (1969: 75) dub these norms *display rules*. So, for instance, when confronted with reports of samurai wives' lack of tearful reactions after hearing that their husband has perished in battle, Ekman (1989) counters this *prima facie* objection against his universality claim by means of two cultural explanations: first, their culture taught them that perishing in battle is an honor, and hence they could actually feel joy rather than sadness. Second, even if they are sad, a display rule endorsed by their culture prescribes that it is appropriate to withhold the expression of sadness in said circumstances.

Figure 2. A sample of posed facial expressions of Ekman's set of basic emotions from the Karolinska Directed Emotional Face database (Lundqvist et al. 1998). From left to right, top row: anger (AF23ANS), disgust (AF04DIS), fear (AM11AFS). Bottom row: happiness (AF07HAS), sadness (AM25SAS), surprise (AM14SUS). Static pictures like these ones have been used in studies on emotion reading for decades.

Ekman's legacy still looms large in psychology and neuroscience: many studies in affective science limit themselves to Ekman's categories, and many employed as stimuli posed static pictures as he

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

did[4]. However, in the last decades the tides are changing. Several criticisms were raised against the hegemony of disembodied face pictures, proving that the emotional meaning of face movements is modulated by bodily movements (e.g. Aviezer et al. 2012). And more in general, the relationship between facial movements and affective states in real life contexts is now considered to be more complex and more open to variability due to cultural, contextual, and individual factors (Barrett et al. 2019).

However, while most critics contend that the facial displays of emotions do not follow the rather stereotypical movements schemas posited by theories such as Ekman's, few scholars go as far as denying the following minimal thesis (a):

(a) at least some facial displays are spontaneous expressions of emotion.

Among those few we find the advocates of the Behavioral ecology view of facial displays. In their view,

> our facial expressions […] are not 'expressions' of anything. They have no intrinsic meaning tied to their morphologies, nor are they contingent upon any specific internal state. [Instead] our faces are 'social tools' that, like many animal displays, are used as lead signs of contingent action in social negotiation (Crivelli & Fridlund 2018: 388).

In short, they propose that the correct way to construe patterned facial movements is not as reflexes of some inner states. Instead, they defend the thesis (b):

(b) some facial displays are aimed at producing some effect within a social interaction.

Within such an account, the right question to interpret a facial display is not "what does she feel?" but rather "what does she want?". Here, Ekman's display rules are the quintessential *ad hoc explanation*, improperly invoked to protect the neurocultural theory from cross-cultural refutations. And a dubious one at that, both empirically and conceptually (Crivelli & Fridlund 2019).

These arguments against genuine expressions and display rules have some bite. Moreover, claim (b) will nicely account for the so-called audience effect, the finding that emotional expressions are likelier and more pronounced when someone is seeing them (Glazer 2019). Nonetheless, Crivelli and Fridlund do not settle for defending (b). To them, *all* facial displays must be interpreted under the lens of pragmatics. Hence, they reject (a). However, despite cultural and contextual variations, robust evidence from multiple sources suggests that *some* mappings between certain facial patterns and given emotions are pan-cultural after all (Elfenbein & Ambady 2002; see also Srinivasan & Martinez 2018; Cowen et al. 2021).

In a recent attempt to reconcile the strategic aspect of expression (b) with the spontaneous ones (a), Scarantino (2017) has articulated an influential account that merges and go beyond Ekman and Fridlund's theories. The gist is that facial displays do not play their social function *in lieu* of genuinely

[4] For instance, in their assessment of which kind of facial stimuli are employed in a corpus of psychological and neuroscientific journal from 2000 to 2020, Dawel et al. (2022) report that most article (>70%) employ either Ekman's own dataset (roughly 30%) or three datasets of posed static pictures that employs assumption and theoretical categories and largely mirror it (including that from which stimuli displayed in fig. 2 come from).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

expressing some emotion; they play it *in virtue of* a probabilistic link between the expression and the emotion known to be associated with its spontaneous production.

Though for the present purpose we do not need neither to explain nor to commit to the details of Scarantino's theory, for the remainder of this paper I will assume that he is right that (a) and (b), far from being mutually exclusive, are both true. Notice that both theses consist in existential rather than universal statements: they speak of *some*, not of *all*, facial movements.

3. Inhibiting emotional expressions

The picture resulting from the previous section is one in which the face can convey information for strategic purposes (b), but also leak some information about one's inner states, some of which we may rather want to keep private (a). Either under the label of 'display rules' (Ekman & Friesen 1969) or with other terms (e.g. "emotionology", Stearns & Stearns 1985), social norms that steer expressive behaviors away from the spontaneous-but-undesired expressions, toward the desirable-but-not-spontaneous ones, are a key topic in the psychology of emotion regulation, and figure prominently in the agenda of historians and sociologists of emotion. The notion of "emotional labor", introduced by Arnie Hochschild (1983), designates jobs in which the most burdensome onus is managing one's emotions and their expressions. Flight attendants, her main case study, used to be instructed and expected to suppress irritation and display kindness to passengers, because "their own job security and the company's profit rode on a smiling face" (104). But even outside emotional labors, in many contexts cultural norms prescribe to suppress negative emotions (Matsumoto et al. 2008).

In a recent essay, Glazer (2021) wonders whether cultural prescriptions to suppress some emotions clash with the recent cultural norms inviting to express oneself. His answer is negative. Rather than as insincerity, he claims,

> By holding my emotions in check, I demonstrate that I can delay gratification for the sake of adhering to shared norms of conduct. My emotions generate a natural motivation toward expression, and it is instantly gratifying to act on this motivation. Yet by resisting the temptation, by refusing to scratch my emotional itch, I show you that I am in control of my impulses (Glazer 2021: 185).

Within this framework, wearing a polite smile over a sulky face needs not be an attempt to deceive[5]. Instead, it can be a prosocial signal that one is ready to cooperate "as if" she was happy. Glazer's proposal broadly welcomes the core insight stressed by the Behavioral Ecology View, namely that facial expression can be strategic tools for social interaction (b). But that does not require us to deny that spontaneous expression of emotion sometimes occur (a). Quite on the contrary, this signal value of self-control *depends on the very fact* that suppressing spontaneous expressions requires some effort.

[5] Further supporting the idea that polite smiles are not meant as deceits, some psychologists distinguish between reward smiles (part of the so-called "spontaneous expression of joy"), affiliation smiles, and dominance smiles, all differing in functions and patterns of facial expressions (Martin et al. 2017).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

When it comes to efforts, one lesson that philosophy of mind has interiorized in recent decades is that some mental efforts can be conveniently offloaded to the external environment. And this happens quite often in our contemporary lives: just like the memory-impaired Otto offloads the task of remembering street addresses to his proverbial notebook (Clark & Chalmers 1998), I entrust my Google Calendar with my schedule for the upcoming week. The insight of the literature on situated affectivity is that other than classical "cold" cognitive processes like remembering or calculations, external resources also play an important role in producing, maintaining, and regulating affects. As hinted in the introduction, most discussions until now have emphasized experience over expression, and positive over negative influences. But in some circumstances, preventing a behavior requires more effort than enacting it. While most scaffolds assist us in *doing* something, some help us *not doing* something. In other words, they aid our self-control, or vicariate it altogether. Yahya (2021) has made a good case for a situated approach to self-control by discussing studies showing how embodied actions (clenching fist) and social context (addiction recovery groups) boost self-control. But her framework can be extended so as to make room for material objects and for cases that vicariate internal control rather than boosting it. A paragon of offloading self-control to some material scaffold is Ulysses: in order to resist the lure of sirens' chant, he orders his crew to rope him to the mast (cf. Viola 2021)[6].

So, to recap, environmental resources do not only help us *feel* in certain ways; they also help us *to avoid behaving* in certain ways. Can they also help us avoiding expressing some emotions? They surely can. For instance, Botox injections decrease the motility of facial muscles. While this is often seen as a negative side-effect, at the outset of the Covid-19 pandemics some plastic surgeons encouraged people to undergo Botox treatments *precisely in order to achieve this side-effect* (Nestor et al. 2020). Their argument is, in a nutshell: "Since facemasks prevent us from seeing positive emotions, whose identification heavily rely on the smile, to balance things let us get rid of negative emotions by blocking the eye region".

But arguably, there are less drastic means to prevent people seeing negative emotional expression. After all, the reason why they invoke Botox is to counter the expressive zeroing-out provided by facemasks. But facemasks do not hamper the expression of emotions by preventing muscular movements (although this may also occur due to a reduction of the audience effect). More likely, their expression-shielding effect depends upon the observers not seeing the expressions. Indeed, to satisfy the *desiderata* of the display rules we do not really need to prevent the emoter's muscles from moving; preventing the observer from seeing them may be good enough. As a matter of fact, while the very fact that facemasks hamper emotional expression (Carbon 2020) is often seen as an undesired consequence of mask-wearing, some anecdotal reports (Leone 2020; Carrie Wong 2021) indicate that some people appreciate the feeling of privacy yielded by mask-wearing, suggesting a possible redeployment of masks from being a (merely) medical tool to (also) social tool.

After all, as stressed by Glazer (2021), cultural norms do not require to convincingly fake genuine enjoyment smile. Often, all they require is that a subject puts up a polite, overt smile that signals

[6] Intriguingly, some engineers recently indicated Ulysses' roping as the paradigm for *anti-hedonistic systems*, i.e. artifacts built to prevent us indulging in certain urges (Scalera et al. 2017).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

that they accept to act "as if" they are happy to interact. Or, even more crucially, to avoid overtly displaying anger or similar hostile emotions. So, how do we shield negative emotional expressions?

As hinted when discussing facemasks, the mouth region tends to be pivotal in conveying happiness (due to smiles), whereas the interpretation of most negative emotions (disgust being an exception here) is more reliant on the eye region (Blais et al. 2012; Wegrzyn et al. 2017)[7]. Hence, the easiest way to (largely) hide the expression of (most) negative emotions is rendering the eye region unavailable to the others' gaze. Which is precisely what you get when you wear sunglasses.

4. Sunglasses as affective shields

Two recent studies performed in England (Noyes et al. 2021, study 3) and South Korea (Kim et al. 2022) compare the accuracy of emotion recognition on facial pictures wearing either facemask or sunglasses (or nothing at all). Their results confirm what we would expect from the previous literature and from commonsense: sunglasses confound the perception of negative emotions, especially sadness and fear.

Yet, just like emotion-hiding is just an undesired side-effect of facemasks, we might be tempted to think that it is only by accident that sunglasses shield part of our facial expressions from the gaze of bystanders. Their main *raison d'être*, we may think, is to protect our eyes from sunrays. After all, this what their name implies, and names are often good giveaways of an artifact's main function - think of *screwdrivers*, *fry*pans, and *freezers*. In Heersmink's (2021) taxonomy, sunglasses will probably belong to the set of perceptual artifacts rather than to that of affective artifacts.

Now, philosophers of technology tend to agree that artifacts *can* play many functions. Nonetheless, they also stress that not all functions an artifact may play bear the same weight. Of course, a screwdriver *can* be used to scratch my shoulder if it is itchy. And yet, scratching is not the *main* function of screwdrivers: this is not what designers have in mind when they develop new prototypes of screwdrivers. Nor is the main reason why people buy screwdrivers, bring them with oneself, and so on[8]. Intuitively, "turning screws" seems to be more intimately tied to screwdrivers' essence than "scratching itchy body parts". As a litmus test, imagine complaining with a shopkeeper because a screwdriver fares poorly at turning screws. Then imagine complaining because you have a hard time scratching your shoulder with it. In the former case, you have some chance to get a reimbursement.

[7] Notice however that due to the influence of Ekman's legacy, most psychological studies on facial expression only test (a sub)set of emotions that he (Ekman 1992) described as basic, namely anger, disgust, fear, happiness, and sadness.

[8] These two examples reflect two rival accounts of what determines the normative properties of artifact. According to intentionalists (e.g. Houkes & Veermas 2004), the normative function of an artifact is ultimately established by the designers' intention. Whereas the nuanced historicist account defended by Preston (2013) maintains that, in analogy with the late Wittgenstein's theory about what determines the meaning of words, the normative functions of artifacts are determined by the many uses the collectivity does of the tokens of an artifact, which promote its reproduction *qua* artifact type. For the present purposes, I settle for arguing that the social functions of sunglasses *do bear* some normative relevance, but I do not attempt to explain *what motivates* this status. Doing so will require to take side with some account of artifact functions, which is beyond the scope of this paper. For the same reason I refrain to employ any notions germane to a specific theory, such as "system/proper function" (Preston 2013).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

In the latter, you are more likely to get a puzzled gaze - unless the shopkeeper has a good self-control … or wears sunglasses.

Returning to sunglasses, I argue that it would be mistaken to think that their function of protecting the retina from excessive brightness (henceforth P) has more normative relevance than the social effects of shielding the wearer's eye region (S). Both functions, P and S, are relevant for sunglasses (as well as exhibiting an intriguing interplay, as we will see in a moment). In Heersmink's (2021) taxonomy, they will belong to the intersection between perceptual and affective artifacts. Of course, different models of sunglasses exist out there, that can be aimed at slightly different contexts, thus placing more emphasis on either P or S.

Drawing on the insights of several scholars, as well as cues from visual culture (movies, fashion advertisement) throughout all the Twentieth century, in her book *Cool Shades* Vanessa Brown (2015) makes a strong case that sunglasses have the function of a social shield, which confers their wearers an aura of "coolness". While the ideal of emotional detachment and imperturbability has been presented as desirable at least since Stoicism, the wake of modernity could have further enhanced this necessity, making tools that scaffold self-control particularly relevant. Why? The simpler explanation is that the speed and abundance of stimuli of modern lives have increased the general level of stress, and hence the need for stress-coping tools (Brown 2015, ch. 3). But a complementary hypothesis is that, unlike rural communities, modern cities are replete with strangers. In several cultures, social norms regulating the suppression of emotions tend to be looser with someone we are intimate with than with strangers (Matsumoto et al. 2008). By wearing sunglasses, we shield facial cues of (mostly negative) emotions, such as movements of the *orbicularis oculi* and other muscles in the eye region, as well as pupil size, which has long been known to reflect arousal (Hess 1965; fig. 3). By wearing sunglasses, we look *cooler*, i.e. we look good and not in the grip of emotions; or rather, we look good precisely *because* we are not in the grip of emotions.

Figure 3. Some of the pictures from fig. 2 with the addition of sunglasses. What emotion is expressed by the first guy on the left: disgust, fear, sadness, or contempt? And the girls, are they angry or disgusted? In all cases, does the intensity of emotion seems as high as in fig. 2? Graphic editing courtesy of Roberto Gamboni.

Recalling Glazer's interpretation of emotional suppression as a display of self-control, an objection may come to mind: namely, that rather than displaying *more* self-control, sunglasses' wearer may end up seeming *less* self-controlled. After all, if somebody recruits an external prop to perform some

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

mental job, doesn't that imply that she might be unable to do that job by herself, as in the case of Otto's notebook (Clark & Chalmers 1998)[9]?

I have three rejoinders to such an objection. First, while this kind of reasoning is likely to affect our *judgment* of someone's self-control, it is unlikely to affect our *impression*. If we were a shopkeeper who needs to hire a person for the customer care in charge to answer customers' weird questions about screwdrivers, we may prefer someone who appears calm *without* wearing the sunglasses, in virtue of her inner self-control. But most times, we do not undertake as complex a scrutiny about others' personalities. Rather, we are driven by our first impressions, some of which we are not aware of, and some of which we would not consciously endorse (Todorov et al. 2015). Many such impressions are thought to depend on a mechanism of overgeneralization (Zebrowitz 2017): based on the emotional expression of a subject at the time of the encounter, possibly indicating a transient mental state like "fear", we unwarrantedly infer that the subject has a personality trait that makes she more prone to that state, for instance "cowardice". When an overgeneralization involves a sunglasses-wearing face, I suspect, the failure to spot emotional signs gets automatically overgeneralized as coolness - especially in stressful situations in which some facial reaction is expected. Moreover, shades may also evoke the idea of coolness in virtue of their own *symbolic capital*. Brown's book lists several cultural *topoi* which, having crossed path with the history of sunglasses, imbued them with an aura of coolness. To begin with, even before modern sunglasses were invented, the proverbial detached attitude of dandies was often accompanied by tinted lens (Brown 2015, ch. 1). Moreover, war fighter pilots (ch. 3), the quintessential stereotype of cold-bloodedness, used to wear protecting googles. But since sunglasses were invented, their cool-enhancing potential was exploited and reinforced by VIPs like Andy Warhol (ch. 8), fictional characters like Terminator (ch. 4), gangster in Tarantino's movies (ch. 8), and the dangerous *femme fatales* depicted in film noir (ch. 6). Nowadays, the association between sunglasses and detachment is so codified that wearing sunglasses can be taken as a self-declaration of being a self-controlled person.

The second rebuttal against the charge that "you wear sunglasses because you lack self-control" is linked to their role in protecting the eyes from the light (P). Typically, sunglasses are worn outdoor during the day. This prevents the observer to rule out that sunglasses are worn for the sake of their eye-protective function P. In Brown's words,

> Sunglasses do not, in these kinds of encounter (outdoors, in unfocused interactions), demonstrate unequivocal intent to disguise or mask the wearer, because their presence is rationalized by having the function of sun-protection. This gives them the additional power of ambiguity[10] (Brown 2015: 18).

[9] Interestingly, Brown (2015) observes that during the first decades of last century, a factor that prevented sunglasses from becoming socially accepted in fashion was that glasses were typically associated with visual deficiency, and sunglasses in particular with blindness.

[10] Cf. the people who did not welcome the prospect that wearing face masks stops to be mandatory, or at least socially acceptable (Carrie Wong 2021).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

A corollary follows from this. When sunglasses are worn indoors, or when the light is low, they do not simply reveal that they are worn for the sake of S: they *shout* it. They kind of say "I care so much about my social shield that I bite the bullet of seeing worse for the sake of it".

Wearing shades in the dark may also be done for the sake of mockery. A paradigmatic case is in the 1980 cult movie *The Blues Brothers*. The main comic ingredient of the movie is that the protagonists, Elwood and Jake, put themselves in weird and breath-taking situations (e.g. getting chased and shot by cops, Illinois Nazis, or Jake's ex-fiancée), which trigger the expectations of expressive reactions in the viewer… if only to promptly violate such expectations as the characters react with the utmost self-control. Throughout the movie, Elwood and Jake always hide their eyes behind their *Ray-Ban Wayfarer*, even at night (cf. the sentence in the opening). And this plays no small role in remarking their coolness.

Moving back from fiction to real life, a final rejoinder is worth considering. Perhaps sunglasses do not signal impoverished self-control because they *do promote* inner self-control instead. How come? I speculate that two non-mutually exclusive mechanisms can be at play here: one acting 'downstream', i.e. upon expression, and the other 'upstream', i.e. influencing experience.

Wearing sunglasses, I suspect, may indirectly influence the wearer's emotional experience. The idea is that any *mask*, including shades, may trigger into the wearer a sort of commitment toward interpreting a certain social role (Cappelletto 2022). This idea resonates with the religious beliefs that masks favor spiritic possession, whose echoes have percolated in contemporary popular cultures (think for instance about the comic and movie *The Mask*). Anthropologists thoroughly investigated these beliefs. Honigmann (1977) proposed a sound socio-psychological explanation of this behavior-changing power of masks: by projecting social expectations upon a mask representing some character with a culturally codified personality, onlookers bias the mask-wearer toward behaving in line with that character's script. More recently, the idea that the items we wear (not necessarily on our face) influences thought and behavior has been reprised by contemporary experimental psychology. Similar to the heuristic of embodied cognition, i.e. that our body influences our mind, proponents of the so-called *enclothed cognition* have gathered some evidence that what we wear (more precisely, what *we think* we wear) can also nudge our thoughts and behaviors (Adam & Galinsky 2012; Mendoza & Parks-Stamm 2020; but see Burns et al. 2019).

Moreover, if we concede that the link between feeling something and producing a given expression is not totally deterministic but allows for some modulation (Glazer 2019; 2022), wearing sunglasses - or whatever facial covering - triggers a self-commitment to suppress these movements, either because it fails to trigger an emotion-enhancing audience effect or in order to stay loyal to the corresponding "script".

If a reader was skeptical that the sunglasses may have the sort of social shielding function S that I described, I hope this discussion has dispelled her skepticism. Additionally, these considerations have proposed some putative mechanisms by means of which S is realized. If my analysis is sound, taking P as the single main function of sunglasses would mean misconstruing them. Possibly, although we may not be fully aware of this, from sunglasses we seek protection from undesired gazes at least as much as from undesired sunlight. By aiding us to conceal our expressions,

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

sunglasses bring us closer to realizing the ideal of self-control that the society often imposes on us. But the story does not end here.

5. Further social functions of the sunglasses

In the previous section, I have construed sunglasses as an affective artifact inhabiting the "darkest" corner of scaffolded affectivity: while other artifacts prototypically discussed in literature, which exert some positive influence on affective experience, sunglasses exert a negative influence over affective expression (fig. 1). Yet, the face, and especially the eyes, have more to offer to social cognition than just affective expressions. And sunglasses interact with other social processes beside emotional expressions - which is why I prefer to describe them as a socio-affective artifact than as an affective artifact *simpliciter*. Let us discuss three such social processes.

5.1 Detecting gaze direction

According to Descartes, what distinguishes humans and non-human animals is that only we possess the language faculty. But in contemporary times, the comparative anatomists Kobayashi and Kohshima (1997) observed that there is another feature which distinguish us from (most) other species, which is also thought to be involved in some communicative function: the morphology of our eyes. Having compared the eye shape of 88 species of primates, they note that *Homo sapiens* is the sole whose iris is surrounded by a white sclera. Moreover, our eyes have the largest sclera compared to iris. They also have the greatest width-to-height ratio of all primate species - in other words, our eyes are the most horizontally elongated. Why? In a nutshell, this may be due to a trade-off between the costs and the benefits of visibility. A (larger) white sclera contrasts with a (smaller) dark iris more than a dark sclera would, making human iris more visually salient than primates' iris. Thus, humans' eye movements - which can also cover a wider angle due to the greater width-to-height ratio - are more likely to be spotted by conspecifics and predators alike. Arguably, during our evolutionary history the benefits of signaling our gaze direction to conspecifics may have outweighed the costs of giving it away to predators. This promoted our shift from "'gaze-camouflaged' to 'gaze-signalling' eyes" (Kobayashi & Kohshima 1997: 768). In human newborns, these features are thought to favor the early development of an automatic gaze-direction detector mechanism for finding out whether someone is staring at us. Later in ontogeny, neurotypical individuals also develop a mechanism to track others' gaze even when they do not look at us (Baron-Cohen 1995).

However, in some cases the conspecifics become the predators - or at least, a possible source of harm. When we think, or even just fear, that this may be the case, we could be envious of other primates' 'gaze-camouflaged' eyes. We cannot cheat evolution to get a dark sclera; but we can simulate that with technology. Seen in this perspective, sunglasses can be thought as a sort of prosthetic gaze-camouflaged eyes. By wearing them, it is possible to watch around without letting anyone know what or whom one is watching at. Truth be told, sunglasses are unlikely to completely hide gaze direction, because estimates of gaze direction may depend on further cues beyond the position of the iris within the sclera, such as head orientation (Langton et al. 2000). However, it is likely sufficient to put the wearer in a repaired position as compared to onlookers, as she can be

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

watching at them at any moment, but they cannot know for sure (cf. Brown 2015: 53). This power imbalance may be one reason why (depicted) faces wearing sunglasses receive lower trustworthiness ratings than those wearing regular glasses or nothing at all (Graham & Ritchie 2019; Bennetts et al. 2022), although another reason is possibly that sunglasses obstruct the affiliative role of eye contact (see below, §5.3).

5.2 Do sunglasses conceal our identities?

Seeing a known person's face is often the quickest way to ascertain her identity. Barring for individuals suffering from acquired or developmental prosopagnosia[11], humans are very proficient and quick in recognizing the identity of familiar faces, but only as long as they are presented in typical conditions. This proficiency is easily disrupted when a face is presented in atypical conditions, e.g. upside down (∴) (Yin 1969). This is likely due to the working of our face perception system gets triggered by default by certain gestalts (∵) (see §2), and that identity recognition is mainly based on configural information, i.e. on the spatial relationships between parts constituting a specific facial *gestalts* (as opposed to analytic processing, that is more reliant on specific details).

In a famous experiment (Young et al. 1987), subjects were confronted with chimera faces obtained juxtaposing the lower and the upper halves of the faces of two distinct celebrities[12] so as to create a single gestalt. They had a hard time recognizing the identity of the original half faces. However, recognizing became much easier as long as the two halves were presented *upside-down* or *misaligned*. By triggering an incongruent facial *gestalt*, chimera faces interfered with the recognition of half faces, thus supporting the idea that our very efficient default recognition mechanism is automatically triggered by the detection of a congruent facial *gestalt.*

This invites the following question: is the impact of sunglasses on facial gestalt strong enough to impair recognition? Intuitively, we may be tempted to respond affirmatively: why else should VIPs wear sunglasses to protect themselves from paparazzi (Brown 2015, ch. 5)? However, scientific evidence suggests that sunglasses yield but a slight decrease in face recognition performance (Graham & Ritchie 2019; Noyes et al. 2021: studies 1-2; Bennetts et al. 2022). These findings are consistent with the results of a recent study estimating the relative weight of individual facial features (Abudarham & Yovel 2016), whose authors report that recognition of Caucasian faces does not depend significantly on eyes and eyebrows, possibly because they are the features whose shape change most often during emotional expressions and other movements. Thus, perhaps the main reason why VIPs (among others) wear sunglasses to prevent being bothered by paparazzi lies elsewhere.[13]

[11] A neurological condition in which face recognition is severely compromised, although other social processes like emotion reading can be spared.

[12] Celebrities' faces are often employed as stimuli in face recognition studies because they are assumed to be highly familiar to most participants due to media exposure.

[13] However, in modern societies face recognition is no longer a merely human business. In fact, a shea of face recognition technologies is increasingly penetrating our societies. Facial occlusion like sunglasses is an obstacle for some of these systems, which engineers are struggling to overcome. In the meanwhile, special sunglasses are designed and commercialized with the specific purpose to fool facial recognition system (see for instance https://www.reflectacles.com).

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

5.3 Gaze as social invitations

Suppose someone is staring at you. Depending on the context, you might find the gaze disturbing (what does she want from me?), threatening (is she looking for trouble? Better go away), or maybe intriguing (is she flirting with me? Ok, I'm game!). What is highly unlikely is that you find it *irrelevant*. While the social effect of eye contact can differ based on several contextual variables (Rossano 2013), eye contact is likely to elicit involvement in the observed person (Senju & Johnson 2009) and to promote prosocial behavior (Argyle & Dean 1965; Manesi et al. 2016). The bridge that eye contact builds between two individuals may hinge upon subconscious affective processing. It is quite established that pupil dilatation reflects changes in arousal (Hess 1965). In a series of recent experiments, Kret and colleagues (2015) report that pupil dilatation enhances trust between partners in an economic game. Furthermore, mimicking dilatation further enhances trust. Combining eye-tracking and continuous flash suppression[14], Prochazkova and colleagues (*in press*) observe that, unlike facial movements, pupil dynamics elicit mimicry and enhance trust even in absence of visual awareness. Moreover, beside pupil mimicry, eye contact has been reported to promote motor mimicry related to hand actions (Wang et al. 2011); and motor mimicry is thought to enable emotional contagion and social affiliation (Palagi et al. 2020).

Far from being exhaustive, this discussion nonetheless provides ground for explaining why some psychological studies report that faces wearing sunglasses look less trustworthy (Graham & Ritchie 2019; Bennetts et al. 2022). Moreover, they also explain why Brown (2015), endorsing and expanding Goffman (1963), construes sunglasses as a prototypical *involvement shield*. All else being equal, people are less likely to speak with us when we wear sunglasses, partly because they prevent the pupil synchronization that scaffolds more explicit communicative interactions. And perhaps, at least in some contexts, also due to the cool and "don't bother me" aura that shades emanate in virtue of the symbolism they embody (cf. §4).

Yet, wearing sunglasses affords a special move during a social interaction, namely removing them. Brown (2015: 53) compares the act of removing sunglasses with that of handshaking. By shaking one's hand, we show her that that hand is hiding no weapon. We also enter her intimate space. Given how eye contact may promote intimacy, the parallel with handshaking seems sound: by removing sunglasses, we might dispel the doubt that we have hostile intentions and restore the bond-enabling intimacy afforded by eye contact. Indeed, seeking eye contact *after* having removed sunglasses can be perceived as more strongly prosocial than seeking eye contact *simpliciter*, since the very act of lowering a shield highlights that one is actively seeking to initiate a social exchange. Whereas refusing to remove sunglasses during an ongoing exchange may signify that we are deliberately keeping some distance from the person we are interacting with. This opening, however, needs not be sincere. As noticed by Brown (2015: 104),

[14] Continuous flash suppression is an experimental paradigm for investigating suboptimal perception. Taget stimuli are presented only to the non-dominant eye, whereas rapidly alternating patches of random color (Mondrian) are presented to the dominant eye.

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

> In popular film, removing sunglasses has been used to signpost a moment of "sincere communication" (as in Double Indemnity (1944)), but it has also been used as a "double bluff" where the cue of removing the sunglasses "for sincerity" is used to manipulate and disarm (for example, in The Matrix 1999).

Think again at *The Blues Brothers*. Toward the end of the movie, while Jake and Elwood are fleeing from the Grand Palace Hotel to evade the cops, a young woman blocks their way, firing at them with an assault rifle. This is not her first attempt to kill them, but it is only now that her motives are made clear: she was supposed to marry Jake, but he never showed up, leaving her hanging at the altar. To prevent being killed, Jake falls on his knees, swears "it was not my fault!" and lists some increasingly absurd excuses. The girl, unimpressed, is on the brink of pulling the trigger. But then, Jake plays his trump card: for the first and only time since the beginning of the movie, he lowers his shades and stares at her with his most flirtatious gaze. She melts and kisses him - only to be dumped once again as Jake and Elwood restart their flight. Never trust a man with sunglasses!

6. Conclusion: our life with sunglasses

Time to wrap up. My aim in this paper was twofold. On the one hand, I have sketched a "phenomenology of sunglasses", knotting together several insights from philosophy, psychology, and other social sciences. But on a more meta-theoretical plan, by defending the status of shades as a socio-affective artifact, I have used them as a sort of "trojan horse" to penetrate a rather underexplored region of the realm of situated affectivity, where *inhibition* (rather than *enhancement*) crosses path with *expression* (rather than *experience*. See fig. 1).

I began my discussion recalling the relevance of the face in social interactions and argued that, although some facial movements can be at the service of some strategic purpose, this does not rule out that some of them spontaneously express emotions. We might want to conceal some of these expressions (especially the negative ones), not in order to deceive, but as a sincere display of self-control. To hide negative expressions, an artifact comes to our aid: the sunglasses. Since the eye region is relevant for expressions of negative emotions, the sunglasses may help shielding them, making us seem "cooler" and more self-controlled. I have countered the foreseeable objection that the social-shielding function of the sunglasses is only a byproduct of its sunlight-shielding function and described some putative mechanisms by means of which shades may enhance not only the impression of self-control, but also (inner) self-control itself. Finally, I explored three further social roles that the eyes (and their surroundings) play in social cognition, discussing how sunglasses may hamper them: identifying gaze direction, recognizing identity, and promoting social bonding through eye contact. The list is not exhaustive. Several studies exploring the "pragmatic of the gaze" hint at the existence of a wealth of communicative or para-communicative actions we can perform just by moving our eyes: from generic ones like deixis ("look at that!") or regulation of turn-taking in conversation ("and what is your opinion on the matter?") to sophisticated ones like conducting an orchestra (Poggi et al. 2020. For an overview, see Kleinke 1986; Rossano 2013). Moreover, covering the eyes and their surroundings may prevent a giveaway of some cues of the mental and physical condition. Let me pick one last anecdote from *The Blues Brothers*. Or rather, from behind the scenes. In a retrospective on the life of the actor who interprets Jake Blues, John Belushi (Belushi Pisano & Colby 2005), the director John Landis recounts that, while sunglasses were there for the

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

sake of “being perverted” in covering the actors’ most important part, i.e. the eyes, they end up being “the best thing that happened to The Blues Brothers” because they covered the absent expression of John Belushi when he was high on drugs.

On a meta-theoretical plan, my hope is that my in-depth discussion of a specific case study could help broadening the scope of the debate on situated affectivity (cf. Viola 2021; Saarinen 2020). As hinted in the introduction, until now this literature has been focused on the “tools for feeling” (Slaby 2014: 36), paying less attention to either “tools for *preventing* feeling” and “tools for expressing”. Let alone the “tools for preventing expressions”!

Shall we make room for these kinds of tool, or shall we deny sunglasses the status of (socio-)affective artifact in order to preserve a narrow view of situated affectivity confined to positive-feeling scaffolds? To answer, let me recall once again that the paper which many scholars take as a manifesto for situated affectivity construe emotion as “a form of skillful engagement with the social environment that involves a dynamic process of negotiation mediated by reciprocal feedback between emoter and interactants” (Griffiths and Scarantino 2009: 443). Sunglasses, I hope to have shown, have a role to play in such a process. If you agree with this, why not give the dark side of situated affectivity a chance?

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

References

Abudarham, N., & Yovel, G. (2016). Reverse engineering the face space: Discovering the critical features for face identification. *Journal of Vision*, *16*(3), 40-40.

Adam, H., & Galinsky, A. D. (2012). Enclothed cognition. *Journal of experimental social psychology*, *48*(4), 918-925.

Argyle, M., & Dean, J. (1965). Eye-contact, distance and affiliation. *Sociometry*, 289-304.

Aviezer, H., Trope, Y., & Todorov, A. (2012). Body cues, not facial expressions, discriminate between intense positive and negative emotions. *Science*, *338*(6111), 1225-1229.

Baron-Cohen, S. (1995). The eye detection detector (EDD) and the shared attention mechanism (SAM): two cases for evolutionary psychology. In Moore, C., & Dunham, P. J. (eds.), *Joint attention: its origin and role in development*, Psychology Press, 41-59.

Belushi Pisano, J. , & Colby, T. (2005). *Belushi: A Biography*. Rugged Land.

Bennetts, R. J., Johnson Humphrey, P., Zielinska, P., & Bate, S. (2022). Face masks versus sunglasses: limited effects of time and individual differences in the ability to judge facial identity and social traits. *Cognitive Research: Principles and Implications*, *7*(1), 1-24.

Blais, C., Roy, C., Fiset, D., Arguin, M., & Gosselin, F. (2012). The eyes are not the window to basic emotions. *Neuropsychologia*, *50*(12), 2830-2838.

Brown, V. (2015). *Cool shades: the history and meaning of sunglasses*. Bloomsbury Publishing.

Burns, D. M., Fox, E. L., Greenstein, M., Olbright, G., & Montgomery, D. (2019). An old task in new clothes: A preregistered direct replication attempt of enclothed cognition effects on Stroop performance. *Journal of Experimental Social Psychology*, *83*, 150-156.

Cappelletto, C. (2022). The Mask: How to Perform Expressions and Disembody the Self, in Fehrenbach, F. & Vollgraff, M. (eds) Ökologien des Ausdrucks / Ecologies of Expression. Berlin/Boston, De Gruyter.

Carrie Wong, J. (2021). The people who want to keep masking: 'It's like an invisibility cloak'. Guardian, URL = https://www.theguardian.com/us-news/2021/may/10/the-people-who-want-to-keep-masking-its-like-an-invisibility-cloak (last access 8 April 2022).

Carbon, C. C. (2020). Wearing face masks strongly confuses counterparts in reading emotions. *Frontiers in psychology*, 2526.

Clark, A., & Chalmers, D. (1998). The extended mind. *Analysis*, *58*(1), 7-19.

Coles, N. A., March, D. S., Marmolejo-Ramos, F., Banaruee, H., Butcher, N., Cavallet, M., ... & Marozzi, M. (2020). The Many Smiles Collaboration: A Multi-Lab Foundational Test of the Facial Feedback Hypothesis. *Nature Human Behaviour*.

Colombetti, G., & Krueger, J. (2015). Scaffoldings of the affective mind. *Philosophical Psychology*, *28*(8), 1157-1176.

Colombetti, G., & Roberts, T. (2015). Extending the extended mind: the case for extended affectivity. *Philosophical Studies*, *172*(5), 1243-1263.

Colombetti, G. (2020). A Taxonomy of Affective Material Scaffolds. *JOLMA, 1*(2), 215-236.

Cowen, A. S., Keltner, D., Schroff, F., Jou, B., Adam, H., & Prasad, G. (2021). Sixteen facial expressions occur in similar contexts worldwide. *Nature*, *589*(7841), 251-257.

Crivelli, C., & Fridlund, A. J. (2018). Facial displays are tools for social influence. *Trends in cognitive sciences*, *22*(5), 388-399.

Crivelli, C., & Fridlund, A. J. (2019). Inside-out: From basic emotions theory to the behavioral ecology view. *Journal of Nonverbal Behavior*, *43*(2), 161-194.

Dawel, A., Miller, E. J., Horsburgh, A., & Ford, P. (2021). A systematic survey of face stimuli used in psychological research 2000–2020. *Behavior Research Methods*, https://doi.org/10.3758/s13428-021-01705-3

Ekman, P. (1992). An argument for basic emotions. *Cognition & emotion*, *6*(3-4), 169-200.

Ekman, P. (1989). The argument and evidence about universals in facial expressions. *Handbook of social psychophysiology*, *143*, 164.

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

Ekman, P., & Friesen, W. V. (1969). The repertoire of nonverbal behavior: Categories, origins, usage, and coding. *Semiotica*, *1*(1), 49-98.
Elfenbein, H. A., & Ambady, N. (2002). On the universality and cultural specificity of emotion recognition: a meta-analysis. *Psychological bulletin*, *128*(2), 203.
Fasoli, M. (2018). Substitutive, complementary and constitutive cognitive artifacts: developing an interaction-centered approach. *Review of Philosophy and Psychology*, *9*(3), 671-687.
Goffman, E. (1963). *Behaviour in Public Places*. Free Press, New York.
Glazer, T. (2019). The Social Amplification View of facial expression. *Biology & Philosophy*, *34*(2), 1-18.
Glazer, T. (2022). Emotionshaping: a situated perspective on emotionreading. *Biology & Philosophy*, 37(2), 1-20.
Glazer, T. (2020). To express or not to express? Ambivalence about emotional expression. In: Gatzia D., Brogaard B. (eds.), *The philosophy and psychology of ambivalence: Being of two minds*. Routledge, New York, pp 175–196
Goren, C. C., Sarty, M., & Wu, P. Y. (1975). Visual following and pattern discrimination of face-like stimuli by newborn infants. *Pediatrics*, *56*(4), 544-549.
Griffiths P., Scarantino A. (2009) Emotions in the wild: The situated perspective on emotion. In: Robbins P., Aydede M. (eds.) Cambridge Handbook of Situated Cognition. Cambridge University Press, Cambridge, pp 437–453.
Heersmink, R. (2013). A taxonomy of cognitive artifacts: Function, information, and categories. *Review of philosophy and psychology*, *4*(3), 465-481.
Heersmink, R. (2021). Varieties of artifacts: Embodied, perceptual, cognitive, and affective. *Topics in Cognitive Science*.
Helminen, T. M., Kaasinen, S. M., & Hietanen, J. K. (2011). Eye contact and arousal: The effects of stimulus duration. *Biological Psychology*, *88*(1), 124-130.
Hess, E. H. (1965). Attitude and pupil size. *Scientific american*, *212*(4), 46-55.
Hochschild, A. R. (1983). *The managed heart*. University of California press.
Honigmann, J. J. (1977). The masked face. *Ethos*, *5*(3), 263-280.
Houkes, W., & Vermaas, P. (2004). Actions versus functions: A plea for an alternative metaphysics of artifacts. *The Monist*, *87*(1), 52-71.
Jack, R. E., & Schyns, P. G. (2015). The human face as a dynamic tool for social communication. *Current Biology*, *25*(14), R621-R634.
Keys, R. T., Taubert, J., & Wardle, S. G. (2021). A visual search advantage for illusory faces in objects. *Attention, Perception, & Psychophysics*, 1-12.
Kim, G., Seong, S. H., Hong, S. S., & Choi, E. (2022). Impact of face masks and sunglasses on emotion recognition in South Koreans. *PloS one*, *17*(2), e0263466.
Kleinke, C. L. (1986). Gaze and eye contact: a research review. *Psychological bulletin*, *100*(1), 78-100.
Kobayashi, H., & Kohshima, S. (1997). Unique morphology of the human eye. *Nature*, *387*(6635), 767-768.
Kret, M. E., Fischer, A. H., & De Dreu, C. K. (2015). Pupil mimicry correlates with trust in in-group partners with dilating pupils. *Psychological science*, *26*(9), 1401-1410.
Krueger, J. W. (2019). Music as affective scaffolding. Oxford University Press.
Krueger, J., & Osler, L. (2019). Engineering Affect. Philosophical Topics, 47(2), 205-232.
Langton, S. R., Watt, R. J., & Bruce, V. (2000). Do the eyes have it? Cues to the direction of social attention. *Trends in cognitive sciences*, *4*(2), 50-59.
Leone, M. (2020). The semiotics of the medical face mask: east and west. *Signs and Media*, *1*(1), 40-70.
Lundqvist, D., Flykt, A., & Öhman, A. (1998). The Karolinska Directed Emotional Faces - KDEF, CD ROM from Department of Clinical Neuroscience, Psychology section, Karolinska Institutet, ISBN 91-630-7164-9.
Manesi, Z., Van Lange, P. A., & Pollet, T. V. (2016). Eyes wide open: Only eyes that pay attention promote prosocial behavior. *Evolutionary Psychology*, *14*(2), 1474704916640780.
Martin, J., Rychlowska, M., Wood, A., & Niedenthal, P. (2017). Smiles as multipurpose social signals. *Trends in cognitive sciences*, *21*(11), 864-877.

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online:
http://www.tandfonline.com/10.1080/09515089.2022.2118574

Matsumoto, D., Yoo, S. H., & Fontaine, J. (2008). Mapping expressive differences around the world: The relationship between emotional display rules and individualism versus collectivism. *Journal of cross-cultural psychology*, *39*(1), 55-74.
Mendoza, S. A., & Parks-Stamm, E. J. (2020). Embodying the police: the effects of enclothed cognition on shooting decisions. *Psychological reports*, *123*(6), 2353-2371.
Nestor, M. S., Fischer, D., & Arnold, D. (2020). "Masking" our emotions: Botulinum toxin, facial expression, and well-being in the age of COVID-19. *Journal of cosmetic dermatology*, *19*(9), 2154-2160.
Noyes, E., Davis, J. P., Petrov, N., Gray, K. L., & Ritchie, K. L. (2021). The effect of face masks and sunglasses on identity and expression recognition with super-recognizers and typical observers. *Royal Society open science*, *8*(3), 201169.
Palagi, E., Celeghin, A., Tamietto, M., Winkielman, P., & Norscia, I. (2020). The neuroethology of spontaneous mimicry and emotional contagion in human and non-human animals. *Neuroscience & Biobehavioral Reviews*, *111*, 149-165.
Palermo, R., & Rhodes, G. (2007). Are you always on my mind? A review of how face perception and attention interact. *Neuropsychologia*, *45*(1), 75-92.
Piredda, G. (2020). What is an affective artifact? A further development in situated affectivity. *Phenomenology and the Cognitive Sciences*, *19*(3), 549-567.
Poggi, I., Ranieri, L., Leone, Y., & Ansani, A. (2020). The Power of Gaze in Music. Leonard Bernstein's Conducting Eyes. *Multimodal Technologies and Interaction*, *4*(2), 20.
Preston, B. (2013). *A philosophy of material culture: Action, function, and mind*. Routledge.
Prochazkova, E., Venneker, D., de Zwart, R., Tamietto, M, & Kret, M. E. (in press). Conscious awareness is necessary to assess trust and mimic facial expressions, while pupils impact trust unconsciously, *Philosophical Transactions of the Royal Society B*.
Reid, V. M., Dunn, K., Young, R. J., Amu, J., Donovan, T., & Reissland, N. (2017). The human fetus preferentially engages with face-like visual stimuli. *Current Biology*, *27*(12), 1825-1828.
Rossano, F. (2013). Gaze in Conversation. In Sidnell, J., & Stivers, T. (eds.), *The handbook of conversation analysis*, 308-329.
Rozin P., Haidt J., & McCauley C. R. (2008) Disgust. In: Lewis, M., M. Haviland-Jones, J., & Barrett L.F. (eds) Handbook of emotions, 3rd ed., Guilford Press, pp. 757-776.
Saarinen, J. A. (2019). Paintings as Solid Affective Scaffolds: Saarinen. *The Journal of Aesthetics and Art Criticism*, *77*(1), 67-77.
Saarinen, J. A. (2020). What can the concept of affective scaffolding do for us?. *Philosophical Psychology*, *33*(6), 820-839.
Scalera, L., Gallina, P., Gasparetto, A., & Seriani, S. (2017). Anti-Hedonistic Machines. *International Journal of Mechanics and Control*, *18*, 9-16.
Scarantino, A. (2017). How to do things with emotional expressions: The theory of affective pragmatics. *Psychological Inquiry*, *28*(2-3), 165-185.
Senju, A., & Johnson, M. H. (2009). The eye contact effect: mechanisms and development. *Trends in cognitive sciences*, *13*(3), 127-134.
Shariff, A. F., & Tracy, J. L. (2011). What are emotion expressions for?. *Current Directions in Psychological Science*, *20*(6), 395-399.
Slaby, J. (2014). Emotions and the extended mind. In C. von Scheve, and M. Salmela (Eds.), *Collective emotions. Perspectives from psychology, and sociology* (pp. 32–46). Oxford: Oxford University Press.
Srinivasan, R., & Martinez, A. M. (2018). Cross-cultural and cultural-specific production and perception of facial expressions of emotion in the wild. *IEEE Transactions on Affective Computing*.
Stearns, P. N., & Stearns, C. Z. (1985). Emotionology: Clarifying the history of emotions and emotional standards. *The American historical review*, *90*(4), 813-836.
Stephan, A., & Walter, S. (2020). Situated affectivity. In Szanto, T., & Landweer, H. (eds.) *The Routledge Handbook of Phenomenology of Emotion* (pp. 299-311). Routledge.

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574

Sterelny, K. (2010). Minds: extended or scaffolded?. *Phenomenology and the Cognitive Sciences*, *9*(4), 465-481.
Todorov, A., Olivola, C. Y., Dotsch, R., & Mende-Siedlecki, P. (2015). Social attributions from faces: Determinants, consequences, accuracy, and functional significance. *Annual review of psychology*, *66*, 519-545.
Viola, M. (2021). Three varieties of affective artifacts: Feeling, evaluative and motivational artifacts. *Phenomenology and Mind*, (20), 228-242.
Wang, Y., Newport, R., & Hamilton, A. F. D. C. (2011). Eye contact enhances mimicry of intransitive hand movements. *Biology letters*, *7*(1), 7-10.
Wegrzyn, M., Vogt, M., Kireclioglu, B., Schneider, J., & Kissler, J. (2017). Mapping the emotional face. How individual face parts contribute to successful emotion recognition. *PloS one*, *12*(5), e0177239.
Yahya, J. (2021). Breaking Beyond the Borders of the Brain: Self-Control as a Situated Ability. *Frontiers in Psychology*, *12*, 1976.
Yin, R. K. (1969). Looking at upside-down faces. *Journal of experimental psychology*, *81*(1), 141-145.
Young, A. W., Hellawell, D., & Hay, D. C. (1987). Configurational information in face perception. *Perception*, *16*(6), 747-759.
Zebrowitz, L. A. (2017). First impressions from faces. *Current directions in psychological science*, *26*(3), 237-242.

This is an original (pre-review) manuscript of an article published by Taylor & Francis in *Philosophical Psychology* on 08 Sep 2022 (online). The final version is available online: http://www.tandfonline.com/10.1080/09515089.2022.2118574