

4

THE NATURE AND VALUE OF BOREDOM

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Introduction

In his discussion of the cognitive character and epistemic value of art, philosopher Nelson Goodman suggests that artworks have the capacity to “inform what we encounter later and elsewhere” (Goodman, 1968, p. 260). Indeed, for Goodman, if art has cognitive value, it lies, at least partly, in its ability to change how we experience the world. “What a Manet or Monet or Cézanne does to our subsequent seeing of the world,” Goodman writes, “is as pertinent to their appraisal as is any direct confrontation” (ibid.).

Goodman’s position carries an air of plausibility. Artworks (in particular, literary works or films) have an uncanny ability to stay with us: to affect our thoughts and the ways in which we relate to, perceive, and imagine the world. Literary works chronicling experiences of boredom often do the same. Even if they can’t offer us a psychologically and physiologically precise anatomy of boredom, they present us with a way of thinking about boredom—a filter, a lens, a map—that licenses, if not the derivation of a cognitive insight, at least an invitation to reorientate ourselves in relation to boredom.

Alberto Moravia’s *La Noia* issues precisely such an invitation. By emphasizing both the need for action and the felt impatience inherent in boredom, Moravia enjoins us to give up on an understanding of boredom that conceives of it as a purely apathetic state. Those familiar with *La Noia* know that Dino, the deeply bored protagonist of Moravia’s novel, is—on account of his boredom—active, impulsive, impatient, desperate, even violent. Readers also discover in Dino’s boredom a disrupted sense of agency. Dino is trapped in and by his own boredom, knowing neither how to alleviate it nor how to act in a meaningful way. As he tells us:

my boredom resembles a repeated and mysterious interruption of the electric current inside a house: at one moment everything is clear and obvious—here are armchairs, over there are sofas, beyond are cupboards, side tables, pictures, curtains, carpets, windows, doors; a moment later there is nothing but darkness and an empty void.

(Moravia, 2011, p. 5)

Boredom is described by Moravia as a disruption of the electric current that illuminates something that is all too familiar to us—namely, our home. Such a description is as informative as

it is suggestive. First, insofar as it is a disruption, boredom signifies a break or deviation from normalcy of some sort (be it flow, intimacy, or engagement). During boredom, we become aware of a disconnect between our situation and our desires (Fenichel, 1953; Greenson, 1953). Our situation is no longer interesting, engaging, or absorbing to us; it appears instead to be devoid of significance, meaning, or opportunities for satisfactory engagement. Second, and not unlike what occurs when power goes out, the disruption that boredom brings about calls for a response. Boredom disturbs and changes our mode of engagement with the world and ourselves. In doing so, it throws us back to ourselves prompting us to find a way out of it (in this vein, see also Chapter 2).

I quote Moravia not to wax speculatively regarding boredom. Instead, my aim is to use *La Noia*, and in particular the quoted passage, in order to introduce the reader to a *way* of thinking about boredom that is especially helpful when attempting to understand the workings and value of boredom. What I take from Moravia's passage is a license to think of boredom as a psychological mechanism that both indicates the presence of a cognitive disequilibrium and aims to resolve this disequilibrium. Boredom, in other words, is both a disruption of a satisfactory cognitive connection to the world and a prompt to re-establish it.

The chapter proceeds as follows. The following section (“Boredom and Cognitive Engagement”) offers a description of boredom by exploring its relationship to cognitive engagement and advances a functional understanding of boredom. Specifically, it argues that boredom should be understood to be the psychological state that: (a) arises due to the presence of an unmet need for satisfactory cognitive engagement; and (b) aims to fulfill this need by facilitating a set of behaviors that, under the right conditions, can restore satisfactory cognitive engagement. The subsequent section (“The Value of Boredom”) examines the potential value of boredom in light of findings that show that the experience of boredom often leads to maladaptive or harmful behaviors. It articulates how a functional view of boredom allows us to account for the hybrid nature of boredom (how it can be both harmful and beneficial) and explores the different ways in which boredom can confer an advantage to the experiencing agent. The section also makes a case that whatever benefit boredom carries stems from its ability to contribute to self-regulation. Although such a conclusion supports the view that boredom can be a beneficial psychological state, it highlights clearly that its benefits are contingent upon both environmental and psychological factors.

Boredom and cognitive engagement

The question “What is boredom?” is not univocal. Because of that, it is necessary to distinguish between different ways of asking it. First, when posing the question, one could be asking about the *ontology* of boredom: What type of entity is boredom? Second, the question can be thought to concern the *character* of boredom: What is boredom's experiential signature, and how is it commonly realized in human agents? Finally, the question can be understood as a prompt for determining boredom's *function*: What sort of outcomes does boredom instigate, and how does it affect the experiencing agent? I take these three readings of the question to be instrumental in investigating the phenomenon of boredom. A preliminary answer to the first question allows us to define our subject matter and to narrow the scope of our investigation; it does so by setting up the parameters necessary in order to study boredom carefully. An answer to the second question permits us to individuate boredom and to assess its presence. Finally, by answering the third question, we can clarify not only boredom's role in our behavioral and mental economy, but also its potential value in our lives.

In this section, I do not aim to settle the ontology, character, or function of boredom. Nonetheless, I will offer preliminary answers to the three questions. In doing so, I aim to advance a description of boredom that will eventually allow us to engage in a productive examination of its value.

The ontology of boredom

Boredom has been understood to be both a psychological state and a personality trait—the latter is often called “trait boredom” or “boredom proneness” and is assessed by a multi-item self-administered questionnaire (Farmer & Sundberg, 1986; Vodanovich 2003; Vodanovich & Watt, 2016). For the purposes of this chapter, I restrict my attention to state boredom. This is mainly for three reasons. First, state boredom is the phenomenon of interest—at least for me and at least for this chapter—for it corresponds to our everyday experience of boredom: it is the affective state that most of us experience relatively frequently, and which arises in all-too-familiar circumstances (e.g., in waiting rooms, in meetings, at airports, at home with nothing to do, in classes, or at work) (Chin et al., 2017; Goetz et al., 2014; Smith & Page, 2015). Second, any attempt to understand the ontology, nature, and function of a psychological state on the basis of the study of its corresponding trait faces important theoretical and methodological obstacles. With respect to boredom, the theory behind trait boredom remains obscure (Tam et al., 2021a), there are known issues with the instruments meant to assess the presence of trait boredom (Gana et al., 2019; Struk et al., 2017; Vodanovich, 2003), and measures of trait boredom correlate only weakly with state boredom (Westgate & Steidle, 2020). Third, and as already announced, part of the aim of this chapter is to examine the *value* of boredom. Trait boredom does not appear to be valuable or beneficial to the agent—if anything, this personality trait has been thought to be a contributing factor to a number of harmful and maladaptive behaviors (Vodanovich 2003; Vodanovich & Watt, 2016); it has even been suggested that the presence of trait boredom is detrimental to one’s hedonic and eudaemonic well-being (Elpidorou, 2017).

As a *psychological* state, boredom is a biologically realized and subjectively felt experience that human agents (and animals) can undergo. Stated otherwise, there is something that it is like to be bored and the onset of boredom brings about a host of cognitive, volitional, physiological, behavioral, and expressive changes. As a *state*, boredom is transient, occurrent and not dispositional (i.e., it exists as long as its concomitants last), and largely situation dependent (it can be often induced and alleviated by situational factors) (Chin et al., 2017). This preliminary explication of boredom as a psychological state does not fully determine its ontology. For one, it fails to specify the exact type of psychological state that boredom is: Is it a feeling, an emotion, a desire, a drive, a mood, a cognitive attitude, or something else? For another, our preliminary answer to the ontology of boredom does not provide us with insight into the essence of boredom, if such a thing exists. Is boredom, in other words, primarily a cognitive, affective, volitional, or physiological phenomenon? Or is it something else?

Regardless of how we settle these difficult issues, the preliminary answer offered to the ontological question remains valuable.¹ It reveals that boredom is a psychological, episodic state that is felt, that can be individuated in virtue of its concomitants, and that can be induced and alleviated by changes in environmental factors.

The character of boredom

Subjective reports on the experience of boredom suggest that boredom is the affectively unpleasant realization that one’s current need for satisfactory engagement is not currently met (Harris, 2000; Hartocollis, 1972; Mikulas & Vodanovich, 1993; Pekrun et al., 2010; Todman,

2003; Van Tilburg & Igou, 2012). Still, boredom is more than a painful realization of the lack of unsatisfactory engagement. Bored individuals also comment on the presence of a strong desire to escape their current situation (Eastwood et al., 2012; Fahlman et al., 2013; O'Brien, 2014). This first pass on the character of boredom will serve as the focal point of the present investigation. It highlights three key elements of boredom. Boredom is: (a) *an aversive (negatively valenced) experience* that (b) *indicates lack of satisfactory engagement and dissatisfaction with one's situation* and (c) *involves a desire to alter one's current situation*.

Boredom's cognitive profile is characterized by difficulties in the effective and desirable deployment of one's attentional resources, and also by the presence of negative appraisals regarding one's situation (Eastwood et al., 2012; Tam et al., 2021b; Van Tilburg & Igou, 2012, 2017a; Westgate & Wilson, 2018). On the one hand, tasks that resist one's attention have been shown to elicit the experience of boredom (Hunter & Eastwood, 2018; Malkovsky et al., 2012); phenomenological characterizations of state boredom describe it as involving a difficulty in sustaining one's attention (Harris, 2000); and finally, the physiological and neurological correlates of boredom are indicative of suboptimal attentional performance (Merrifield & Danckert, 2014; Danckert & Merrifield, 2018; Ulrich et al., 2014). On the other hand, researchers have explored the type of negative appraisals that are connected to boredom either as antecedents or as elements of the experience of boredom. An influential theory maintains that the experience of boredom is associated with the appraisal that one's situation is meaningless (or insufficiently meaningful) (Chan et al., 2018; Fahlman et al., 2009; Van Tilburg & Igou, 2011, 2017a). Other accounts have suggested that boredom involves negative appraisals regarding the amount of autonomy, stimulation, or challenge afforded to one by one's situation (Caldwell et al., 1999; Csikszentmihalyi, 1975; Daschmann et al., 2011; Fahlman et al., 2013; Martin et al., 2006; Shaw et al., 1996; Steinberger et al., 2016; van Hooft & van Hooft, 2018). Both the attentional difficulties associated with boredom and the presence of negative appraisals strongly suggest that boredom is intimately related to lack of satisfactory engagement and dissatisfaction with one's situation.

In turn, boredom is a psychological state with a pronounced volitional character. Indeed, what sets boredom apart from apathy is the fact that only boredom involves a desire to escape one's current situation (Goldberg et al., 2011; Nisbet, 1982). Specifically, boredom involves a desire to alleviate one's boredom by seeking engagement with an alternative situation. Such a desire could give rise to the pursuit of novel but aversive experiences (Bench & Lench, 2019). Worse, experimental studies and real-world stories demonstrate that one's desire to escape boredom can lead to actions that are harmful to oneself and others (Bench & Lench, 2019; Danckert, 2021; Elpidorou, 2020; Nederkoorn et al., 2016; Pfattheicher et al., 2020; Wilson et al., 2014). Such findings underscore the motivational power of boredom. What is worth noting is that the desire for alternative engagement, although strong, is not always well formed. Even though bored individuals are often aware that they do not wish to be doing what they are currently doing, they might not be able to articulate clearly what else they would rather be doing.

Finally, numerous studies and subjective reports have established that boredom is a state of negative valence. Boredom's unpleasantness is first and foremost reflected in its phenomenology (Harris, 2000; Hartocollis, 1972; Mikulas & Vodanovich, 1993; Pekrun et al., 2010; Todman, 2003; Vogel-Walcutt et al., 2012). In addition to a felt dissatisfaction with one's situation, the experience of boredom also involves feelings of restlessness and listlessness (Goetz et al., 2014; Harris, 2000; Martin et al., 2006; O'Brien, 2014; Steinberger et al., 2016), and often a sense of restricted autonomy (Caldwell et al., 1999; Martin et al., 2006; Shaw et al., 1996; Steinberger et al., 2016; van Hooft & van Hooft, 2018) and a disruption of one's capacity to be an efficacious agent (Danckert & Eastwood, 2020; Eastwood et al., 2012). Boredom's negative

character is also grounded in its volitional and cognitive elements. Boredom motivates agents to withdraw from the perceived object (or cause) of their boredom (Berlyne, 1960; Fahlman et al., 2013; Fenichel, 1953; Fiske & Maddi, 1961; Greenson, 1953; Mikulas & Vodanovich, 1993; Pekrun et al., 2010; Todman, 2003; Van Tilburg & Igou, 2012); it is intimately connected to negative appraisals of one's situation and to attentional difficulties (Eastwood et al., 2012; Tam et al., 2021b; Van Tilburg & Igou, 2012, 2017a); and its presence is assessed by agents to be incongruent with their goals (Elpidorou, 2018a; Van Tilburg & Igou, 2012). Such features of boredom make its experience all the more aversive.

These three features of boredom offer a preliminary and informative answer to the question of the character of boredom. They highlight that boredom is both a state of discontent with one's situation and a motivational push to seek escape from this situation.²

The function of boredom

Our discussion so far offers some clarity as to the type of entity that boredom is and describes, to a certain extent, its experiential profile. Importantly, it also makes a case for the claim that boredom is a state that occupies a role in the behavioral and mental economy of the experiencing agent. This realization has led several researchers to assert that boredom is a functional state (Bench & Lench, 2013; Danckert et al., 2018; Elpidorou, 2014, 2018a, 2018b, 2020, 2022a; see also: Kurzban et al., 2013; Van Tilburg & Igou, 2012; Wolff & Martarelli, 2020; as well as Chapter 2 and Chapter 5). The claim that boredom is a functional state is a key premise in arguments that maintain that boredom is a valuable state. Because of that, the task of examining the value of boredom requires a clear articulation of the functional nature of boredom.

The view that boredom is a functional state is ambiguous between at least two readings. According to the first reading (the “*strong* functional view”), boredom ought to be identified with a specific function (Elpidorou, 2022a). Boredom is not some psychological state that happens to play a certain role in our mental and behavioral economy. Rather, boredom is simply what boredom does. As such, whatever state possesses boredom's function must be identified with boredom, and any state that fails to have this function cannot be boredom.

This view deserves the label “strong” because it does not merely argue that boredom performs a function. Instead, it insists that boredom simply is the execution of (or the capacity to execute) a specified function.³ Accordingly, the strong view understands boredom to be the organismic (or system-level) property of having properties that meet a certain description; namely, those that are jointly capable of executing the function assigned to boredom. An organism (or system) is in a state of boredom just in case it exhibits the properties that are capable of executing the function.

The strong view leads naturally to a revision of our answers to the ontological question and to the character question. On the one hand, it renders boredom an essentially functional state and identifies it with a role (or a second-order property). On the other hand, it permits us to revisit our characterization of boredom and examine whether the aspects of boredom previously discussed contribute to its function or not. The strong functional view would insist that only those features that are integral to the execution of boredom's function are in fact elements of boredom.

The strong functional view is not the only way to understand the functional nature of boredom, however. There is an additional way (the “*weak* functional view”) which is entailed by, but does not entail, the strong view. Unlike the strong view, this view has no ontological aspirations. It does not attempt to settle what boredom is, and consequently, it does not identify boredom with a function. All the same, the view holds that boredom is still functional in the sense that

its onset brings about (or attempts to bring about) changes in the physiology, psychology, and behavior of the experiencing agent with the aim of altering the agent's relationship to their environment. For what follows, I understand the functional view to mean the *weak* functional view, and I shall remain noncommittal as to whether one should also accept the strong view.

If boredom is functional, then what is its function? Given our description of boredom as the affective realization of an unmet desire for satisfactory engagement, boredom's function turns out to be a regulatory one. Specifically, boredom aims to regulate behavior such that one's engagement with a situation does not remain unsatisfactory. Boredom must then arise in situations that are deemed to offer unsatisfactory engagement (that is, a type of engagement that does not meet the agent's standards for satisfactory engagement) and should fail to arise in situations that do offer satisfactory engagement. Moreover, given its presumed regulatory function, boredom should motivate the agent to turn to situations that have the potential to meet their need for satisfactory engagement. These expectations are corroborated by available evidence. On the one hand, the objective and subjective elicitors of boredom are indicative of a failure of satisfactory engagement. These include monotonous, meaningless, and repetitive situations (Daschmann et al., 2011; Fisher, 1993; Ralph et al., 2017; Van Tilburg & Igou, 2012); situations that make the efficient deployment of attention difficult, if not impossible (Hunter & Eastwood, 2018; Westgate & Wilson, 2018); and situations that are characterized by sub-optimal constraint and challenge (Acee et al., 2010; Harris, 2000; Martin et al., 2006). On the other hand, both common outcomes of boredom (such as stimulating, novel, or exciting situations) and psychological states that are diametrically opposed to boredom (flow, concentration, or meditation) are ones that are thought to involve satisfactory engagement.

Still, what is the nature of unsatisfactory engagement that boredom alerts us to and from which it potentially protects us? Following a number of theoretical and experimental attempts to investigate the function and character of boredom, I propose that an adequate explication of "unsatisfactory engagement" is one that involves the notion of *cognitive engagement*. Accordingly, boredom pertains to the manner in which we cognitively relate to our environment: It signals the presence of an unmet desire for satisfactory cognitive engagement (Eastwood et al., 2012; Elpidorou, 2022a; Tam et al., 2021b; Todman, 2021) and motivates the restoration of satisfactory levels of cognitive engagement.

It is no trivial matter to define *satisfactory cognitive engagement*. Here, I advance one possible explication of this notion—without, however, insisting that this is the only way of defining it. I propose that satisfactory cognitive engagement requires: (a) a *direct* cognitive engagement with the object of our engagement (i.e., paying attention to it); and (b) the assessment that the psychological costs of sustaining such a direct cognitive engagement are acceptable to us (for a development of this position, see Elpidorou, 2022a; for related views, see Bieleke & Wolff, 2021; Tam et al., 2021b; Todman, 2021). Thus, we are engaging cognitively and satisfactorily with a situation if we can pay attention to it while also accepting that doing so is worthwhile given the psychological costs necessary to sustain our direct cognitive relationship with the situation. I should be quick to emphasize that the proposed explication of satisfactory cognitive engagement does not require that *all* forms of satisfactory engagement ought to meet conditions (a) and (b). Relaxation and spacing out, for example, can still be forms of satisfactory engagement even if they arguably fail to meet (a). Still, according to the provided account, they won't count as forms of satisfactory *cognitive* engagement.⁴

Accepting this characterization of satisfactory cognitive engagement offers clarity regarding the conditions under which boredom would typically arise. As a signal of unsatisfactory cognitive engagement, boredom would arise if there is nothing with which we can cognitively engage or if we cannot satisfactorily engage with the object of our cognitive engagement. The former

would occur when we find ourselves in a situation with nothing to do. The latter would occur when we are unable (or unwilling) to form a direct cognitive relationship with the object of our engagement, or when the psychological costs of sustaining a direct cognitive relationship are too high. Lack of attention becomes thus a sufficient but not a necessary condition for boredom (see also Westgate & Wilson 2018). In other words, the proposed account allows for the possibility that we can be bored with a task even while paying attention to it. A sustained attention task (Pattyn et al., 2008; Scerbo, 1998; Thackray et al., 1977), a movie riddled with clichés, or an activity that we were forced to perform may all give rise to boredom, even if they are the objects of our attention.

The proposal also highlights the relevance of judgments concerning the meaningfulness of our situation (Van Tilburg & Igou, 2012, 2017a). A judgment that our situation lacks meaning can be a cause of unsatisfactory engagement and thus lead to boredom. It can do that by precluding us from forming a direct cognitive relationship with the object of potential cognitive engagement: Because the object has been appraised to be meaningless, we choose not to cognitively engage with it. Alternatively, a judgment that our situation is meaningless can contribute to the psychological costs of sustaining a direct cognitive relationship with our situation: even though we are paying attention to the situation, we don't think that it is worth the effort of doing so precisely because it lacks meaning or significance. Finally, the view offered here underlines the importance of understanding boredom through an opportunity-cost lens (Kurzban et al., 2013; Martarelli et al., 2021; Struk et al., 2020; Todman, 2021; Wojtowicz et al., 2019). The onset of boredom is not solely determined by the objective characteristics of the task we are performing, but also by our perception of the effort and value associated with our present task and alternative tasks.

In sum, boredom is a psychological state that seeks to restore satisfactory cognitive engagement when such engagement is deemed to be absent. It arises when one wishes for but cannot achieve satisfactory cognitive engagement and motivates the pursuit of actions that can restore satisfactory cognitive engagement. We have now reached a description of boredom that explicates its role in our mental and behavioral economy, and one that is both consistent with and accounts for the reported findings on boredom's antecedents, concomitants, and outcomes. What remains to be demonstrated is how the proposed characterization of boredom also permits us to make progress in our attempt to understand its value.

The value of boredom

The bad

Any discussion of the value of boredom faces an obvious and immediate difficulty—boredom does not seem adaptive. The experimental induction of state boredom has been shown to lead to self-harm (Nederkoorn et al., 2016; Wilson et al., 2014), the harm of others (Danckert, 2021; Elpidorou, 2020; Pfattheicher et al., 2020), the pursuit of aversive experiences (Bench & Lench, 2019), and increased consumption of unhealthy food (Havermans et al., 2015). Moreover, if we turn our attention to *trait* boredom, the potential harms of boredom quickly multiply. Throughout numerous studies, *trait* boredom has been consistently shown to correlate with a host of physical, psychological, and social harms (see Vodanovich, 2003; Elpidorou, 2017).

Is it still meaningful, then, to investigate the value of boredom? How can we claim that boredom is somehow beneficial or valuable in light of the numerous maladaptive and harmful behaviors that are either instigated by or correlated with it? The functional view offers a solution to this puzzle. The assertion that a psychological state carries a function does not entail

that the onset of the state necessarily confers to the experiencing agent a benefit. Indeed, not only can a functional state fail to perform its function, but it can also perform its function when it should not.

Drawing upon the resources of the functional view, we can divide the etiology of the potential harms of boredom into the following four broad categories.

Category 1—Failure to execute: Boredom arises when there is no satisfactory cognitive engagement but fails to restore satisfactory levels of cognitive engagement.

Category 2—Non-beneficial exercise: Boredom arises when there is no satisfactory cognitive engagement and restores satisfactory levels of cognitive engagement, but the execution of its function does not benefit the agent.

Category 3—Failure to arise: Boredom is not experienced in situations that should give rise to boredom; these are situations that do not afford the agent with satisfactory cognitive engagement.

Category 4—Inappropriate onset: Boredom arises in situations that are not the typical elicitors of boredom; these are situations that afford the agent opportunities for satisfactory levels of cognitive engagement.

Category 1 describes cases in which boredom properly arises, but its onset does not lead to the execution of its regulatory function. Thus, one remains bored without being able to re-establish satisfactory cognitive engagement. The prolonged or frequent experience of boredom has been shown to pose severe risks to the well-being of subjects (Bargdill, 2000; Vodanovich, 2003). Such a regulatory failure could be due to either exogenous or endogenous factors. For an example of the former case, consider a situation that fails to offer the subject any satisfactory cognitive engagement and yet the subject is forced to remain in it. This can be a boring meeting, a tedious work shift, or having to wait to be seen by a doctor. In such situations, boredom would arise, but it could fail to restore satisfactory cognitive engagement. Situational factors could make it exceedingly hard for the subject to find satisfactory cognitive engagement—perhaps not even mind-wandering could offer solace from boredom. In other cases, boredom's regulatory failure can be attributed to some endogenous factor. It is possible, for example, that the inability to deploy attentional resources effectively or the possession of inappropriate expectations regarding the value or difficulty of one's tasks might impede the successful regulation of cognitive engagement. In addition, boredom may not contribute to the restoration of satisfactory cognitive engagement if the subject lacks the psychological resources needed to initiate departure from the situation that is believed to be the cause of unsatisfactory cognitive engagement (Mugon et al., 2018; Struk et al., 2016).

A failure to perform its regulatory function is not the only reason why boredom could lead to undesirable consequences. Even the successful execution of boredom's function does not guarantee that boredom will be beneficial to the agent. This realization reveals a second type of possible harms associated with boredom: Category 2. It is crucial to emphasize that boredom's function is a *regulatory* one. What this means is that the execution of boredom's function is not necessarily associated with the promotion of the prudential interests of the subject nor with the promotion of their moral interests (and those of others). It is easy to see how the regulatory function of boredom can diverge from the prudential and moral interests of the agent. Although not conducive to the well-being of the agent, dangerous or risky activities (e.g., speeding, drug use, gambling, self-harm, increased consumption of unhealthy foods) are often exciting or stimulating, and because of that, they offer relief from boredom (Bench & Lench, 2019; Nederkoorn et al., 2016; Wilson et al., 2014). What is more, the regulatory function of

boredom can give rise to actions that are even harmful to others (Danckert, 2021; Elpidorou, 2020; Fromm, 1973; Pfattheicher et al., 2020). Finally, it is common for individuals to find a situation boring even though doing so is contrary to their own interests. A typical example of this situation is the experience of boredom within academic contexts (Belton & Priyadharshini, 2007; Mann & Robinson, 2009; Pekrun et al., 2010; Vogel-Walcutt et al., 2012). The academic activity is thought to be important for the subject, but the experience of boredom makes it difficult for the student to focus, leading to outcomes (daydreaming, using one's phone, looking out the window, etc.) that can hinder academic success. Even though the experience of boredom in such settings does not help the agent to achieve their aims, it still successfully performs its function. Boredom regulates cognitive engagement and helps the agent to re-establish a satisfactory cognitive connection with the world. All the same, the satisfactory cognitive connection is not necessarily beneficial for the agent.

Category 3 cases do not reveal that boredom is itself harmful. Instead, what they show is that the absence of the experience of boredom can be potentially harmful to an agent (for a development of this position, consider Elpidorou, 2015). A failure to experience boredom in conditions that typically elicit boredom means that an agent can be in a situation that does not offer satisfactory cognitive engagement and yet the agent does not respond through the means provided by boredom. In the absence of the experience of boredom, the agent could remain stuck in monotonous, repetitive, banal, or meaningless situations. On the one hand, such situations, if frequent, could hinder personal growth and the pursuit of meaningful projects (Elpidorou, 2018a, 2020). On the other hand, these situations likely represent the inefficient use of one's limited resources: because one is not informed by one's emotions that it is time to move to a new project (Bench & Lench, 2013; Danckert, 2019), one keeps engaging with a project that likely has nothing more to offer to them.

Even though Category 3 cases do not establish that the experience of boredom is harmful, their existence carries important ramifications for our understanding of boredom. If there are indeed situations in which boredom *should* arise but does not, then this suggests that boredom is subject to *fitting* or *appropriateness* conditions. There are, in other words, situations to which boredom is an appropriate response. Indeed, the converse also appears to be true (Elpidorou, 2022b). If we allow the possibility of Category 4 cases, then there could be situations in which boredom arises even though it is not the appropriate response. Perhaps this is a characteristic of high boredom-prone individuals—they experience boredom even in situations that afford them the possibility of satisfactory engagement. Meaningful conversations, rich social interactions, beautiful musical compositions, excursions in nature, etc., could fail to properly engage one and could be perceived as boring. It is, of course, difficult to proclaim that such situations should never give rise to boredom. Still, they do carry the promise of satisfactory cognitive engagement: they contain features that are informationally rich, stimulating, engaging, or meaningful. Category 4 cases thus pose a danger because subjects are motivated to leave behind and ignore situations and goals that offer opportunities for satisfactory cognitive engagement.

Put together, Category 3 and Category 4 cases strongly suggest that boredom can fail to arise when it should arise and can arise when it should not arise. The realization that boredom may possess fitting conditions is theoretically important for the following three reasons. First, if boredom is subject to fitting conditions, then boredom is shown to be similar to most other emotions, insofar as they are also subject to fitting conditions. Second, the existence of fitting conditions can be used as a premise in support of the conclusion that boredom has a formal object in addition to its intentional target. In general, most emotions are characterized by a double intentionality: in addition to their particular intentional object (or target), they also possess a formal object (de Sousa, 1987; Kenny, 1963). The formal object of an emotion

The nature and value of boredom

is the axiological property represented by or correlated with the emotion type. Consider a particular instance of the emotion type of fear—I am afraid of the approaching spider. The particular object of my fear is the spider, whereas its formal object is *danger* (or the property *being harmful*). A formal object is considered to be an indelible part of the intentional structure of emotions (Teroni, 2007). Among other things, formal objects allow us to explain why our emotional experiences can sometimes be correct (fitting) and sometimes incorrect. An emotion is fitting when its particular object is such that it exemplifies its formal object. To determine whether an instance of fear is fitting or not, we must assess whether the feared object (that is, the particular object of fear) is in fact dangerous. Following this analysis, we can propose that boredom's formal object is the axiological property of *being cognitively unsatisfactory*. Boredom would be fitting just in case the specific object of one's boredom exemplifies the axiological property that boredom (as a type) is thought to represent. Consequently, the fact that boredom appears to have fitting conditions implies that boredom has a formal object. Third and finally, if boredom possesses fitting conditions, then it is subject to various normative standards. This illustrates that boredom is not a mere sensation but a part of our normative existence. Not everything should bore us, even if in principle everything could bore us.

Category 3 and Category 4 cases are admittedly contentious—perhaps not everyone would be willing to concede that boredom can misrepresent its object either by representing it as cognitively unsatisfactory when it is not, or by failing to represent it as cognitively unsatisfactory when it is in fact that. Even so, our discussion of Category 1 and Category 2 cases has done enough to highlight the potential harms of boredom—yet, we should take care not to conclude from such cases that boredom is *never* beneficial. A clear understanding of the harms of boredom is necessary in order to offer an accurate portrayal of its potential benefits. There is no doubt that many of our emotional states (e.g., fear, anger, pride, joy) bring about both harmful and beneficial outcomes. The same is true about boredom. Indeed, the value of boredom was already intimated by our presentation of Category 3 cases. Such cases illustrate that the capacity to experience boredom can be beneficial for an agent. What I would like to offer now is a more detailed discussion of the potential benefits of the actual experience of boredom.

The good

What are the benefits of experiencing boredom? When can the experience of boredom be valuable? In this section, I distinguish between different ways in which boredom can be beneficial and discuss how they relate to each other.

Regulatory benefit

The most fundamental type of benefit that boredom can confer to an agent or organism is the benefit associated with its regulatory function. Without a doubt, it is greatly beneficial for agents to be capable of regulating their psychological and behavioral states. Thus, if we accept the idea that boredom aims for or contributes to the restoration of satisfactory cognitive engagement, then boredom becomes beneficial. It supports and enhances the overall regulatory capacities of an agent insofar as it can help an agent avoid or escape situations that are characterized by low levels of satisfactory cognitive engagement. This regulatory benefit of boredom deserves, I believe, to be called “fundamental”—it is the primary and most important way in which boredom can be beneficial. As I show in what follows, all other kinds of benefits that boredom carries (or might carry) stem from its ability to contribute to self-regulation.

Andreas Elpidorou

Evolutionary benefit

Previous work has touched upon the issue of whether boredom carries an evolutionary advantage (Danckert, 2019; Elpidorou, 2018b; Lin & Westgate, in press). Although it is exceedingly difficult to confidently address this issue (especially given ongoing debates regarding the exact workings of natural selection, epigenetics, and random mutations), the acceptance of an evolutionary account of emotions allows us to consider boredom from an evolutionary perspective (Hasselton & Ketelaar, 2006; Keltner & Gross, 1999; Keltner et al., 2006; Tooby & Cosmides, 2008). The evolutionary view conceives of emotions as responses to recurring problems of physical or social survival. Applied to boredom, the view would hold that boredom is a psychological state that has been selected *because* of its ability to provide solutions to ancestrally recurring problems.

But what is the adaptive advantage that boredom offers? The regulatory function of boredom suggests a possible answer to this question. Self-regulation is vital for the well-being and survival of an organism. Insofar as boredom contributes to the regulatory capacities of an organism, it can be understood as a psychological tool that promotes survival. Through its ability to regulate cognitive engagement, boredom protects agents from prolonged engagement with situations that no longer offer opportunities for satisfactory cognitive engagement. Boredom could thus have been selected because of its capacity to promote forms of exploration (Danckert, 2019) or because of its ability to push an organism to pursue alternative situations and goals when the organism's current situations and goals are no longer meaningful, interesting, or cognitively engaging to them (Bench & Lench, 2013). Ultimately, by accepting an evolutionary account of boredom, one could propose that an organism that is equipped with a mechanism that allows for the regulation of cognitive engagement is, evolutionarily speaking, better off than an organism that does not.

Prudential benefit

An experience or psychological state is prudentially beneficial if it serves (or is conducive to) the pursuit of our goals. Under certain conditions, the experience of boredom could turn out to be prudentially beneficial. This potential benefit of boredom is once again intimately connected to its regulatory abilities. On the one hand, boredom can motivate us to abandon projects that no longer appear to us to be meaningful, interesting, or exciting. On the other hand, boredom could prompt us to pursue projects and goals that we would not have otherwise pursued (a new career, task, or talent) or, more broadly, activities that—compared to our present ones—seem to be more enjoyable, engaging, or meaningful.

The experience of boredom makes it likely that one would disengage from one's situation if such a situation is no longer cognitively engaging. Moreover, boredom is capable of urging us to seek out alternative forms of engagement (Bench & Lench, 2013; Elpidorou, 2018a, 2018b). Whether disengagement from one's current situation is beneficial to the agent depends on many factors, including the agent's material and social circumstances, goals, desires, opportunities, and abilities (Elpidorou, 2021c; Todman, 2021). The same holds for what kind of alternative situations one should pursue should they decide to abandon their present situation due to boredom. Consequently, although the experience of boredom could prove to be prudentially beneficial for subjects with sufficient resources (psychological, material, or social) at their disposal, it could harm others who lack those resources.

Epistemic benefit

Boredom can help us in our capacity as knowers. Specifically, boredom can facilitate a better understanding of our environment and enhance our self-understanding (Bortolotti & Aliffi,

The nature and value of boredom

2021; Elpidorou, 2014, 2020; Westgate & Steidle, 2020). The experience of boredom is revelatory of how we appraise a situation. If a situation bores us, then that situation does not cognitively engage us in a satisfactory manner—the situation does not capture our attention, it is deemed to be meaningless, or it is found to be unworthy of our time and effort. Such information is important not only because it discloses characteristics of our situation, but also because it helps us to think about how we should respond to our situation. For example, the realization that a romantic partnership, vocation, or hobby bores us can help us determine future courses of action and to examine our behaviors, attitudes, and assumptions. In addition, boredom also reveals something about who we are as individuals and about our goals (Elpidorou, 2014). A situation that elicits boredom is likely a situation that is not in line with our goals and personal values. Hence, boredom is an informationally rich state capable of aiding us in our endeavors as epistemic agents.

Eudaemonic benefit

Boredom also carries the potential to promote our eudaemonic well-being. Without having to rehearse details concerning debates surrounding the nature of well-being, a eudaemonic perspective insists that the notion of well-being is not captured by the presence of pleasure and happiness. Instead, in order to live well, an individual must be able to realize their potential—or, at the very least, they must be in a position to exercise certain human capacities (Ryan & Deci, 2000; Ryff, 1989; Ryff & Singer, 1998, 2000; Waterman, 1993). Following Ryff and Singer's (1998) development of the eudaemonic view of well-being, the good life is thought to involve—among other things—personal growth and the perception that one's life is purposeful and meaningful. Accordingly, a good life is characterized by progress by which one becomes better (intellectually, socially, and even morally). One often achieves this type of growth by realizing one's abilities and talents, and by being open to new experiences and challenges (Ryff, 1989; Ryff & Singer, 1998). Moreover, the good life is a life that makes sense to the agent, that coheres with the agent's self-identity, and that contains activities that are perceived by the agent to be meaningful.

The experience of boredom can contribute to both aforesaid dimensions of the good life. First, if experienced occasionally and responded to correctly, boredom can lead us into situations that are more conducive to our interests (Elpidorou, 2014, 2018a, 2018b, 2020, Sansone et al., 1992; Smith et al., 2009; Van Tilburg & Igou, 2011, 2012). Boredom is capable of promoting movement (Wolff & Martarelli, 2020) and of relieving us from cognitively unsatisfactory situations, thereby helping us to achieve our predetermined goals and develop our projects. It calls on us to engage our minds in ways that are conducive to the exercise and development of our skills and talents (Danckert, 2019). In doing so, boredom can foster personal growth.

Second, boredom can also contribute to the development of a meaningful life. Boredom itself is not a meaningful experience, but a crisis of meaning (Barbalet, 1999; Van Tilburg & Igou, 2011, 2012)—during boredom, we perceive our situation as lacking in meaning. All the same, boredom offers the agent with information about their circumstances and motivates them to pursue alternative projects when their current projects are no longer meaningful or significant to them. By both signaling a lack of meaning and spurring the pursuit of meaningful activities, boredom can be the catalyst for establishing or re-establishing a sense of meaningfulness and coherence (Barbalet, 1999; Van Tilburg & Igou, 2011, 2012).

Moral benefit

Boredom is neither inherently moral nor immoral. Nonetheless, it appears to be morally significant. Previous work has articulated different ways in which boredom (as both a trait and a state)

Andreas Elpidorou

carries moral significance (Danckert, 2021; Elpidorou, 2017, 2020; Fromm, 1973; Russell, 1930; Van Tilburg & Igou, 2021; Yucel & Westgate, 2021; for a review, see Elpidorou, 2021b). It was shown how boredom can: (a) motivate prosocial/antisocial behavior; (b) influence our moral judgments; (c) facilitate or hinder moral perception; (d) promote or hinder the pursuit of a good life; or (e) be morally appropriate or inappropriate insofar as one is—morally speaking—either better off or worse off when experiencing boredom or possessing the trait of boredom. In light of this body of work, it is clear that boredom carries moral significance. It can profoundly affect our moral behavior and existence. What is particularly relevant to our purposes is that the manner in which boredom affects moral behavior and existence depends on numerous factors such as situational constraints, opportunities for alternative engagement, and the subject's skills, attitudes, and psychological states. Because of that, the outcomes of boredom may be immoral (Danckert, 2021; Elpidorou, 2020; Pfattheicher et al., 2020; Van Tilburg & Igou, 2021), but they may also be moral (Van Tilburg & Igou, 2017b) or amoral. Boredom is not a mechanism that facilitates moral or immoral conduct, but one that regulates cognitive engagement. Moral or prosocial outcomes are thus possible, but only if they promise to yield satisfactory levels of cognitive engagement.

Conclusion

Boredom is complicated. In this chapter, I offered a functional account of boredom that understands it to be a psychological mechanism capable of regulating satisfactory cognitive engagement. Boredom arises due to the presence of an unmet need for satisfactory cognitive engagement and motivates psychological and behavioral changes that are conducive to restoring satisfactory cognitive engagement. The proposed description of boredom allows us to make progress in our examination of the potential harms and benefits of boredom. As a psychological mechanism that aims to regulate cognitive engagement, boredom is without a doubt a beneficial state. Nonetheless, the fact that boredom possesses this function does not guarantee that the experience of boredom would lead to beneficial outcomes. Although boredom can help our lives, it can also make them worse.

Notes

- 1 Regarding the issue of the essence of boredom, I take boredom to be essentially a functional state (see Elpidorou, 2022a). Regarding the question of what type of psychological state boredom is, my preferred view is that boredom should be treated to be an emotion (Elpidorou 2022b; see also: Westgate & Steidle, 2020).
- 2 One could develop this section further by presenting boredom's physiological, neurological, expressive, and behavioral correlates and by articulating how they contribute to its character. Such a task would have taken us too far afield from present purposes, so I decided not to undertake it here. Interested readers should consult the following works: Dal Mas & Wittmann (2017); Danckert & Merrifield (2018); Elpidorou (2021a), (2022a); Perone et al. (2019); Raffaelli et al. (2018); Ulrich et al. (2014); Yakobi et al. (2021).
- 3 I have chosen to present the strong functional view as the view that identifies boredom with a role and not with the realizer of a role (Levin, 2018). An example can help to illustrate the distinction between role and realizer functionalism. Suppose that we decided that declarative memory is a functional process and have defined it functionally as the ability to store and recall information. According to role functionalism, declarative memory is a role, and as such, it is not necessarily defined in terms of what realizes this role. So, regardless of its material constitution, any system with the ability to store and recall information is a system that possesses declarative memory. According to realizer functionalism, declarative memory is the underlying process (a set of neurological states or processes) that realizes the function of declarative memory in humans. By identifying boredom with a role, boredom becomes a

second-order property of an organism (or system): It is the property of having a set of features capable of jointly executing its function. In contrast, if boredom is taken to be the realizer of its role, then it should be identified with the specific neurological state (or process) that is capable of exercising boredom's function in humans. In the case of boredom, empirical findings and theoretical considerations strongly suggest that boredom should be identified with a role and not with the realizer of this role (Elpidorou, 2022a).

- 4 The proposed account of boredom renders boredom an affective state that is intimately connected to the monitoring of how we *cognitively* engage with our (“inner” or “outer”) world. As a result, one could ask whether boredom could also be related to non-cognitive forms of engagement (or lack thereof). In light of existing articulations of the character of boredom and findings regarding its possible antecedents and cognitive components, it is hard to conceive of the state of boredom in the absence of some form of dissatisfaction with the manner in which we cognitively engage with our situation. Even in cases whereby the object of boredom is some kind of physical activity (e.g., manual labor), one becomes bored and not just tired or exhausted precisely because of a perceived mismatch between desired cognitive engagement and actual cognitive engagement.

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Andreas Elpidorou

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