Article

The Science of Emotion: Mind, Body, and Culture

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Abstract: In this paper, I give readers an idea of what some scholars are interested in, what I found interesting, and what may be of future interest in the philosophy of emotion. I begin with a brief overview of the general topics of interests in the philosophy of emotion. I then discuss what I believe to be some of the most interesting topics in the contemporary discourse, including questions about how philosophy can inform the science of emotion, responses to aspects of the mind–body problem, and concerns about perception, cognition, and emotion, along with questions about the place of 4E approaches and meta-semantic pluralist[e] approaches in the embodied cognitive tradition. I also discuss the natural kind–social construction debate in the philosophy of emotion, the emerging field of cultural evolution, the import of a dual-inheritance theory in this emerging field, and I propose a possible way to integrate the frameworks of dual-inheritance theory and meta-semantic pluralism[e] to demonstrate at least one way in which the philosophy of emotion can contribute to the emerging field of cultural evolution. I conclude with a brief summary of this paper and note at least one significant implication of my proposal for the natural kind–social construction debate in the philosophy of emotion.

Keywords: philosophy of emotion; science of emotion; meta-semantic pluralism; embodied cognition; mind; mind–body problem; perception; cognition; emotion; cultural evolution; natural kind; social construction; dual-inheritance theory; evolutionary norm psychology

1. Introduction

In thinking about the philosophical aspects of emotion, I decided to proceed by informing readers about what I believe to be some of the most interesting research currently being pursued in the philosophy of emotion, especially from an interdisciplinary perspective. In short, to give readers an idea of what some scholars are interested in, what I found interesting, and what may be of future interest. I begin, in Section 2, with a brief overview of the general topics of interests in the philosophy of emotion. In Section 3, I discuss what I believe to be some of the most interesting topics in the contemporary discourse, including questions about how philosophy can inform the science of emotion, responses to aspects of the mind–body problem, and concerns about perception, cognition, and emotion, along with concerns about the place of 4E and meta-semantic pluralist[e] approaches in the embodied cognitive tradition. In Section 4, I introduce the natural kind–social construction debate in the philosophy of emotion, and in Section 5 I discuss how this debate can be related to the emerging field of cultural evolution and the import of the dual-inheritance theory to this emerging field. In Section 6, I propose a possible way to integrate the frameworks of dual-inheritance theory and meta-semantic pluralism[e] to demonstrate at least one way in which the philosophy of emotion can contribute to the emerging field of cultural evolution, and I conclude with a discussion of at least one significant implication of my proposal to the natural kind–social construction debate in the philosophy of emotion. I will note, however, that what I highlight here is only a small representative of the various interests in the philosophy of emotion, and I am sure that those scholars whom I have not mentioned here will forgive me for not doing so. As we are all aware, there is only so much time and space in a paper, let alone one's lifetime, to highlight all the interesting ideas that have been, and are being, pursued in the philosophy of emotion.

2. General Interests in the Philosophy of Emotion

There has been a rising interest in the philosophy of emotion [1], yet one might say it was always a topic of great interest. For examples, refer to Calhoun [2], Kenny [3], Neu [4], Rorty [5], Harré [6], Lyons [7], Gibbard [8], Solomon [9], de Sousa [10], Greenspan [11], Lazarus [12], Scheff [13], Stocker and Hegeman [14], Panksepp [15], Damasio [16], Ben-Ze'ev [17], Goldie [18], Helm [19], Nussbaum [20], Ekman [21], Prinz [22], Robinson [23], Frijda [24], Maiese [25], Deonna and Teroni [26], Mulligan and Schrerer [27], Colombetti [28], Barrett [29], Johnson [30], Tappolet [31], Brady [32,33], Cochrane [34], Furtak [35,36], Kristjánsson [37], LeDoux [38], Asma and Gabriel [39,40], Candiotto [41], Maiese and Hana [42], Benenti [43], Mun [44], Flanagan [45], and Alfano [46]. It has ancient roots across cultures, and one might say that many of the same questions that earlier scholars were concerned with still concern scholars of emotion today, including philosophers of emotion. One might broadly categorize the topics of concern covered by the above texts as those in the philosophical study of metaphysics, epistemology, language, (moral) psychology, ethics, and the social-political aspects of the world. Other topics which might be included are moral attitudes [47], moral education [48,49], and affects [50].[1] [51] The topic of emotions and religion from a philosophical, as well as a cultural or cross-cultural perspective, is also a worthwhile topic [52]. One might also consider the study of specific kinds of emotion or species of emotion. For example, grief [53]; boredom, frustration, and anticipation [54,55]; contempt [56]; envy [57,58]; anger [59–61]; disgust [62]; shame [63–74]; and love [75–78].

The *metaphysics of emotion* is a vast topic of interests, yet it is primarily concerned with the question of what kind of thing emotions are. For example, one might ask whether emotions are mental states, bodily states, a combination of mind–body states, or perhaps something wholly other than mental or bodily states, such as actions or processes [3,25,28]. One can also ask questions about what they are made of, what constitutes an emotion, or what their parts or components are (if they can be said to have parts or components). The *epistemology of emotion* can range from questions about whether one can have any kind of knowledge from or through our emotions to questions about whether emotions can be "rational" or have some sort of epistemic weight, similar to beliefs or perceptions. We can also ask questions about how we can know anything about emotions at all, and one could characterize such questions as questions in the *philosophy of the science of emotion*. The *philosophy of the language of emotion* involves questions about whether emotions are or involve some kind of language; and if so, how one might characterize such a language, explain how it has the meanings that it does and conveys them, as well as how one might identify the function or purpose of such a language and how it can be manipulated to do what it can do, has done, or is intended to do. This last aspect of the philosophy of the language of emotion might be more narrowly referred to as the study of *rhetoric*. The *moral psychology of emotions* can be said to be concerned with the psychological nature of our emotions, and especially those that are related to our values and ethical decision-making. Given this, the moral psychology of emotions often overlaps with ethics and meta-ethics, and is also a pivotal facet of socio-political explanations of the emotional aspects of our world. The moral psychology of emotions can also involve what one might refer to as the *ethics of emotion*, which includes questions about the moral appropriateness, correctness, rightness, or goodness of our emotional responses, and how we use our emotions. Such concerns, however, more often fall under concerns about *virtues*, *moral character*, and *moral education*. Social-political explanations that rely on emotions as the unit of measurement or explanation are also of high interest.

3. Meta-Semantic Pluralism

My most recent concerns have encompassed questions about specific emotion types or species, and especially the emotion of shame [72,74], as well as the genus *emotion* [44]. They also included questions about what emotions are, how we can know through our emotions, and the relationship between the mind and the body in general, as well as in our emotional experiences. I refer to the interdisciplinary approach that I take in answering

these questions as *meta-semantic pluralism about emotion* (meta-semantic pluralism[e]). This approach—which can also be understood as a framework for a philosophy of the science of emotion—was inspired by many foregoing theories of emotion, but it is especially rooted in a particular interpretation of Aristotle's approach to the mind. There are many such approaches, yet meta-semantic pluralism[e] emphasizes the semantically dualistic nature of Aristotle's hylomorphism [44] (p. 118), especially with respect to understanding the dualistic nature of mental phenomena. I refer to this component of meta-semantic pluralism[e]—its conception of a mind and its relationship to its body—as *semantic dualism*.

Also, unlike other Aristotlean theories, semantic dualism entails that conscious, first-person experiences are simply another dimension of the kind of material beings that we are. As I noted in my most recently published monograph, *Interdisciplinary Foundations for the Science of Emotion: Unification without Consilience*, regarding the claim that material things can be experienced from multiple perspectives:

> [A] corollary of this conclusion is that various things in the world can be categorized in accordance with their degree of objectivity, which would amount to their observational profusion, and one might regard such degrees of objectivity as defining degrees of "reality." For example, two dimensional figures would have less objectivity, and would therefore be less "real," than three dimensional figures, which would have less objectivity and reality than four dimensional figures. [44] (p. 143, fn. 23).

Given that conscious, first-person experiences are experiences with the highest degree of observational profusion (that we know of), since they are observations from both the "inside" and the "outside" of a material being (bracketing to the side talk of beings of 4+ dimensions', God's, or the gods' observational profusion, substantiality, and degree of reality), conscious experiences would have the highest degree of objectivity, and therefore reality, that any (four dimensional) material being can have.[2] Furthermore, given that substantive aspects of a material being (e.g., height, length, depth, and temporality) are dimensions, one can conclude that consciousness is yet another "dimension" of at least some material beings.

The transition from a non-mental to a mental being, and then to a conscious being, may also be a matter of crossing a certain threshold of information integration. For consciousness, this would be the threshold that would be necessary and sufficient for conscious, first-person experiences [44] (ch. 10), which has been made possible primarily by our evolutionary history [29,38,39,79]. One might consider this claim—that conscious, first-person experiences are simply another dimension of the kind of material beings that we are—to be quite controversial. I believe, however, that I might not be the only one who believes so. For example, such a view might also be held by at least some laypeople, spiritual people, physicists, and other philosophers, including Hindu, Buddhist, Daoist, and Confucian philosophers.

Semantic dualism also suggests a general account of the constitutive conditions *of conscious experiences*.[3] As I noted in my earlier work:

> [I]f we were to discover the physically necessary and sufficient neural conditions that a subject of blindsight lacks, which would "give rise" to the conscious experience of the stimulus of which these subjects can be said to have only "access consciousness" (Block 2007), or be "informationally sensitive" without being "experientially sensitive" (Flanagan (1992) 1998), these physically necessary and sufficient neural conditions, along with their bio-physio-psycho-social causes and effects, would be the physical constituents of that subject's conscious experience of that stimulus. [44] (p. 126).

My claim presupposed a certain kind of interpretation of Block's [81] and Flanagan's [82] work. I look forward to reading their more recent contributions to see if my interpretation remains, at the least, consistent with their current views.[4]

Furthermore, one might conclude that semantic dualism—and therefore, meta-semantic pluralism[e]—is inconsistent by including the "bio-physio-psycho-social causes and effects" as the physical constituents of a subject's conscious experience of some stimuli while also rejecting the extended mind thesis. As I noted in my most recent monograph:

> Although the idea that cognition is an aspect of a whole, living, embodied being as it interacts with the world in which it lives pre-dates the work of Varela, Thompson, and Rosch ((1991) 2016), they are typically recognized as the progenitors of the contemporary 4E movement (embodied, embedded, enactive, and extended) with which the notion of *embodied cognition* is typically associated. Semantic dualism accepts that the mind is embodied, embedded, and enactive, but it rejects that it extends outward beyond the boundaries of a subject's living body. It does, however, accept the possibility of an artificially integrated, hybrid cognitive system, and therefore a kind of artificially integrated, hybrid cognition. [44] (p. 140, fn. 4.)

That semantic dualism is not a 4E framework, however, does not make it any less of an *embodied cognitive framework*. The extended-mind thesis is often associated with philosophers Andy Clark and David Chalmers [84], and one of the main contentions between their view and my own is that in my view "meat matters." There's a difference between the kind or degree of integration that can be done by animal proteins and fats compared to other kinds of information processing substrates (and especially inert matter). I agree that this sort of view is rather conservative, but I believe that it's important to make sense of a wide variety of ordinary language meanings and intentions, even if the meanings and intentions of ordinary languages are always evolving. In other words, semantic dualism is *optimistic about ordinary language meanings*. This is also one aspect of what makes meta-semantic pluralism[e] a kind of realism about emotion.

The rejection of the extended-mind thesis does not also entail that semantic dualism is inconsistent when it claims that the "bio-physio-psycho-social causes and effects" of conscious experiences are aspects of the physical constituents of a subject's conscious experience of objects in the world. The world consists of more than that of material extension: the world is also constituted by relations between materially extended things in the world. Yet, these relations are not yet another kind of substance, they can instead be fundamentally understood as powers, for example in a way consistent with Nancy Cartwright's [85] powers ontology, which she refers to as a "Trias" ontology. Relations are especially necessary, as units of measurement, for any science. Yet all relations, including relations of ideas, can be ultimately traced back to interactions between materially extended things. This includes our ideas of causation, and how we understand the world based on our culture [86]. Such bio-physio-psycho-social causes and effects, therefore, are constitutive of our conscious experiences to the extent that they provide at least some of the basic information that is necessary for any conscious being to have first-person, conscious experiences of the world.

4. Culture, and the Objective Kinds Versus Subjective Kinds Debate

I also attempted to contribute to the debate on the question of whether emotions, or really any psychological phenomena, can be cleanly divided into *natural kinds* and *social constructions*, although I prefer the language of *objective kinds* and *subjective kinds* [87]. The question I addressed goes beyond the level of species, and it also asks whether the genus *emotion* can be a natural kind or a social construction. In this argument, I focused primarily on the cultural diversity of emotion concepts. I argued that "In order for the cultural diversity of emotion concepts to have any metaphysical import on the status of Emotion as an objective kind, it must be shown that the cultural diversity of emotion concepts is significantly related to concerns regarding the objective kind status of Emotion" [87] (263–264). I also observed that to do so, one would need to prove at least the possibility of one of the following claims to be true:

(1)   Cultural Diversity Hypothesis: "If emotion terms or concepts were culturally diverse, then Emotion would not be an objective kind." [87] (p. 264);

(2)   Objective Kind Hypothesis: "If Emotion were an objective kind, then emotion terms or concepts would not be culturally diverse." [87] (p. 264).

Also note that for these two conditions to be able to adjudicate the debate between natural kind theorists and social constructionists they must be mutually exclusive statements. In other words, for these two claims to be opposing hypotheses, one must presuppose that both cannot be true at the same time, although they can both be false, or one can be true while the other is false. Granting all the foregoing, the problem is that these two claims can both be false, as evidenced by the analogous case of the culturally diverse concept *cow*. The concept *cow* is culturally diverse, yet the referent of these concepts can be said to be an objective kind (i.e., a bovine). Thus, as I argued, the debate regarding the question of whether or not emotions are natural kinds or social constructions, or whether emotion is a natural kind or a social construction, cannot be resolved by any evidence regarding the cultural diversity of a concept [87].

Given my arguments, one might wonder whether there is any sense to be made of the ongoing research on the cultural diversity of emotions [45,72,74,88–90]. One interesting observation based on a reading of Gendron's paper, "Revisiting Cultural Diversity: Cultural Variation Reveals the Constructed Nature of Emotion Perception" [89], is that at least one aspect of the debate has shifted from concerns about the cultural diversity of emotion concepts to questions about the nature of emotion perception (which is also often referred to as "emotion recognition"). Questions regarding the cultural diversity of the concept of emotion, however, may still be relevant depending on whether or not the perception or the experience of emotion can be said to be cognitively penetrable, and the implications of such findings on emotional experiences and how one conceives an emotion type/species or emotion.

Another question with which research on the cultural diversity of emotion might help us is the question of whether emotions are products of a unified system, with localized neural correlates that have evolutionarily evolved into a unified system to respond to a restricted domain of internal and external problems, and which can be differentiated from other evolved systems (e.g., emotion *versus* non-emotional cognition), or the product of the responses of evolved "general purpose" systems to external and internal problems. Such considerations can also occur at the lower level of emotion, in which the object of inquiry is a particular emotion type or species.

Traditionally, these are the questions that differentiated realists [21,22] and eliminative-realists [15,91,92] from instrumentalists [29,79] and eliminativists [93–96] about emotion. Such debates are also commonly cast in terms of the debate between those who hold the Universality Thesis from those who do not [97]. The appeal to cultural universalities or variations of an emotion type/species (or of emotions, more generally) is intended to demonstrate that an emotion type/species (or emotion) is an objective kind or subjective kind. On the side of those who hold the Universality Thesis, the concern is primarily with demonstrating that there is at least some kind of emotion system (*qua* an emotion type/species or emotion) that is typical or representative of humanity or our capacity for emotions. One example, which takes us back to the shift in research focus mentioned above, is Haidt and Keltner's interpretation of the Universality Thesis, which claims that "there is a small set of facial expressions that are interpreted reliably and similarly as expressions of specific emotions, at levels far above chance, by (most) people in (nearly) all cultures" [97] (p. 228). I'll refer to this as the *Universal Facial Expression and Interpretation Thesis*.

One crucial assumption here is that such universal capacities are grounded by some underlying set of mechanisms or features of the human mind, which are unified through evolutionary processes, to express and detect an emotion type or species (e.g., a basic emotion) or a narrow set of emotion types or species (e.g., basic emotions). On the opposing side—those who deny the Universality Thesis—the primary concern is to demonstrate that no such unified system exists. For those who deny the Universal Facial Expression and

Interpretation Thesis, this might entail not only challenging the methods used by those who uphold the Universality Thesis, but also collecting countervailing evidence against this thesis.[5]

One can, however, question the applicability of the evidence for the cultural universalities or diversities of emotion in adjudicating between debates about the Universality Thesis. One might argue in response that evidence for the cultural universalities or diversities of emotion would help adjudicate the debate between those who hold the Unity Thesis and those who hold the Disunity Thesis, as defined by Colombetti [28] (p. 28). According to Colombetti, the Unity Thesis is the thesis that, given a distinction between basic emotions and non-basic emotions, there is some kind of unifying relationship between the two different kinds of emotion (e.g., that one is a "building block" of the other) [28] (p. 26). The Disunity Thesis is defined as the position that basic emotions are entirely distinct from non-basic emotions [28] (p. 26). Ekman [21], Damasio [98], LeDoux [99], Plutchik [100], and Prinz [22] are given as examples of those who hold the Unity Thesis, and Griffiths [91] and Panksepp [15] are given as examples of those who hold the Disunity Thesis. Yet, there is a question as to how evidence regarding the cultural universality or diversity of emotions could adjudicate this debate. This is especially so since Colombetti also regards herself as holding the Unity Thesis, although one that rejects the initial presupposition that there exists a distinction between basic emotions and non-basic emotions [28]. Given this possibility, one might also include Barrett [29,79], Russell [93,94], and again LeDoux [38] as those who hold a version of the Unity Thesis.[6] The result, however, would be that the distinction between those who hold the Unity Thesis and those who hold the Disunity Thesis is no longer practically useful for adjudicating between certain types of theories, such as objective kind theories from subjective kind theories, which was the original intention of postulating the Unity/Disunity Thesis as a mutually exclusive distinction.

As noted earlier, the Universality Thesis is typically associated with debates between objective kind theorists and subjective kind theorists. Objective kind theorists can be categorized into realists about emotion or eliminative-realists about emotion, whereas subjective kind theorists can be differentiated into instrumentalists or eliminativists. These categories of objective kind theorists and subjective kind theorists can also be respectively mapped on to the categories of natural kind and social constructionist theorists, although the overlap may be somewhat fuzzy. So, the question about the applicability of the evidence for the cultural universalities or diversities of emotions can—to some extent—also be understood as a question about the applicability of this evidence in adjudicating the traditional debate between natural kind theorists and social constructionists. Furthermore, because of the vastly complex ways in which one might interpret the Universality Thesis, any scientist who wishes to garner evidence for one side or another must narrow their interpretation to reportable/observable factors. This is why Haidt and Keltner narrowed their interpretation to what I referred to as the "Universal Facial Expression and Interpretation Thesis".

Now, given this narrowing of the debate, one might ask how evidence about the cultural universality or variability of emotion facial expressions/recognitions might help adjudicate the debate between objective kind theorists and subjective kind theorists. Let us say that a considerable amount of evidence was found in support of the claim that, despite there being a significant amount of cultural variability in facial expressions/recognitions between individuals across cultures, there is also a significant amount of evidence for the cultural universality of facial expressions/recognitions for a very narrow set of emotions. How can we imagine the ways in which such evidence can be explained by either an objective kind theorist or a subjective kind theorist, and how must these explanations differ in order for one type of explanation to rule out the other? An answer to these questions would be necessary if the aim is to appeal to the cultural diversities or the cultural universalities of emotion expressions/recognitions to adjudicate between these two seemingly opposing positions.

Yet, this question is still too broad for us to get any real traction on the problem of determining whether evidence for the cultural universalities/diversities of emotion can

help adjudicate the debate between objective kind theorists and subjective kind theorists. There is a difference between emotion expression and emotion recognition, and one might argue that the mechanisms that ground these capacities may differ in significant ways. For example, Gendron argues that there is strong evidence against the Universality Thesis, as it pertains to the perception of emotion (i.e., emotion recognition) [89]. With respect to emotion expression, Coles, Gaertner, Frohlich, Larsen, and Basnight-Brown gathered evidence in support of the claim that posed facial expressions can feedback to affect a subject's occurrent emotional state [101]. This suggests that there is strong evidence in favor of an objective kind theorist's interpretation of the Universality Thesis, as it pertains to facial expressions, such as Haidt and Keltner's. That it does, however, also relies on the assumption that facial expressions involve first-person, reflexive recognitions of emotion types/species. It is in this sense that research on facial expressions can also serve as research on emotion recognition. The two can come apart, however, as suggested by the two sets of findings taken together.

Yet, what do these findings tell us about the debate between objective kind and subjective kind theorists? If one were to suppose that what explains the social constructed nature of second-/third-person emotion perception is that it is a product of a unified system, nothing stops one from postulating that the system is an aspect of more general purpose mechanisms working together in concert, as long as some principle for unifying those mechanisms can be identified.[7] For example, a *superordinate inference rule* for an emotion type/species or emotion [102]; [72] (ch. 2); [44] (chs. 8 & 10). Nothing also stops someone from proposing that the system responsible for the expression/recognition of first-person, reflexive experiences of an emotion type/species is an evolutionarily evolved, modular system that can be differentiated from the more general-purpose kind of system(s) that might be postulated for second-/third-person emotion perception. Doing so might simply depend on how one might define what it means for a system to be *modular*, and whether something like a *connectionist* or *dynamic system* can be said to be modular or have modular "components." Furthermore, it might be possible to unify the system responsible for first-person emotion expression/recognition and second-/third-person emotion recognition by appealing to something like the mechanisms of mirror neurons or simulation [103]. One might also raise methodological questions, such as questions about the appropriate conditions for experimental observations [104].

Given these possibilities, what might one say about the objective kind/subjective kind debate. The answer: *quite a lot*! The reason is that the position one takes on fundamental questions, including whether emotions or emotion is a subjective or objective kind, is a guiding presupposition that is intended to direct ongoing research. It may be the case that two seemingly opposing frameworks are not in fact mutually exclusive, but we cannot know this unless we initially assume that it is, and then pursue rigorous research. Furthermore, if some framework happens to become the foundation for a normal science (refer to Kuhn [105]; cf. Feyerabend [106]), this would not preclude the importance of past frameworks or the pursuit of future frameworks that are believed to challenge the widely accepted framework(s) of a normal science.

The science of emotion has yet to settle into a normal science, however, and one might suppose that the complexity of the object of inquiry might inhibit it from doing so, or perhaps prudential concerns about how research ought to be pursued may lead us to an alternative solution for cooperative research and theorizing in the science of emotion. But the fact is, *we don't know this yet*. Perhaps the best decision here, then, is to continue to pursue rigorous research in the science of emotion, with scholars attempting to defend and critique a variety of frameworks, including philosophical frameworks, in the science of emotion. For example, one might consider Seth's recent defense of the integrated information theory as a scientifically viable thesis [107], which ultimately supports aspects of the framework of meta-semantic pluralism[e]. One might also consider Mesquita's account of how cultures create emotions [90], which may be thought of as drawing out at least some of the implications of at least some of the foundations I provided in my *semantic dualist*

account of emotions (semantic dualism[e]) [44] (273–294), such as the claim that emotions are a kind of language; although there are some significant differences between our two views, which the meta-semantic taxonomy of theories of emotion that I provided as an aspect of meta-semantic pluralism[e] might help clarify.

I now turn to a discussion of the emerging field of cultural evolution, which may provide a foundation for yet another position within the objective kind/subjective kind (natural kind/social construction) debate, including on the nature of emotions or emotion. Such a position, however, should be regarded as a realist or eliminative-realist position, depending on whether the framework in question presupposes an *optimism or a pessimism about ordinary language with respect to the science of emotion*. Furthermore, it may throw some considerable light on the objective kind/subjective kind debate in that it suggests that the explanatory difference between the two kinds of framework might only make sense within a synchronic perspective, compared to a diachronic (evolutionary) perspective, of emotional phenomena.

5. Cultural Evolution, Dual-Inheritance Theory, Norms and Emotions

In the paper, "A Cultural Species and Its Cognitive Phenotypes: Implications for Philosophy" [108], Henrich et al. introduce the emerging field of *cultural evolution* (also refer to Lewens [109]). It is a developing interdisciplinary field of research that includes anthropologists, psychologists, linguists, neuroscientists, computer scientists, and philosophers, much like the field of cognitive science.[8] Furthermore, much like cognitive science and psychology, the main goal of the field is to proffer evidence and arguments with respect to the question of whether reliable findings about individual-level psychology can be generalized to the human species, especially in light of the fact that there are diversities across human cultures. In other words, it is a field that can be understood as being dedicated to questions about the debate between natural kind theorists and social constructionists (or, perhaps more precisely, objective kind theorists and subjective kind theorists), especially with respect to human psychological phenomenon, given the presupposition that there is a diversity of patterned, human behaviors—which are rooted in human psychologies—that can explain the phenomena of cultural diversities. Here, then, *cultures* are the *object of study*. To this extent, the field of cultural evolution can be understood as a field of anthropology, pursued from an interdisciplinary perspective. More broadly speaking, one might simply take cultural evolution to be a field in the *study of human culture*.

Kelly and De Block note several approaches to the study of human culture, including biological, structuralist, and evolutionary psychological approaches, although they discount ecological approaches and those that appeal only to more general-purpose psychological mechanisms (e.g., causal reasoning and trial-and-error reasoning) as being strictly about the study of culture [110]. Drawing from Ramsey [111], Kelly and De Block define *culture*, as the "information transmitted between individuals or groups, where this information flows through and brings about the reproduction of, and a lasting change in, the behavioral trait" [110]. What ecological and general-purpose psychological approaches lack, according to Kelly and De Block, is the focus on the transmission of information between individuals and groups. One interesting implication of demarcating the study of human culture in this way, especially for the philosophy of emotion, is the question of whether such boundaries inhibit ecological and general-purpose psychological approaches from making or being recognized as making any significant contribution in the study of culture. For example, consider Atzil, Gao, Fradkin, and Barrett's theory of sociality [112], and Barrett's theory of constructed emotion [113]. Given Kelly and De Block's definition of culture, one might wonder if these explanations count as contributing to the study of culture, including the cultural diversity of emotions. Insofar as these approaches are interpreted as providing explanations of *evoked culture* rather than *transmitted culture* (the second which includes an account of information transmitted between individuals), Kelly and De Block might deny that they do [110]. Accordingly, general-purpose psychological approaches might then be

categorized along with evolutionary psychological approaches and ecological approaches as providing explanations of *non-cultural mechanisms*.

The field of cultural evolution, then, can be understood as a field of study that has been carved out over debates regarding the existence of natural kinds/social constructions (or objective kinds/subjective kinds), including with respect to emotions or any other psychological phenomena. However, rather than postulating that the psychological kinds under inquiry are fundamentally natural kinds or social constructions, the field of cultural evolution presupposes that at least some psychological kinds have both evolutionary roots that are biologically traceable through our evolutionary history (e.g., in terms of genetic factors or evolutionarily evolved mechanisms), and yet their evolution also requires an appeal to cultural explanations [108,114,115]. The basic idea here is that of the coevolution of culture and biology, wherein culture influences biology through selection pressures and *vice versa*.

Henrich and his colleagues refer to their approach in the field of cultural evolution as *dual-inheritance theory*, according to which human beings have "evolved a suite of reliably developing cognitive abilities" that ontogenetically adapt our minds, information-processing capacities, and emotions to a diverse, culturally constructed world [108]. Furthermore, Henrich and McElreath note that dual-inheritance theorists also hold the following three principles as core principles of their framework:

(1) *Cultural capacities as adaptations*. Culture, cultural learning, and cultural evolution arise from genetically evolved psychological adaptations for acquiring ideas, beliefs, values, practices, mental models, and strategies from other individuals by observation and inference;

(2) *Cultural evolution*. Our cultural learning mechanisms give rise to a robust second system of inheritance (cultural evolution) that operates by different transmission rules than genetic inheritance, and can thus produce phenomena not observed in other, less cultural, species;

(3) *Culture–gene coevolution*. The second system of inheritance created by cultural evolution can alter both the social and physical environments faced by evolving genes, leading to a process termed culture–gene coevolution. [116] (556–557)

According to Kelly and Hoburg's reading of Henrich's dual-inheritance theory, this theory models the process of coevolution in terms of a two-tiered system [115]. The first "more ancient" tier is constituted by "mechanisms and 'social instincts,' which are not unique to human beings and "are shaped by and operate according to the dynamics of kin and reciprocal cooperation" [115] (p. 7). Following Richerson and Boyd, one might refer to these social instincts as *ancient social instincts* [117]. With respect to Henrich and his colleagues' three principles (listed above), they are the *cultural capacities* that give rise to culture, cultural learning, and cultural evolution, which are explained by individual-level, evolutionarily adapted mechanisms of observation and learning that function for the purpose of acquiring ideas, beliefs, values, practices, mental models, and strategies. Also following Richerson and Boyd, the second tier is constituted by *tribal social instincts* [117], which Kelly and Hoburg also note are phylogenetically younger, biological mechanisms compared to ancient social instincts [115] (p. 7). Tribal social instincts are cultural capacities that arise through alternative rules for observation and learning—those that are more effective in conditions of intergroup association and competition—compared to ancient social instincts.[9] They are *cultural capacities* that are responsible for what Henrich and McElreath refer to as *cumulative cultural evolution* [110,115,116]. Both the ability to attend to kin relationships and participate in reciprocal altruism, as discussed by Kelly and Hoburg [115] (p. 7), and the capacity to track non-kin group membership and to recognize, acquire, and deploy normative rules, can be understood as examples of cultural capacities.

A dual-inheritance theory approach to the study of culture, however, need not take the specific kind of approach proposed by Henrich and his colleagues. For example, consider the discourse on the *evolution of norms*, which can be understood as a narrower focus in the field of cultural evolution. Kelly and Davis, introduce two models for a *theory of social norms*.

They refer to the first as *Bicchieri's social expectation account*, and they refer to the second as the *Minimal Account*, which takes what they refer to as a *cognitive evolutionary approach* to cultural evolution [118]. Bicchieri's account regards social norms to be *individual-level rules*—rules that operate at the level of an individual's psychology—and their functions produce group-level regularities, which can be understood as social norms [119]. Kelly and Davis refer to the set of individual-level rules that are both necessary and sufficient for the emergence of a social norm as a *Bicchieri-cluster*; the norm that arises from a Bicchieri-cluster is referred to as a *Bicchieri norm* [118] (p. 56).

A Bicchieri-cluster can then be said to explain the formation of a social norm by establishing a set of conditions: the condition of contingency and the condition of conditional preference [119] (p. 11). The condition of *contingency* can be considered an epistemic-motivational condition, in which an agent has knowledge of a social norm and appropriately applies it within a given situation [119] (p. 11). The condition of *conditional preference* might be what Kelly and Davis refer to as Bicchieri's motivational feature (i.e., "conditional conformity" [118] (p. 55)), in which an agent has a preference to conform to a social norm because they have both (a) an *empirical expectation* that a sufficiently large number of people conform to the norm in question, and either (b) a *normative expectation* (with sanctions) or (c) a *normative expectation* (without sanctions) [119] (p. 11). Empirical expectations can be understood as perceived or predicted statistical regularities of a social norm being implemented within a population, whereas a normative expectation (with or without sanctions) can be understood as involving predictive-processing mechanisms that track and predict self-reflexive, other-oriented, normative assessments.[10]

Kelly and Davis refer to their proposed theory of social norms as the *Minimal Account*, which takes what they refer to as a *cognitive evolutionary approach* to cultural evolution. One way in which the Minimal Account differs from Bicchieri's social expectation account is that the Minimal Account seeks to provide an explanation of a wider set of phenomena. The focus of Kelly and Davis' account aims at explaining norms in general (e.g., moral and nonmoral norms), whereas Bicchieri's account aims primarily to provide an account of "social norms" conceived as functioning to solve coordination problems, specifically problems of individual–group conflict (i.e., "a tension between individual and collective gains"), in contrast with *descriptive norms* (including *conventions*) [120] (p. x). Such problems of coordination might also differ from problems of cooperation, although there are problems of cooperation that would include problems of individual–group conflict.

Kelly and Davis also differentiate what is *normative* (as an injunctive norm) from what is *normal* (a descriptive norm). One might say what is normal is what is tracked by Bicchieri's mechanisms for empirical expectations (i.e., statistical regularities), and although what is normal may in fact also be normative, that something is normal does not alone qualify it as something that is normative [121] (pp. 57–58). What is normative goes beyond what is normal to the extent that what is normative is *internalized* in such a way that it acquires a kind of *motivational force* (i.e., *normative force*) [121,122]. Such a force is often associated with feelings or beliefs about "the right thing to do," what one "ought" to do, or what is *intrinsically good* rather than what is *instrumentally good*. To this extent, one might refer to such a normative force as *deontic force*, which is essentially motivational.

Although one might also describe Bicchieri's social expectation framework as including an internalization process (i.e., the embedding of social norms as scripts), Kelly and Davis' framework is distinct from Bicchieri's insofar as it also includes an explanation of social norms that have deontic force (i.e., *moral norms*), which would be especially motivational (perhaps rather than cognitive, given that one believes that the embedding of scripts is necessarily cognitive). This is primarily because, as previously mentioned, Bicchieri also divides "social norms" from "moral norms," and her social expectation account is intended to only account for what she refers to as "social norms" [119] (p. 20).

Harkening back to my foregoing discussion about the debate between objective kind theorists and subjective kind theorists, one might say that Bicchieri's social expectation account takes social norms to be a subjective kind, whereas Kelly and Davis' Minimal Ac-

count seems to take social norms, and norms in general,[11] to be heterogeneously-objective kinds.[12] One reason is that Bicchieri's account ultimately takes beliefs to the be the primary units of explanation, and beliefs are ultimately accounted for by postulating the operation of more general-purpose mechanisms. In contrast, the Minimal Account takes dual-inheritance theory as its overarching framework for situating social norms within the larger context of cultural evolution. Accordingly, the Minimal Account can be interpreted as postulating a model of cultural evolution which focuses on two general objects of study: genetically inherited motivations for recognizing, acquiring, and implementing some set of norms (ancient social instincts), and internalized, culturally inherited motivations for recognizing, acquiring, and implementing norms (tribal social instincts) [118].

Ancient social instincts are proposed to operate within the context of kin or intra-group relations and attend to status based on dominance, whereas tribal social instincts operate within the context of larger, tribal or inter-group relations and attend to status based on prestige [118]. Both sets of instincts, however, can be understood as having adapted, survival functions (i.e., cooperative and competitive functions). A focus on the first can provide an explanation of *gene–culture coevolution* whereas a focus on the second can provide an explanation of *culture–gene coevolution*.[13] Together, these two kinds of explanations can be viewed as closing the spiral of a coevolutionary explanation.

One might also situate Davis and Kelly's *molecular approach to emotion* within their broader Minimal Account of norms, in accordance with a dual-inheritance theory of coevolution. The molecular approach to emotion adheres to an *etiological-functionalist* architecture of the mind [121]. As Davis and Kelly note:

> Another basic feature of our account will be a general conception of psychological explanation that we refer to as etiological functionalism. According to this doctrine, also discussed as "homuncular functionalism" (Lycan 1981, 1995, following Dennett 1978) and "functional analysis" (Cummins 1975, 1983, 2000), psychological explanations ideally begin by individuating behavioral capacities, or identifying distinct abilities in terms of their functions—what they are for. Explanation then proceeds by construing the performance of functions in a hierarchical fashion, such that more complex functions are analyzed into component parts which are ascribed their own, simpler functions, each of which is in turn further analyzed into its own component parts with their own functions, and so on. What makes this kind of hierarchical analysis etiological, however, is a further commitment to a specific way of identifying and individuating functions. [121]

Given the complexity of the kind of explanation that Davis and Kelly seek to provide, it makes sense to conceive of the mind in terms of an etiological-functionalist account. One might note the consistency between this approach and the meta-semantic pluralist[e] approach discussed in earlier sections, and especially given something like Cartwright's Trias ontology. With respect to the objective kind/subjective kind debate, insofar as the Minimal Account postulates evolutionarily adapted functions that are genetically inherited to be objective kinds, the framework's ability to unify a cluster of mechanisms into a larger mechanism would primarily depend on the ability to functionally unify the mechanisms in question. With respect to the molecular approach to emotion, Davis and Kelly first differentiate motivational functions from cognitive functions, and they associate emotion types/species primarily with motivational functions, although an emotion type/species might be further differentiated into sub-categories in accordance with their cognitive contents. For example, anger, according to Davis and Kelly, provides the *intrinsic motivational force* for the emotions of *righteous anger*, *defensive anger*, and *competitive anger*, and what differentiate these three subtypes are their cognitive contents (which includes their ecological and social context) [121]. More specifically, righteous anger, unlike defensive anger and competitive anger, has *normative* cognitive content (i.e., are motivations with deontic force) [121]. To this extent, defensive anger and competitive anger may be understood as ancient social instincts, whereas righteous anger might be understood as a kind of tribal social instinct.

I applaud Davis and Kelly's intricate framework, and I'd like to suggest a way in which one might incorporate meta-semantic pluralism[e] to help further flesh out and unify the Minimal Account and the molecular approach to emotion, toward a more complete or detailed account of the cultural evolution of norms. First, let us suspend the question of optimism/pessimism about ordinary language in emotion research, and focus primarily on the objective kind/subjective kind debate. This ought to be fairly easy to do, given that both the molecular approach and meta-semantic pluralism[e] are realist theories of emotion, although the molecular approach, as conceived by Kelly and Davis, might be more appropriately characterized as an eliminative-realist account rather than a realist account (given their position on the question about optimism/pessimism), which is similar to Scarantino's approach, for example [123]. Second, Davis and Kelly also note that their "molecular approach is not primarily concerned with the phenomenological, qualitative experiences that accompany various physiological states" [121]. Let us also agree to bracket phenomenological or physiological factors for the time being, and focus primarily on providing an etiological-functionalist account.

Granting all of the foregoing, the question remains as to how one might integrate a molecular approach to emotion and a Minimal Account of the coevolution of norms with a meta-semantic pluralist[e] approach to emotion. Doing so might prove to be a worthwhile exercise in itself, but it would also demonstrate the continued fruitfulness of the categories, methods, and approach to emotion research that I proposed in *Interdisciplinary Foundations for the Science of Emotion*. This is especially so since, once again, meta-semantic pluralism[e] entails a realist approach to emotion, whereas and Kelly and Davis' molecular approach takes an eliminative-realist approach, and some might believe that the two approaches are contradictory approaches.

6. A Proposal for Unification without Consilience

One ideal place in which one might unify the frameworks of the Minimal Account of norms, the molecular approach to emotions, and meta-semantic pluralism[e] is with the question of how one might demarcate an etiological-function, such as a motivational, emotional, or cognitive function, or the functions of an emotion subtype (e.g., fear, anger, disgust, shame, awe, and joy). Given the molecular approach to emotions and the over-arching framework of dual-inheritance theory, emotions can be differentiated into at least two subtypes: ancient social instincts and tribal social instincts. Furthermore, the *core of anger* can be identified with the ancient social instinct of anger, whereas righteous anger can be identified as a tribal social instinct. The ancient social instinct of anger provides the emotional core of anger (i.e., *basic anger*), and defines its function as a type of *anger*, and righteous anger is a cognitively elaborated mode of this function (i.e., *moral anger*). Furthermore, according to the Minimal Account of norms, a social norm may be an internalized norm, which has been identified, acquired, and employed within the context of tribal-intergroup relations, rather than within the context for the evolution of a basic emotion (i.e., the context of kin-intragroup relations).

From the perspective of a meta-semantic pluralist[e] approach, a basic emotion (such as basic anger) could form the core of a more cognitively elaborated emotion (such as moral anger), and could provide the motivational component of moral anger. Furthermore, the internalized social norm that mediates basic anger into a tribal instinct of moral anger could constitute an essential cognitive component of moral anger (i.e., its differentiae).[14] To further elaborate, one might consider Kelly's account of disgust as both an ancient social instinct and a tribal social instinct [62,121,124]. According to Kelly, basic disgust is a culturally adapted mechanism that is distinctive of humanity to the extent that it is a function that is constituted by the uniquely human evolutionary entanglement of at least two evolutionarily distinct mechanisms: the *poison mechanism* and the *parasite mechanism* [62] (p. 510). These mechanisms are evolutionarily adapted mechanisms that are shared across a variety of animal species, but according to Kelly, they have been entangled through human evolution to give rise to the very human *basic emotion of disgust*. Furthermore, according to Kelly's

account, the human emotion of basic disgust can be co-opted into a tribal instinct—what one might refer to as *moral disgust*—through the integration of normative considerations, including the operation of internalized cultural norms.

Granting the foregoing, one might first ask whether basic anger or disgust ought to be regarded as an ancient social instinct since they need not have arisen within the context of a social environment. To illustrate, if the etiological-function of anger is conceived primarily in terms of the "core motivational element of an aggressive, approach-based impulse to attack" [118], one need not postulate any kind of intra-group, kin environment for such an instinct to emerge. One can say something similar about disgust and its co-opted poison and parasite mechanisms. Furthermore, Davidson and Kelly propose a two-pronged, self- and other-related structure of the human mind [125] (197), yet they do not go into detail about exactly how this two-pronged structure of the self is situated among a norm system, its normative motivations, or emotions.

It is here that one might argue for the necessity of such a two-pronged structure of the human mind. It is only once one postulates the significance of a self to the function of a proposed ancient social instinct, and therefore an agent's psychological architecture, that the need for social relations becomes apparent for explaining the emergence of that mechanism. Thus, postulating the necessity of a self, which also entails the necessity of an *other*, would explain *why* the underlying mechanisms for basic anger, as well as for basic disgust, became entangled so as to constitute an evolutionarily evolved, adapted function. I, therefore, propose that the functions of anger and disgust, as *social instincts* (ancient or tribal), have to do with *maintaining the boundaries of the self*—this is the *etiological function of emotion*. It might also be said that this is what makes emotions distinctively *human functions*.[15]

Furthermore, according to a meta-semantic pluralist[e] approach, one of the central defining features of an emotion type/species is what I refer to as the *superordinate inference rule* for a specified emotion subtype [44,72,102]. Within the framework of a molecular approach to emotion, a superordinate inference rule might be understood as specifying the core etiological function of a basic emotion. For example, one might suggest that basic disgust, insofar as it constitutes the core of the genus of disgust, can be specified as a superordinate inference rule of disgust. A superordinate inference rule for disgust might also explain both the domain specificity of experiences of disgust, similar to how it might do so for shame [72] (p. 233), as well as help unify the various mechanisms which constitute the emotion's subtypes through the identification of law-like interactions between the postulated constitutive mechanisms (e.g., poison and parasite mechanisms). Something similar can be said *mutatis mutandis* for basic anger. More specifically, for disgust, one might regard the superordinate inference rule for basic disgust as a rule for *motivating an agent to use rejection and avoidance as a means of self-protection*, whereas the superordinate inference rule for basic anger might be expressed as *motivating an agent to use force as a means of undoing constraints*.

Furthermore, in understanding disgust as having essentially to do with maintaining boundaries of the self, one might suggest that the evolutionary emergence of a *self*, which also necessitates the evolution of a conception of an *other*, in the architecture of the human mind, may be essential to explaining why poison and parasite mechanisms became uniquely entangled together to form the basic emotion of disgust. Something similar might be said here for basic anger.[16] In this way, one might account for the two-pronged structure of the self-other postulated by Davidson and Kelly. Accordingly, basic anger and disgust might be appropriately characterized as ancient social instincts to the extent that ancient social instincts are always and only those mechanisms that have evolved within an intragroup, social context (e.g., kin relations) with the evolution of a conception of a self (which also entails the evolution of a conception of an other).

The self, as it is postulated here, is the notion of the self that is often taken to be a distinctly human characteristic (although it may not be)—the notion of a distinctly *moral self*—and I propose that such a notion also requires what may be a very human way of

understanding others. Thus, postulating superordinate inference rules and the evolution of a human conception of the self (a moral self) would help a molecular approach to emotions provide a more consistent and fuller explanation of the gene–culture coevolution of at least some basic emotions. This would also suggest the fruitfulness of unifying a molecular approach with a meta-semantic pluralist[e] approach—under the umbrella of a Minimal Account of norms—within the framework of dual-inheritance theory, yet specifically in terms of emotions as norm systems.[17]

So far, however, we are not yet at providing an explanation of the culture–gene coevolution of anger or disgust. According to the Minimal Account, and the molecular approach to emotion, such an explanation requires the introduction of norms, along with a norm system [125]. According to Davidson and Kelly, a *norm system* is "a set of fairly functionally integrated psychological mechanisms dedicated to handling information and guiding behavior specifically concerned with norms and the situations they govern" [125] (196). In short, the system is responsible for the recognition, acquisition, internalization, and deployment of norms. They also differentiate the norm system from normative motivations. The norm system is constituted by the *acquisition mechanism* and the *execution mechanism* [125] (196). *Normative motivations* are products of a norm system [125] (197).

Assuming that the Minimal Account of norms [118] and the molecular approach to emotion [121] presuppose a similar conception of a norm system and normative motivations, one can ask not only how basic anger socially evolved into a unified ancient social instinct, but also how an emotion like righteous anger culturally evolved from basic anger as a unified tribal instinct. These two explanations would effectively close the spiral of explanation of gene–culture/culture–gene coevolution. Group context (intragroup/intergroup) will play a significant role, but one problem is that they do not sufficiently explain the way in which a norm system, normative motivations, and emotions work in concert for a Minimal Account of norms or a molecular approach to emotions. According to Davidson and Kelly, "*normative motivations* produced by the norm system are special: they are intrinsic, non-instrumental, perhaps psychologically primitive" [125] (197). They are also distinct mechanisms compared to emotions. Yet, emotions are not only motivational, they are also normative, as cases of righteous anger and moral disgust suggest. Given the foregoing, it becomes unclear exactly how the norm system, normative motivations, and emotions would be related according to Davis and Kelly's account of the cultural coevolution of norms.

As I suggested earlier, by relying on an etiological-functionalist model, one might suggest that the norm system or its normative motivations are components of an emotion, as I did at the beginning of this section. I suspect, however, that Davis and Kelly might reject at least this aspect of my proposal, especially if they want to maintain that emotions are external to the norm system and are distinct from normative motivations. The problem of doing so, however, is that this might unnecessarily complicate the Minimal Account. Consider, for example, Kelly's account of the possible interaction between the normative system and emotions [62]. While relying on Sripada and Stich's model of the norm system (S&S model), Kelly offers the following explanation:

> If Sripada and Stich are correct about the paired motivations associated with acquired social norms, their proposal provides a pair of clearly specified roles that different emotions might play. Different emotions might provide the motivation to comply with different norms, or even different classes of norms, in the form of either an impetus to actually comply or an impetus to judge that the norm should be followed. Alternatively, different emotions might provide the motivation for punishment, in the form of either an impetus to actually punish or an impetus to judge that transgressors of the norm are wrong and should be punished. [62] (119)

The above explanation seems to suggest a model in which emotions are thought to be external to the norm system, yet emotions are not only regarded to be motivational, but they may also provide the motivation to comply, punish, or judge in accordance with different norms (i.e., they are "normative" to some extent). To this extent, one might

wonder whether emotions would also necessarily require a normative mechanism of their own that would allow them to track the normative features which they are thought to subserve in relation to something like a norm system, as it is postulated by the S&S model. In other words, one might suggest that emotions would also have to be normative. Thus, the Minimal Account of norms and the molecular model of emotions may unnecessarily multiply the motivationally normative components involved in normative behavior: both the norm system and emotions would be independently normatively motivational. Thus, I suggest that understanding emotions as norm systems may result in a more elegantly parsimonious model.

Given Davis and Kelly's molecular approach to emotion, and their Minimal Account of norms (which might be more consistent with the S&S model), one might suggest that *basic (ancient) emotions* are external to the norm system, whereas *tribal emotions* are at least some of the products of the interaction between basic emotions and the norm system (i.e., tribal emotions are normative motivations). Although this would not necessarily make such an account inconsistent, the problem of unnecessarily multiplying the normative elements required for normative behavior would remain, especially compared to an account which takes the norm system to be an internal aspect of emotions. Thus, basic emotions, as ancient social instincts, ought to be conceived as norm systems. The result is that, as cognitively elaborated modes of basic emotions, emotions as tribal social instincts would also contain the norm system as a motivationally normative element.

One way to illustrate why this would be beneficial is to consider the emotion of shame. As I have argued, the superordinate inference rule for shame can be defined as serving the following epistemic function:

> (a) the sudden realization (of which the subject may be unaware) that one is being seen (by the self or at least one other) as an aberrant member of one's epistemic community, and this experience may lead to at least one of the following epistemic conditions: (b) the recognition that one is taken to be an aberrant member of one's epistemic community, (c) the acceptance that one is an aberrant member of one's epistemic community, (d) the rejection that one is taken to be an aberrant member of one's epistemic community, or (e) the rejection of the (real or imagined) other as a legitimate authority on shared social or moral knowledge (such as knowledge pertaining to shared hermeneutic resources), i.e., ostracism, self-isolation, or revolution, all of which can include a breakdown in epistemic trust. [72] (p. 40).

One might say that the above superordinate inference rule also defines the motivationally normative function of shame. The operation of such a rule—the holding of particular conditions specified in the superordinate inference rule during an episode of shame—might be said to constitute an experience or episode of the basic emotion of shame (*basic shame*). Basic shame might also be said to have culturally evolved into a more mature function of shame (*moral shame*) given the right social conditions and other aspects of learning [45,70,72]. So far, such an account is consistent with both a Minimal Account of norms and a molecular approach to emotion. Now, at this point, we can regard the basic emotion of shame to be external to the norm system, and conclude that moral shame, as a tribal social instinct, would be a product of the interaction between basic shame and the norm system (i.e., we can postulate that moral shame is a normative motivation). The problem with doing so might be that basic shame is a very sophisticated kind of basic emotion—one that requires a similar two-pronged structure of the self that was proposed to be necessary for normative motivations—and it is also unclear whether the norm system, according to Kelly and Davis, is thought to require an interaction with such a two-pronged structure of the self [118]. Furthermore, one might say that basic shame is necessary for the acquisition of at least some, and perhaps all, moral norms, and this would suggest that basic shame might be an important aspect of both the acquisition, execution, and internalization of moral norms, which would then require them to be a norm system in themselves, an aspect of the norm system, or include the norm system as an internal component. In any case, the basic (ancient) emotion of shame would not be external to the norm system.

7. Conclusions

The main focus of this paper was to discuss some of the interesting work that has been done, is being done, and might be done in the philosophy of emotion. Such a focus led me to first discuss some of the general interests in the philosophy of emotion, and then eventually to move on to a discussion of the fruitfulness of unifying Davis and Kelly's Minimal Account of norms, and molecular approach to emotions, with my meta-semantic pluralist[e] approach to emotion, and especially toward the aim of providing an explanation of the cultural evolution of norms in accordance with the framework of dual-inheritance theory (understood in terms of providing both a gene–culture and a culture–gene coevolutionary explanation). In giving my proposal, I drew from various aspects of my meta-semantic pluralist[e] approach to emotion and my unified theory of shame to illustrate the benefits of such a unified approach. I demonstrated how the emotion of shame can complicate the framework for a Minimal Account of norms and a molecular approach to emotion and noted how the meta-semantic pluralist[e] approach can help resolve the observed complications. Finally, if we grant that one way of differentiating an explanation of ancient social instincts from tribal social instincts is in their objects of study—the first being objective kinds (i.e., natural kinds) and the second being subjective kinds (social constructions)—one might also conclude from the foregoing discussion that the explanatory difference between objective kind and subjective kind frameworks might only makes sense, at least for some objects of inquiry (e.g., emotions as norm systems), within a static synchronic perspective compared to a diachronic (evolutionary) perspective of emotional phenomena.

Notes

1. Although, I argue that a distinction ought to be drawn between attitudes, emotions, and affects [44]. I will not do so here, but for those who might be interested in doing so, I recommend they also consider reading up on propositional attitudes [51].

2. Note that by "objectivity" here, I mean something like the absolute objective nature of a conscious, first-person experience, i.e., that such experiences are the experiences they are and that they stand as their own evidence for this fact. This, of course, does not entail that such experiences cannot also be subjectively interpreted or misconstrued.

3. For an in-depth discussion of conscious experiences, you might want to read Gupta's *Conscious Experience: A Logical Inquiry* [80], and attend the book symposium on Gupta's book, at the 2023, Pacific, American Philosophical Association conference, in San Francisco, CA.

4. For Block, refer to *The Border Between Seeing and Thinking* [83], which is currently in print. There will also be a book symposium on Block's book, at the 2023, Pacific, American Philosophical Association conference, in San Francisco, CA. For Flanagan, I look forward to the publication of his commentary on my monograph, in the *Journal for Philosophy of Emotion*, which we hope will be published fairly soon. One might gain some insights, however, as to how Flanagan might respond by reading his most recent monograph, *How to Do Things with Emotion* [45].

5. For a discussion of an example, refer to Mun [44] (ch. 4).

6. For an argument that makes a similar point about the categories of basic emotion theories, appraisal theories, constructivist theories, and theories of psychological construction, in the science of emotion, refer to [44] (chs. 2 and 3).

7. Note that this discussion concerns a question that is distinct from, although relatable to, the debate between those who hold the Unity Thesis and those who hold the Disunity Thesis.

8. For a discussion on the relationship between cognitive science and culture, refer to Kelly and De Block [110].

9   One might wonder whether such culture–gene coevolution would occur as a matter of exaptation of pre-existing mechanisms or whether entirely novel mechanisms arise in response to conditions of ever-increasing cultural diversity. I believe this is an open question, and the answer may be theory dependent.

10   For more information about predictive processing, one might begin with Clark's *Surfing Uncertainty: Prediction, Action, and the Embodied Mind* [120].

11   Refer to Mun [44] (ch. 2), regarding subjective kinds and objective kinds, including heterogeneously-objective kinds.

12   I use the term "norms" broadly here to refer to descriptive or injunctive norms.

13   Although the terms "gene–culture coevolution" and "culture–gene coevolution" maybe used interchangeably in the current discourse, for the purpose of adding further clarity to the discourse, I suggest here that a distinction ought to be made between these two kinds of explanations: by "gene–culture coevolution", I mean to emphasize the aspect of a coevolutionary explanation which focuses on how genetic dispositions can give rise to culture whereas by "culture–gene coevolution" I mean to emphasize the aspect of coevolutionary explanation which focuses on how culture plays a role in the natural selection of genetic dispositions.

14   Although Davis and Kelly may reject this aspect of my proposal since they may instead want to maintain a clean distinction between the motivational and cognitive components of an emotion.

15   Note that I make this claim tentatively since I'm also open to the notion that other animals, such as primates, dolphins, elephants, dogs, cats, and other animals (e.g., possibly bees and tardigrades) that have emotions may also have a conception of a moral self (although one that would be a distintive kind than that of humans).

16   I am speaking here of the uniquely human emotion of basic anger and basic disgust.

17   This also might be a conclusion that Davis and Kelly would reject given that the Minimal Account conceives emotions to be external to the norm system, in a way that is more consistent with Sripada and Stich's model of the norm system (dubbed the S&S model [126]).

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