Received: 13 August 2025
Accepted: 13 August 2025
Published: 28 August 2025

Introduction: Emotions—More Like Stars or Constellations?

Heidy Meriste and Bruno Mölder – University of Tartu, Estonia

1. Stars and Constellations

What kind of things are emotions? To use a compelling metaphor, we may ask: are emotions more like stars, or more like constellations? A rough-and-ready characterisation treats stars as a metaphor for natural kinds, unified by some objective feature in the world. Constellations, on the other hand, are not natural kinds; they result from the ways in which people group stars together. In the field of emotion research, the metaphor of stars versus constellations has been used by James A. Russell. He writes:

> Are discrete emotions like the stars, long recognized as fundamental astronomical entities, or are they more like the Big Dipper and other constellations? Constellations were once thought fundamental entities (indeed, powerful forces) but are now seen as merely happenstance configurations, seen from an arbitrary perspective and with no deep role to play in astronomy. Different cultures historically recognized somewhat different constellations. (2003, 152)

Russell's quote introduces an important additional consideration. Constellations, while once conceived of as causally efficacious entities that influenced the course of human lives, are no longer regarded as useful categories in genuine scientific research. If emotion categories—that is, our folk-psychological groupings of emotions—are like constellations, then they would have minimal value, if any, for the scientific study of emotions.

Of course, the metaphor of stars and constellations goes back to the philosopher Nelson Goodman, who also used the example of the Big Dipper (which, in fact, is not a constellation in itself, but a prominent asterism within the constellation Ursa Major). Goodman famously maintained that both constellations and stars are made by us, insofar as both involve conventional elements of categorisation and boundary-drawing. "We make a star as we make a constellation, by putting its parts together and marking off its boundaries" (1984, 42; see also McCormick 1996). Hilary Putnam (1992, 114), however, pointed out that there is a difference between stars and the Big Dipper. "Big Dipper" is a proper name that applies to a particular group of stars solely due to our naming conventions, whereas "star" is a general term whose application is not just a matter of linguistic convention. Even though we created the concept of a star, we do not thereby bring it about that any particular object counts as a star.

But since Putnam also highlighted that we likewise do not bring it about that a particular person counts as a bachelor, his point does not allow us to explain how stars differ from bachelors. When we want to talk about stars as natural kinds, the sense in which they do not depend on human conventions is a stronger one. While nature does not seem to suggest any clear-cut reason why we should distinguish bachelors as special units

(just as it does not suggest a reason why the night sky should be divided into one set of constellations rather than another), it does seem to suggest a reason to distinguish stars as separate units. There is a special sense in which natural kinds are independent of human classificatory practices.

Exactly what sort of independence is at issue here? Sam Page (2006) makes a useful distinction between different types of dependence and independence, which are sometimes conflated in discussions about how reality depends on the mind. The first type is *ontological* dependence: entities that are ontologically dependent on us would no longer exist if we did not exist. Page's examples include money, speed limits, and other "social realities." The second type is *causal* dependence: these entities exist because they were caused by us. All human-made artifacts fall into this category. They are ontologically independent of us, since, once created, they continue to exist even in the absence of humans. The third type is *structural* dependence: structurally dependent entities are structured by us. Otherwise, they would be completely structureless blobs. Examples of structurally dependent entities are hard to find. In fact, Page concedes that, in the natural world, nothing might be structurally dependent on us, not even seemingly structureless phenomena like clouds or an aurora borealis. The fourth type of dependence, and the one relevant to the present context, is *individuative*: individuatively dependent entities are determined by how we delineate their boundaries. It is important to note that things can be individuatively dependent, yet structurally independent, of us. If something is individuated by our conventions, it does not follow that it is also structured by us. Page elucidates the notion of individuative independence with the familiar example of stars and constellations:

> We individuate the night sky into constellations. We, or more specifically our ancestors, determined which stars comprise which constellations. … Though it is *prima facie* plausible that reality is individuated intrinsically into stars, reality is not individuated intrinsically into constellations, since it is people who divide the night sky into constellations. (2006, 328)

Page notes that constellations remain structurally independent of us. Apparently, this is because they are composed of stars, which are not contingent upon human categorisation. By contrast, views that espouse natural kinds (including stars) take them to be independent of us not only in the ontological, causal, and structural senses, but also in the individuative sense.

Having introduced the notion of individuation-dependence, we can now precisify the question posed in the title as follows: are emotions individuatively independent of, or dependent on, human classifications? Given that belonging to a natural kind is one way for something to be individuatively independent of our classifications, making progress on this question requires a closer look at natural kinds.

2. Natural Kinds

What is a natural kind? A natural kind is a group of things in nature that belong together by virtue of some objective set of properties. Usually, natural kinds are thought to have uniform members, and the boundaries between kinds are fairly discrete. This grouping is mind-independent in the sense that natural kinds are individuatively independent of us. It is important to distinguish between our classification of something as a natural kind and the kind that this classification purports to represent (cf. e.g. Mölder 2024, 145). While people sometimes loosely use "natural kind" to refer both to the category in nature and to our scientific classification that tracks it, only the kind in nature is a proper natural kind. That these are separate is evident from the fact

that natural kinds can be used to make sense of scientific practice (Boyd 1991; Griffiths 1997; Samuels 2009). The aim of developing scientific classifications is for them to eventually match natural kinds. Furthermore, the existence of mind-independent natural kinds explains why our inductive generalisations work, and wherein the difference lies between discovery and invention.

There are two main approaches to natural kinds: one is quite demanding, the other sets more lenient requirements. *Essentialism* about natural kinds states that members belong to their kinds in virtue of their common essence (cf. e.g. Ellis 2002). This means that, necessarily, every member of the kind has to have certain essential properties in order to belong to that kind. These properties are intrinsic to the entities that make up the kind: they are possessed independently of anything else, including context. Ellis developed his essentialism in relation to chemical elements, and, within the field of chemistry, his claim that natural kinds must be categorically distinct is plausible. However, it is much more difficult to defend in the case of biological and psychological kinds.

A more relaxed view on natural kinds, the *homeostatic property cluster* (HPC) theory, was developed by Richard Boyd (1989; 1991). On this view, a natural kind consists of members that possess a characteristic cluster of properties. These property clusters are contingent, as the properties do not necessarily co-occur in virtue of any essence. The property clusters are sustained by homeostatic mechanisms that cause the properties to occur together. Such mechanisms regulate the kind by keeping specific properties together while filtering out others. The HPC account does not require strict essences that are both necessary and sufficient for something to count as a member of a kind. It allows variation among kind members and dispenses with the idea that natural kinds must have discrete boundaries. The paradigmatic examples of HPC kinds are biological species. Their members share similar characteristics because of causal homeostatic mechanisms that consist of adaptive forces such as descent from a common ancestor, gene flow, selection, and developmental canalisation (Griffiths 1997, 189).

The HPC account might be too lenient, however, as any kind that involves some common mechanisms, and supports better-than-chance predictions about its members, may qualify as a natural kind. Boyd himself argues for a very broad account of natural kinds that could also extend to different economic systems and philosophical positions (1999; see also Zachar 2022, 8). Arguably, this leads to an overproliferation of natural kinds, and loses the sense in which talk about natural kinds was originally supposed to carve *nature* at its joints. But even if the presence of just any causal homeostatic mechanism is not sufficient, it has nevertheless been widely accepted that, at least when it comes to the natural kind status of biological categories, causal homeostatic mechanisms play a crucial role. And insofar as the natural kind status of emotions rests on viewing them as biological traits, the broadness concerns of the HPC account need not shed doubt on talk of emotions as natural kinds.

The fact that natural kinds can be conceived of in different ways adds complexity to the question of whether emotions are natural kinds. It may well be that emotions qualify under one notion of natural kinds, but not under another. It is also possible that not all emotion types stand or fall together with respect to their natural kind status. It may be that only a select few kinds of emotions qualify as natural (Scarantino 2012a, 360). In fact, in this very issue, Charlie Kurth argues that, while shame is a natural kind, guilt is not.

Among the more biologically-minded researchers who are optimistic about the existence of natural kinds within the sphere of emotions, natural kinds are usually identified at the level of specific emotion types, rather than with the broad category of emotion as such. According to Paul Griffiths (1997; 2004), the broad,

vernacular category of emotion is not a natural kind, as this category fragments into diverse types of states—namely, basic emotions, "higher cognitive" or complex emotions, and culturally influenced "socially sustained pretences." He argues that these types are too different from one another to form a single natural kind. In line with the HPC model, he notes that there is no common homeostatic mechanism present in these cases. Thus, there is no guarantee that generalisations made about one subcategory are also valid for others (1997, 242). But, in his view, it is also incorrect to identify the category of emotion with any one of its subcategories. This leaves open the possibility that the subcategories could latch on to natural kinds. Indeed, this is what Griffiths (230) has maintained about basic emotions—emotions that are supposed to be relatively universal across cultures and are usually taken to include, though not necessarily be exhausted by, (certain subsets of our vernacular categories of) fear, anger, sadness, disgust, and happiness (Ekman 1992; Ekman and Cordaro 2011).

Basic emotions are commonly understood as phenomenally salient and relatively short-lived patterns of characteristic physiological, cognitive and behavioural changes, which are undergirded by evolutionarily hardwired neural affect programmes (Tomkins 1962; Ekman 1992; see also Panksepp 1998 on emotion-specific neural circuits). They qualify as natural kinds according to the HPC conception (Griffiths 1997; Scarantino and Griffiths 2011; Scarantino 2012c; Kurth 2018). At the physiological level, it is the neural affect programme that functions as the relevant causal homeostatic mechanism that holds the emotion kind together. So, even though the exact components of the emotion-specific response profile may vary, they nevertheless tend to co-occur, because they are coordinated by the same underlying mechanism. At a general ecological level, however, the relevant causal homeostatic mechanism is the set of adaptive forces that have shaped each emotion type (Griffiths 1997, 238). This explains the origin of basic emotions and the relevant affect programmes themselves. They have developed as hardwired solutions to ancient fitness challenges and will also have homologues in other species in our lineage.

3. Constructions

Proponents of constructionism, however, argue that emotions are not natural kinds. Even though some of the constructionist critique is targeted against the more simplistic idea of emotions as essentialist natural kinds, much of their critique is meant to extend to emotions as HPC natural kinds as well, because constructionists argue that there is insufficient empirical evidence to support the existence of the pancultural affect programmes that basic emotion theorists posit (Barrett 2006; 2017; Barrett and Lida 2025).

Psychological constructionists in particular suggest that, instead of positing that the components of the emotion-specific response profile are coordinated by a single hardwired affect programme, the more plausible explanation is that it is simply an amalgam of many independently occurring, and more basic, psychological processes. As explained by Zachar, using the example of fear:

> The fearful expression, specifically the widening of the eyes that is part of it, may result from information gathering in time of uncertainty, yelling out may be an automatic reaction that was selected because it potentially warns others of danger, the running away may stem from the perception of danger that evoked a quick plan to save oneself, and the physiological arousal may be generated to support the execution of this plan. (2022, 4)

The core idea of psychological constructionism is that we construct emotions from a varying set of psychological components. This is also why the metaphor of constellations is especially apt: we make up emotions like we make up constellations from the stars. Though psychological constructionists agree that emotions consist of a plethora of elements, they highlight some as especially important. According to Russell (2003), the key role is played by "core affect"—an integral blend of feeling that varies with respect to the dimensions of valence (feeling good or bad) and activation (feeling energised or lethargic). Core affect is important because this is what makes the emotion "hot", or "emotional" (148). Barrett also requires that emotions involve a situated conceptualisation of core affect (Barrett 2017; Barrett and Lida 2025). According to her, our brain is always involved in predictive categorisation, preparing us for what comes next. This is an automatic background process that does not require any conscious reasoning or explicit labelling. Our brains just monitor the signals that we receive about the state of the world and the state of our bodies, and reassemble past experience to guide action and give meaning to what is going on. Each emotional episode, too, starts with such predictive categorisation. We create an emotion category on the fly that groups the current constellation of components together with a set of our past experiences, and this act of categorisation is itself a constitutive part of emotion. Since Russell does not require such situated conceptualisations, his and Barrett's views have been described as not only divergent but competing research programmes (Zachar 2022, 12).

There is also a more traditional strand of constructionism—social constructionism. The difference between psychological and social constructionism is sometimes described in terms of the former constructing emotions out of psychological ingredients, and the latter focusing on social and cultural ingredients (Barrett and Lida 2025, 352). This may make it seem that both theories suggest the same process of construction, simply out of different source materials, but this would be misleading. As noted in Zachar's contribution to this issue, psychological and social constructionist theories of emotion evoke the term "construction" in different senses. Psychological constructionism (as coined by Russell in his 2003) is a more recent development of constructionism, where the sense of construction is narrowed down to how we group an emotional episode together out of various psychological components. Social constructionists do not necessarily insist that we literally group emotions together out of social and cultural components. They are more interested in putting emotions into a wider context—showing how culture has shaped our emotions and how emotions are deeply embedded in social dynamics. They need not object to a psychological constructionist view of emotion, but they highlight that, at a more fundamental level, emotions are not just a matter of individual psychological processes, but a result of social dynamics (Mesquita and Parkinson 2025). This may leave the concept of construction somewhat broad and vague, though. But, in this issue, Charlie Kurth will seek to clarify at least one sense of what it means to culturally construct an emotion by providing us with a genealogical account of how cultures have developed guilt as a social technology.

Even though the nuances of different forms of constructionism vary, they all share the idea that emotions involve a configuration of elements that is not so much held together by some Darwinian modules like affect programmes, but by our own categorisations and sociocultural practices. In other words, they view emotions as human constructions rather than natural kinds.

4. Folk and Scientific Categories

However, one thing that is widely shared among both more biologically-minded and constructionist emotion theorists is that we should not expect folk-psychological categories to directly pick out scientific emotion

kinds. Constructionists tend to be sceptical about the existence of natural kinds within the sphere of emotions in general. But even biological theorists who do argue for emotions as natural kinds do not think as if folk emotion categories required absolutely no refinement or revision for scientific purposes. As already mentioned earlier, basic emotions like fear or anger are only meant to pick out certain subsets of the relevant folk categories. The biological theorist Jaak Panksepp (2008, 402) even uses capital letters to refer to emotion-specific brain circuits, so that the difference between scientific technical terms and similar-sounding folk terms would be especially clear. All this raises the question: what relevance, if any, do folk-psychological emotion concepts have for emotion research?

Psychological constructionist James Russell has been especially critical about the import of folk emotion categories into scientific research. This takes us back to his metaphor of stars and constellations. Comparing emotions with the latter, he says:

> Stars in the heavens can be grouped into an uncountable number of different constellations. Doing so was useful in a preliminary way in astronomy and remains useful in navigation. Still, no grouping of stars into constellations proved useful in advancing astronomy, to the development of a deep scientific understanding, for the simple reason that constellations are not causal entities. (2008, 424–25)

Russell's point is that, just as constellations have outlived their usefulness for the science of astronomy, so too have vernacular emotion categories like "anger," "fear," "happiness," and even "emotion" itself outlived their usefulness for scientific research on emotions. He draws attention to the fact that basic emotion theory still rests on folk categories of emotion, the coherence of which does not withstand closer scrutiny. These categories are deeply rooted in Western culture and may be as arbitrary as constellations. Studying such categories only tells us something about people's beliefs about them, not about the real causal powers, which—for Russell as a constructionist—lie in the components from which emotional episodes are constructed. Following a distinction drawn by Bickle (2012), Zachar (2022, 8) characterises Russell's position as "little e" eliminativism about emotion. Let us first explain "big E" eliminativism, with which it is contrasted. "Big E" eliminativism, that is, eliminative materialism (Churchland 1981), makes an *ontological* point. On this view, folk psychology is a theory with ontological commitments, but because the folk theory of the mind is false, those commitments are not met, and folk categories (such as beliefs and desires) are to be replaced by those of future neuroscience. "Small e" eliminativism, in contrast, can allow that our folk psychological concepts are approximate characterisations of the underlying physiological reality. It just refers to eliminativism as a *methodological* principle. To the extent that emotions are constructions rather than natural kinds, they do not function as units that could figure in scientific explanations. Viewed from the natural kinds perspective, they are not caused by a common mechanism that would allow us to make projectable generalisations about them, and neither do they function as causally efficacious units that could themselves have any influence (even though their parts may well do so). As such, they are superfluous and distracting elements in the scientific discourse.

Andrea Scarantino (2012a), who is more enthusiastic about the search for natural kinds within the realm of emotions, however, has made a prominent proposal that we draw a sharp distinction between two projects with different goals: the descriptive "Folk Emotion Project," which aims to describe how people actually use folk-psychological categories like "emotion," "fear," and "anger," and the prescriptive "Scientific Emotion Project," which provides definitions of emotion categories as natural kinds. Scarantino (365) holds that these projects have different adequacy conditions. While the folk project should strive to accommodate all empirical findings related to phenomena classified in folk terms, the scientific project should aim to capture natural kinds (in the HPC sense). These two projects do not, and are not supposed to, converge on the same definitions

of emotions. On his view, the natural kinds discovered by scientists are not folk-psychological kinds. This yields an important methodological constraint: one should not criticise scientific definitions of emotions on the basis of ordinary language use (Scarantino 2012b, 392).

Instead, what happens is that the folk categories are transformed into categories that are usable in scientific research. These transformed categories are given prescriptive definitions that should specify the causal mechanisms that constitute their natural kindhood, while also bearing some similarity to the original folk kind. In this way, the folk categories remain linked to the newly transformed scientific categories. However, Scarantino (2012b, 392) claims that the projected new natural kind categories are not coextensive with folk categories, so the old vernacular terms cannot be used for them. This leads to the question of how we should label these natural kind categories. One option is to use neologisms, but this may obscure similarities to the folk terms; another option is to modify the old term by using capitals, subscripts, or qualifiers, but this may lead to confusion with the original term (Scarantino 2012a, 366).

There is also an alternative outlook. Cecilea Mun (2016) has offered an interesting taxonomy of theories of emotion that draws attention to the fact that, in practice, Scarantino's two projects are intertwined. Her taxonomy can be seen as a criticism of Scarantino's proposal to separate the scientific search for natural kinds from the study of folk concepts. She distinguishes theories of emotion along the metaphysical axis, which concerns positions on what kind of kinds emotions are, and the metasemantic axis, which concerns the meaning of emotion terms as used in scientific and ordinary language.

On the metaphysical axis, emotions could be either objective kinds, unified by properties that do not depend on human concepts, or subjective kinds, whose unification necessarily depends on human concepts. (The account in Mun 2021 is more complex.) Mun (2016, 249–50) does not frame the metaphysical issue in terms of natural kinds, as she regards the notion as unhelpful. Namely, there are various conceptions of a natural kind, which yield different answers to the question of whether emotions are natural kinds. In addition, natural kinds were originally contrasted with social constructions, but on some views, things that counted as natural kinds could also be socially constructed.

On the metasemantic axis, accounts of emotion are positioned according to their stance on the scientific value of folk emotion terms. Mun (253) uses Putnam's notion of a "trans-theoretical term" to frame the issue. Trans-theoretical terms retain the same reference across different theories. Mun divides theorists of emotion into optimists and pessimists about ordinary language: the former regard folk emotion terms as trans-theoretical terms, while the latter believe that folk emotion terms are not trans-theoretical terms and, consequently, that folk and scientific discourse refer to different things when talking about emotions. Russell's and Scarantino's views mentioned above represent the pessimistic side of Mun's taxonomy.

Mun points out that the metaphysical and metasemantic axes are conceptually distinct from each other, and that positions on these dimensions can be combined. This results in a matrix of four kinds of positions, which differ in their views on the trans-theoretical status of folk emotion terms and on whether folk and scientific emotion terms refer to objective or subjective kinds (for more details on these positions, see Mun 2016, 257–60, or her revisitation of the taxonomy in this special issue).

As argued by Mun, Scarantino's proposal fails to take into account that there are also many emotion theorists on the optimistic side of her matrix (namely, realists such as Ekman, Goldie, and Scherer, and instrumentalists such as Averill, Solomon, and Nussbaum), who regard the study of folk emotions as "an integral part" of

the scientific study of emotions (261). However, the force of the argument from Mun's taxonomy may be somewhat limited, insofar as her taxonomy aims to map the logical space of positions in the existing field of emotion research, and locates actual positions within this space, whereas Scarantino's proposal can be read as a revisionary one, claiming that this is how research on emotions should proceed, even if it is not currently conducted that way.

In this special issue, the optimistic stance is explored by Juan R. Loaiza, who focuses on building bridges between the Folk Emotion Project and the Scientific Emotion Project. Among other things, his contribution shows how the study of folk emotion concepts can benefit science even if not all folk concepts map well onto natural kinds. We are inevitably influenced by the categorisations in our language, but once we learn more about emotion concepts in different cultures, this may help to shake us out of old categorisations and inspire research in new and more promising directions. Viewed from this perspective, the very opposite of what eliminativists suggest might be true: to break the ties of prejudice, more rather than less research on folk emotion categories may be called for.

5. Overview of Contributions

What is it that our vernacular categories of emotion capture—do they roughly still map onto natural kinds, or do they capture individually and culturally variable constellations of biologically fragmented elements? And how much weight should we put on the study of folk emotion concepts at all? From one angle or another, all of these questions are addressed in the current special issue "Emotions—More Like Stars of Constellations?" The contributions originate from the EPSSE pre-conference workshop of the same title, organised by Heidy Meriste, Bruno Mölder, and Uku Tooming in Tartu in June 2023. In the remainder of this introduction, we offer brief overviews of the contributions.

The opening article is by Charlie Kurth, who goes against the common idea that emotions as a class are either natural kinds or social constructions. Using the example of guilt and shame, he argues that even emotions that may often be considered as belonging to the same family (the so-called self-conscious emotions) can diverge with respect to their status as natural kinds or constructions. Reviewing the empirical work on both emotions, he shows that while there is strong evidence in favour of shame being a natural kind (a biologically hard-wired adaptation), the case for guilt is relatively weak. Maintaining that guilt is better viewed as a social construction, Kurth goes on to add further detail to this idea by developing an account of guilt as "a type of emotional technology: a culturally-driven innovation that helped our ancestors address particular, recurrent challenges of social life." As such, he suggests that we view guilt as akin to other culturally-driven phenomena like promises, currencies, and running *amok*. This is an important contribution because the nature of non-basic, socially constructed emotions has remained relatively elusive (Griffiths 2004), and Kurth's account of guilt as a technology allows us to appreciate how guilt is both similar to, and different from, more basic emotions—while it has not come about as a hard-wired biological adaptation, we get a detailed account of how it has developed as a result of social pressures.

Peter Zachar's paper presents a nuanced perspective on understanding the constitution of emotions, drawing on the philosophy of Ernst Mach. According to psychological constructionist approaches, emotions do not exist independently of our ways of classifying them as expressions of mind-independent affect programmes, but are assembled from other psychological components (e.g. core affect, cognitive appraisal, categorisation). Zachar proposes that we should conceive of psychological construction in terms of the selection of features

from a larger set. As a feature of measurement, the act of selecting partly constitutes the emotions studied by scientists. This selection also involves a conventionalist element, as it results from non-arbitrary but contingent processes and is not entirely determined by the facts. He points out that different selections of features can lead to different conceptualisations of emotions.

Zachar also comments on Russell's analogy between astronomical constellations and emotions. Russell holds that both are coincidental arrangements of components, whereas Zachar argues, following Scherer, that the components of an emotion need not be independently occurring events, but can enter into causal relationships with each other. Zachar points out that, with a more pluralistic model of causation, even constructed emotions qualify as kinds, since they can play a causal role and support generalisations. Zachar's empiricist-selectionist stance occupies a middle ground between Goodmanian worldmaking and passive perspective-taking, a position he describes as "engineering."

In her contribution, Cecilea Mun places the major theories of emotion within her metasemantic taxonomy. As already mentioned, in this taxonomy, theories are classified based on their stances toward the emotion words in ordinary language and their metaphysical views on whether emotions belong to objective or subjective kinds. This results in a fourfold structure, in which certain pairs of theories (e.g. realism and eliminativism, or instrumentalism and eliminative-realism) are contradictories and thus cannot both be true or false at the same time, whereas other pairs (e.g. realism and instrumentalism, or eliminativism and eliminative-realism) are contraries, and thus can both be false, but not true simultaneously. She treats these relationships as logical constraints on emotion research, and argues that this shows that not all theories of emotion can be unified or fully integrated.

The final paper, by Juan R. Loaiza, takes up the question of why and how we should investigate folk emotion concepts. Loaiza's article emphasises how the so-called Folk Emotion Project is also relevant for the Scientific Emotion Project. To the extent that scientists have usually opted to revise rather than altogether abandon folk emotion labels, it is important to grant that scientific emotion concepts share sufficient similarity with their folk psychological counterparts. Otherwise, they would not merit being called by the same name. This invites a clarification of the extension of folk emotion categories. But how should we go about this task? While Mun (2021) suggests that our shared starting point, the fundamental base of emotion science, should also include first-personal emotional experiences, Loaiza argues that the latter does not provide us with an intersubjectively accessible starting point that would be fit for anchoring scientific emotion concepts. Instead, we should stick to other sources of information. While those other sources have commonly been taken to include emotion attribution and recognition studies (Mun 2021), Loaiza also stresses the need to look into cross-cultural linguistics and research on emotion scripts and norms. This is not just important for justifying the current use of scientific emotion terms, but also has the potential to shape scientific research in new and fruitful directions: seeing how the sphere of emotions may be carved up in many alternative ways might also facilitate a more open-minded search for emotions as natural kinds.

References

Barrett, L. F. 2006. "Are Emotions Natural Kinds?" *Perspectives on Psychological Science* 1 (1): 28–58.

———. 2017. *How Emotions Are Made: The Secret Life of the Brain*. Houghton Mifflin Harcourt.

Barrett, L. F. and T. Lida 2025. "Constructionist Theories of Emotions in Psychology and Neuroscience." In *Emotion Theory: The Routledge Comprehensive Guide, Volume I. History, Contemporary Theories, and Key Elements*, edited by A. Scarantino, 350–87. Routledge.

Bickle, J. 2012. "Lessons for Affective Science from a Metascience of 'Molecular and Cellular Cognition'." In *Categorical Versus Dimensional Models of Affect: A Seminar of the Theories of Panksepp and Russell*, edited by P. Zachar and R. D. Ellis, 175–87. John Benjamins.

Boyd, R. 1989. "What Realism Implies and What It Does Not." *Dialectica* 43 (1/2): 5–29.

———. 1991. "Realism, Anti-Foundationalism and the Enthusiasm for Natural Kinds." *Philosophical Studies* 61 (1/2): 127–48.

———. 1999. "Homeostasis, Species, and Higher Taxa." In *Species: New Interdisciplinary Essays*, edited by R. A. Wilson, 141–85. The MIT Press.

Churchland, P. 1981. "Eliminative Materialism and Propositional Attitudes." *Journal of Philosophy* 78 (2): 67–90.

Ekman, P. 1992. "An Argument for Basic Emotions." *Cognition and Emotion* 6 (3–4): 169– 200.

Ekman, P. and D. Cordaro. 2011. "What Is Meant by Calling Emotions Basic." *Emotion Review* 3 (4): 364–70.

Ellis, B. 2002. *The Philosophy of Nature*. Acumen.

Goodman, N. 1984. *Of Mind and Other Matters*. Harvard University Press.

Griffiths, P. E. 1997. *What Emotions Really Are: The Problem of Psychological Categories*. University of Chicago Press.

———. 2004. "Is Emotion a Natural Kind?" In *Thinking about Feeling: Contemporary Philosophers on Emotions*, edited by R. C. Solomon, 233–49. Oxford University Press.

Kurth, C. 2018. *The Anxious Mind: An Investigation into the Varieties and Virtues of Anxiety*. The MIT Press.

McCormick, P. J. (ed.) 1996. *Starmaking: Realism, Anti-Realism, and Irrealism*. The MIT Press.

Mesquita, B. and B. Parkinson 2025. "Social Constructionist Theories of Emotions." In *Emotion Theory: The Routledge Comprehensive Guide, Volume I. History, Contemporary Theories, and Key Elements*, edited by A. Scarantino, 350–87. Routledge.

Mölder, B. 2024. "Mental Kinds and Practical Realism." In *Practical Realist Philosophy of Science: Reflecting on Rein Vihalemm's Ideas*, edited by A. Mets, E. Lõhkivi, P. Müürsepp, and J. Eigi-Watkin, 143–59. Rowman & Littlefield.

Mun, C. 2016. "Natural Kinds, Social Constructions, and Ordinary Language: Clarifying the Crisis in the Science of Emotion." *Journal of Social Ontology* 2 (2): 247–69.

———. 2021. *Interdisciplinary Foundations for the Science of Emotion: Unification Without Consilience*. Palgrave Macmillan.

Page, S. 2006. "Mind-Independence Disambiguated: Separating the Meat from the Straw in the Realism/Anti-Realism Debate." *Ratio* 19 (3): 321–35.

Panksepp, J. 1998. *Affective Neuroscience: The Foundations of Human and Animal Emotions*. Oxford University Press

———. 2008. "Carving 'Natural' Emotions: 'Kindly' from Bottom-Up but Not Top-Down." *Journal of Theoretical and Philosophical Psychology* 28(2): 395–422.

Putnam, H. 1992. *Renewing Philosophy*. Harvard University Press.

Russell, J. A. 2003. "Core Affect and the Psychological Construction of Emotion." *Psychological Review* 110 (1): 145–72.

———. 2008. "In Defense of a Psychological Constructionist Account of Emotion: Reply to Zachar." *Journal of Theoretical and Philosophical Psychology* 28 (2): 423–29.

Samuels, R. 2009. "Delusion as a Natural Kind." In *Psychiatry as Cognitive Neuroscience: Philosophical Perspectives*, edited by M. Broome and L. Bortolotti, 49–79. Oxford University Press.

Scarantino, A. 2012a. "How to Define Emotions Scientifically." *Emotion Review* 4 (4): 358–68.

———. 2012b. "Some Further Thoughts on Emotions and Natural Kinds." *Emotion Review*, 4 (4): 391–93.

———. 2012c. "Discrete Emotions: From Folk Psychology to Causal Mechanisms." In *Categorical Versus Dimensional Models of Affect*, edited by P. Zachar and R. D. Ellis, 135–54. John Benjamins.

Scarantino, A. and P. Griffiths 2011. "Don't Give Up on Basic Emotions." *Emotion Review*, 3 (4): 444–54.
Tomkins, S. S. 1962. *Affect, Imagery, Consciousness, Vol. 1. The Positive Affects*. Springer.
Zachar, P. 2022. "The Psychological Construction of Emotion—A Non-Essentialist Philosophy of Science." *Emotion Review* 14 (1): 3–14.