

## Special Section

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# Natural Kinds, Social Constructions, and Ordinary Language

## Clarifying the Crisis in the Science of Emotion

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**Abstract:** I argue for the importance of clarifying the distinction between meta-physical, semantic, and meta-semantic concerns in the discourse of what Emotion is. This allows us to see that those involved in the Scientific Emotion Project and the Folk Emotion Project are in fact involved in the same project – the Science of Emotion. It also helps us understand why questions regarding the natural kind status of Emotion, as well as answers to questions regarding the value of ordinary language emotion terms or concepts to emotion research, will not help resolve the observed crisis in the Science of Emotion.

**Keywords:** Emotion; Social construction; Natural kind; Philosophy; Psychology; Interdisciplinary; Philosophy of science; Putnam.

## 1 Introduction

Is Emotion, as a class or scientific domain, a natural kind or is it a social construction?<sup>1</sup> This is a decisive question for emotion researchers within several

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<sup>1</sup> Note that any disjunction should be read as an inclusive disjunction unless noted otherwise, and at times I use a term as a proper name (e.g. 'Emotion') in order to highlight reference to a specified class, domain, or object of inquiry. Furthermore, I use the terms 'science' and 'scientific' throughout this paper to broadly refer to the intellectual and systematic study of some object of inquiry, which involves the work of researchers across academic disciplines, rather than referring more narrowly to the study of some object of inquiry that is restricted to the natural or social sciences. I refer to such approaches, those that involve only the natural or social sciences, as *scientistic*. Also see footnote 14.

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disciplines. Some regard Emotion to be a natural kind (e.g. Lazarus and Smith 1990; Ekman 1992; Levenson 1999; Charland 2002; Prinz 2004; Panksepp 2008; Izzard 2009; Scherer 2009; Scarantino and Griffiths 2011). Others regard Emotion to be a social construction (e.g. Averill 1980; Rorty 1980; Armon-Jones 1986; Sarbin 1986; Griffiths 1997; Russell 2009; Barrett 2012). Doing so typically presupposes that an answer to this question will yield testable hypotheses that will help to adjudicate between competing theories of Emotion. It also presupposes that an analysis of our ordinary intuitions about our emotional experiences, as they are reflected in ordinary languages, would somehow illuminate the debate between natural kind theorists and social constructionists about what Emotion is. Such considerations are also implicated in providing an analysis of the state of crisis in the *Science of Emotion* (see Emotion Review 2010 and 2012).<sup>2</sup>

Emotion researchers also typically fall on one side or the other of the debate on the value of ordinary language emotion terms or concepts to the scientific study of Emotion. Some theorists argue for keeping *Scientific Language* distinct from *Ordinary Language* (e.g. Sarbin 1986; Prinz 2004; Panksepp 2008; Russell 2009; Scarantino and Griffiths 2011; Scarantino 2012).<sup>3</sup> Scarantino describes such theorists as being engaged in the “Scientific Emotion Project” (Scarantino 2012, p. 364). Other theorists maintain that the clarification and correction of ordinary folk languages is at least one aim of scientific research (e.g. Averill 1980; Lyons 1980; Armon-Jones 1986; de Sousa 1987; Lazarus and Smith 1990; Ekman 1992; Solomon 1993; Levenson 1999; Wierzbicka 1999; Ben-Ze’ev 2000; Goldie 2000; Nussbaum 2001; Izzard 2009; Scherer 2009; Barrett 2012). Scarantino characterizes such theorists as being involved in the “Folk Emotion Project” (Scarantino 2012, p. 364).

I argue for the importance of clarifying the distinction between the metaphysical, semantic, and meta-semantic concerns regarding what Emotion is. To do so, I first identify the metaphysical, semantic, and meta-semantic perspectives on the question, what is Emotion? Second, by constructing an interdisciplinary taxonomy of theories of Emotion, founded on the intersections of the metaphysical and meta-semantic perspectives, I illustrate how the interactions between the

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<sup>2</sup> In contrast with Barrett’s (2007) use of the term ‘Science of Emotion,’ I use the term ‘Science of Emotion’ to broadly refer to the intellectual and systematic study of Emotion, which involves the work of researchers across academic disciplines. By doing so, we can – from the Western European tradition – trace the Science of Emotion to as far back as Aristotle’s *De Anima* or Descartes’s *The Passions of the Soul*.

<sup>3</sup> ‘Scientific Language’ simply refers to the class of theoretical languages employed by academics, and ‘Ordinary Language’ simply refers to the class of languages that are often regarded as natural or folk languages. As we will see later on, Scientific Language and Ordinary Language overlap, and a number of emotion researchers have been concerned about whether or not this ought to be the case.

metaphysical and meta-semantic perspectives affect semantic concerns. Third, I take these distinctions into consideration in order to provide an analysis of the observed crisis in the Science of Emotion, and I argue that the proposed interdisciplinary taxonomy of theories of Emotion can help clarify the nature of this crisis: It allows us to see that those involved in the Scientific Emotion Project and the Folk Emotion Project are in fact involved in the same project – the Science of Emotion. It also helps us understand why questions regarding the natural kind status of Emotion, as well as questions regarding the value of ordinary language emotion terms or concepts to the Science of Emotion, will not help resolve the aforementioned crisis.

## 2 The Metaphysical Perspective

Questions regarding what Emotion is can be divided into at least three levels of analyses: 1) the metaphysical perspective,<sup>4</sup> 2) the semantic perspective, and 3) the meta-semantic perspective.<sup>5</sup> The question of what Emotion is from the *metaphysical perspective* is concerned with whether Emotion is an *objective kind* or a *subjective kind*. These two notions – objective kind and subjective kind – are intended to respectively capture concerns regarding the status of Emotion as a natural kind or a social construction while side stepping various issues regarding what it means for something to be a natural kind or a social construction. Thus the terms ‘objective kind’ and ‘subjective kind’ are not respectively synonymous with the terms ‘natural kind’ and ‘social construction.’ These terms (‘natural kind’ and ‘social construction’), however, *may* respectively share similar referents or senses with the terms ‘objective kind’ and ‘subjective kind,’ and *may* also be logically consistent with these terms.<sup>6</sup>

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4 The term ‘metaphysical’ is used here simply to indicate concerns regarding the nature or ontology of Emotion.

5 The term ‘meta-semantic’ is used here to simply indicate concerns that go beyond questions regarding the semantics or meanings of Emotion terms, and is distinct from metalinguistic concerns (e.g. Wierzbicka 2009, 1999). Wierzbicka’s (1999) and my concerns may both be regarded as ‘meta-semantic,’ but my usage describes concerns about how emotion researchers determine their theoretical language whereas Wierzbicka’s usage describes a proposed universal language for carrying out emotion research.

6 My reasons for using the terms ‘objective kind’ and ‘subjective kind’ rather than ‘natural kind’ and ‘social construction’ are as follows: First, whether or not Emotion is a natural kind depends not only on the theory of Emotion one holds, but also on how one defines a natural kind (e.g. Griffiths 1997; Charland 2002; Prinz 2004; Barrett 2006; Zachar 2008; Scarantino 2012). Second, the idea that Emotion is a socially constructed class was traditionally introduced in contrast to

## 2.1 Objective Kinds

An *objective kind* is a class of things that have the *possibility* of being independent of human conceptualizations.<sup>7</sup> It is this possible independence from human conceptualizations that defines an objective kind and its members – as something that is said to be “natural,” and therefore “real,” in contrast with something that is said to be “artificial,” and therefore something “unreal” or “unnatural” – rather than the fact that some sort of material or physical existence is predicated of them. In order for a class of things to have the possibility of being independent of human conceptualizations, and thus be an objective kind, it is necessary for members of that class to be unified in accordance with a feature of the world that has the possibility of being independent of human conceptualizations.

One possible unifying feature is that members of the same class all share some non-arbitrary physical property or properties, including causal properties of efficacy. Such properties unify the members of an objective kind as members of that kind, and make it possible for objective kinds to be what they are without the need of human conceptualizations. For example, Water is an objective kind. All things that are Water are thought to be real and to have non-arbitrary physical properties – being constituted by H<sub>2</sub>O molecules – that identify them as members of the objective kind Water. Something that is not an objective kind is Chair. Although chairs have physical properties, these properties are arbitrary and do not contribute to identifying any chair as a Chair. What identify a chair as a Chair are not its arbitrary physical properties but rather its structural form and functional properties; but this does not preclude the fact that objective kinds have functional properties. For example, a vertebrate-heart is an objective kind. Not

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the idea that Emotion is a natural kind (see Averill 1980; Armon-Jones 1986). Many theorists who regard Emotion to be a natural kind, however, also regard many emotions to be in some sense “socially constructed” (e.g. Prinz 2004; Ekman and Cordaro 2011). Although such considerations are typically about token emotional experiences or species of Emotion (e.g. prototypical, discrete, modal emotions, etc.), they complicate the discourse on Emotion, natural kinds, and social constructions. This is especially so because statements about Emotion (as a class) will necessarily have implications on statements regarding species and token experiences of Emotion. Thus the terms ‘natural kind’ and ‘social construction’ no longer help to clarify the discourse.

<sup>7</sup> Besides the fact that my definition includes the notion of *possibility*, the notion of an objective kind is consistent with Scarantino’s notion of “ontological independence” (Scarantino 2012, p. 358). This account is also consistent with Barrett’s account of the “natural kind approach” that is prevalent in Emotion research (Barrett 2013, p. 380), and the notions of objective kinds and subjective kinds are respectively consistent with her notions of “ontologically objective” and “ontologically subjective” categories (Barrett 2012, p. 417). The notions of objective kind and subjective kind, however, go beyond the respective description of perceiver independence and perceiver dependence (Barrett 2012, p. 417).

only do all vertebrate-hearts have physical properties that partially identify them as a Vertebrate-heart, they also all share the function of pumping blood throughout the body of creatures with spinal columns.

Furthermore, the physical property that partially identifies vertebrate-hearts as Vertebrate-hearts is intimately related to their functional property. That a vertebrate-heart is made of cardiac muscles partially defines it as a Vertebrate-heart, and allows it to perform the function of pumping blood throughout the body of a creature with a spinal column. Thus the function(s) of objective kinds may also be defining feature(s) of what they are, especially because these function(s) are intimately related to their non-arbitrary physical properties.<sup>8</sup> Although there are such things as artificial vertebrate-hearts, these are not Vertebrate-hearts. They have the function of vertebrate-hearts but fail to have the non-arbitrary physical properties that partially constitute what vertebrate-hearts are. Thus they are not members of the objective kind Vertebrate-heart since they fail to be constituted by cardiac muscles.

## 2.2 Subjective Kinds

A *subjective kind* is defined here as a class of things that *necessarily* depends on human conceptualizations in order to constitute a unified category. Scarantino (2012) might refer to these as ‘ontologically dependent’ categories. Human conceptualizations typically involve the attribution of arbitrary properties, including functional properties, in order to identify things as members of a subjective kind. Thus a subjective kind may have members that are, using Barrett’s terminology, “ontologically objective” or “ontologically subjective” things (Barrett 2012, p. 417). What makes a subjective kind a subjective kind is some arbitrary, stipulated, conventional, or merely operational definition that serves to unify the members into a single class. For example, as mentioned previously, chairs are subjective kinds. What makes a chair a Chair is not its physical constituents, but rather that it has a certain structure (e.g. a seat and legs of some kind) and is conceived of as having the purpose of being sat on. This also does not imply that physical constituents are not necessary for members of subjective kinds to exist. A chair needs to be made of something in order for it to exist, but the physical properties of a chair do not contribute to the chair being identified as a Chair. A chair can be made of steel, plastic, straw, etc., but that it is made of any of these materials does not identify a chair as a Chair. An institution, such as the International Astronomical

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<sup>8</sup> I leave it open here for the possibility of objective kinds to have more than one defining function.

Union (IAU), is also a subjective kind. Although it is constituted by a collection of people, a mere aggregate of people does not constitute the IAU. All institutions depend on its members having a common purpose, which is necessarily determined by human conceptualizations, and it is around this purpose that the actions of its members are organized. One common purpose shared by members of the IAU is to specify what counts as a Planet.

Subjective kinds may also have physical properties that define them as the kind of thing they are. For example, a planet has physical properties that define it as a Planet, but it is an arbitrary fact – based on human conceptualizations – that these physical properties define what planets are. Thus the fact that Pluto is no longer a planet is not a discovery since it no longer being a Planet was established by fiat, which necessarily involves human conceptualizations. The property of being manufactured or man-made, however, is not necessarily indicative of subjective kinds. For example, diamonds and manufactured diamonds constitute the objective kind category Diamond. They are unified by the non-arbitrary, physical property of carbon atoms bonding into tetrahedral units. They also have functional properties that are intimately related to this physical property; nevertheless, these functional properties do not define them as what they are since the functional properties necessarily depend on human conceptualizations. For example, because of their molecular structure, diamonds have the property of being the hardest things known to exist. Thus they are used for making precision cuts, but this function is not what defines Diamond as an objective kind.

### 3 The Semantic and Meta-Semantic Perspectives

From the *semantic perspective*, the question of what Emotion is concerns the meanings of folk emotion terms, especially the term ‘emotion.’ This understanding of what Emotion is from the semantic perspective can be further differentiated into at least two semantic levels: 1) the *primary semantic level*, on which the meanings of emotion terms are analyzed from the perspective of a speaker as a member of a particular linguistic community, and 2) the *meta-semantic level*, on which the relations between the meanings of emotion terms within two or more theories or linguistic communities are analyzed. I refer to understanding the meaning of emotion terms from this meta-semantic level as the *meta-semantic perspective*.

Questions regarding what Emotion is from the meta-semantic perspective, as it is understood here, approach the question of what Emotion is from the perspective of understanding the value of ordinary language emotion terms

or concepts to the Science of Emotion. This is because an answer to the question, what is Emotion, seeks to identify or define the nature of Emotion as an object of study. In doing so, it also seeks to establish a set of meanings for a set of emotion terms, especially for the term ‘emotion.’ It seeks to establish a language of Emotion. Although answers to the question of what Emotion is from a meta-semantic perspective can be understood in terms of matters of degree (see Russell 2010), I provide for the purpose of simplicity an analysis that draws a clear distinction between two ways of answering the question of what Emotion is from the meta-semantic perspective: One type of answer is that because there is value in ordinary language terms or concepts to the systematic study of Emotion, one aim of emotion research is to clarify or correct the concepts that are associated with ordinary language emotion terms. A second type of answer is that although ordinary language terms and concepts are valuable in some sense, they are not useful in scientific research. Thus one aim of emotion research is to establish a set of concepts for a set of emotion terms that diverge from ordinary language emotions terms.

This difference can be conceptually specified by the different working assumptions about ordinary language that each position assumes, and one way to understand the differing assumptions at work is to ask whether one regards folk emotion terms to be what Hilary Putnam refers to as “trans-theoretical” terms (Putnam 1973, p. 197).<sup>9</sup> A trans-theoretical term, according to Putnam, is defined as a term that has the same referent in different theories. Thus the two possible answers to the question of what Emotion is from the meta-semantic perspective can be respectively understood in terms of the following two answers: “Yes, folk emotion terms are or ought to be understood as trans-theoretical terms” or “No, folk emotion terms are not or ought not to be understood as trans-theoretical terms.”<sup>10</sup> I refer to those who answer “Yes” as *optimists about ordinary language*, and I refer to those who answer “No” as *pessimists about ordinary language* (I use the abbreviated terms *optimists* and *pessimists* from this point on).<sup>11</sup>

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<sup>9</sup> The distinction between optimists and pessimists about the relationship between Ordinary Language and Scientific Language can also be understood in terms of the debate between Quine and Carnap on the importance of natural language to scientific pursuits (which implicate discussions regarding ‘analyticity’ and ‘synonymy’), with Quine falling on the side of optimism and Carnap falling on the side of the pessimism (see Carnap 1938, 1955; Quine 1951, 1957).

<sup>10</sup> See Scarantino (2012) for a similar distinction between researchers who accept and those who reject the legitimacy of ordinary language terms or concepts for emotion research.

<sup>11</sup> Note that ‘optimism’ and ‘pessimism’ is used here not to refer to one’s position regarding the natural kind status of emotion, as used by Charland (2005).

### 3.1 Optimists about Ordinary Language

Optimists understand folk emotion terms to be trans-theoretical terms in relation to the language of their theory (e.g. Averill 1980; Lyons 1980; Armon-Jones 1986; de Sousa 1987; Lazarus and Smith 1990; Ekman 1992; Solomon 1993; Levenson 1999; Wierzbicka 1999; Ben-Ze'ev 2000; Goldie 2000; Nussbaum 2001; Izzard 2009; Scherer 2009; Barrett et al. 2015; Ortony and Clore 2015). They understand themselves as referring to the same sorts of things as speakers of ordinary languages. Optimists hold that the concepts associated with folk emotion terms in ordinary languages are approximately correct definite descriptions, especially in the sense that they refer to interestingly unified sets of phenomena. This does not entail that according to optimists there is a one-to-one correspondence between a specific emotion term and a specific physiological state, neurophysiological state, or a unique set of these states. It also does not entail that there is a one-to-one correspondence between a specific emotion term, and a specific thought or behavioral pattern. Nor does it entail that emotion terms have a one-to-one relation with a category of objective kind or a category of subjective kind.

Optimists also accept, either implicitly or explicitly, that there is a reciprocal relation between ordinary languages and scientific languages. Theorizing begins with folk emotion terms, which reflect folk intuitions, and the process of theorizing aims at elucidating, clarifying, and correcting the folk concepts that are associated with folk emotion terms. These clarifications and revisions are not understood as independent theoretical achievements, but as achievements of a society as a whole. Thus optimists typically accept that folk emotion terms in Ordinary Language and the same terms in Scientific Language are associated with the same referents. They liken ordinary folk emotion terms to terms like 'water,' where earlier folk concepts may have been imprecise, broad, or even incorrect to a certain extent, yet they were still approximately correct definite descriptions or at least accurately referred. For example, when researchers working with the Aristotelian conception of water eventually discovered that water is  $H_2O$ , this reconceptualization did not entail a change in reference.<sup>12</sup> Thus, according to the optimistic perspective, when the contemporary concept of water replaced the older Aristotelian concept in academic communities, as well as in the community at large, no linguistic shift would have occurred. The reason being that these terms were understood to be trans-theoretical terms.

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<sup>12</sup> See Needham (2002) for a very interesting discussion of the history of and the theoretical developments surrounding water and the concept of WATER.

### 3.2 Pessimists about Ordinary Language

Pessimists deny that folk emotion terms are trans-theoretical terms in relation to the language of their theory. According to pessimists, pessimists are not speaking of the same sorts of things as speakers of ordinary languages when pessimists use their emotion terms or redeploy folk emotion terms in the language of their theory. Pessimists typically argue that there is no significant relation between the meanings of folk emotion terms in ordinary languages and the same terms in their theory (e.g. Sarbin 1986; Griffiths 1997; Prinz 2004; Charland 2005; Panksepp 2008; Russell 2009; Scarantino and Griffiths 2011). They often ground this conclusion by arguing that most, if not all, of the concepts associated with ordinary language emotion terms are not approximately correct definite descriptions. They suggest that most, if not all, folk emotion concepts are more incorrect than correct.<sup>13</sup> Pessimists also take the prescriptive stance that *scientific* research – research that specifically involve the approaches of only the natural or social sciences – should not rely on the redeployment of folk emotion terms since these terms are typically thought to suffer from reference failure.<sup>14</sup> Accordingly, they suggest a revisionist strategy for scientific pursuits.

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**13** For examples of such arguments see Griffiths (1997) and Russell (2009). Note, however, that some pessimists have high hopes for ordinary folk emotion terms and concepts although they ultimately regard such terms and concepts as not useful in scientific research (e.g. Panksepp 2008). Furthermore, arguments like Griffiths' (1997) and Russell's (2009) are not unique to pessimism (e.g. Wierzbicka 1999; Barrett et al. 2009) although it is typical of pessimists to put forth such arguments.

**14** 'Scientism,' as it is used here, is consistent with Ladyman's (2011) use of the word, although it is important to note that Ladyman's use of 'scientism' specifically refers to a scientific stance that weds the methodological approaches of empiricism and the metaphysical commitments of materialism. Although it is the case that pessimists about ordinary languages take a similar stance in their scientific pursuits, pessimists about ordinary languages of Emotion can be understood as rejecting some underlying mechanism(s) or system(s) of Emotion rather than as rejecting "spooky" (Ladyman 2011, p. 88) entities. Furthermore, by placing pessimism in opposition to optimism, I am not suggesting here that optimists about ordinary languages either accept or reject any notions about "spooky" entities. One reason is that in the field of Emotion, concerns regarding "spooky" entities may be redefined as concerns regarding a unified mechanism(s) or system(s) of Emotion rather than concerns regarding "spooky" entities, such as those that considerations in the philosophy of mind allow (see Ladyman 2011, p. 98). Finally, it might be suggested that these considerations regarding the relationship between scientism and pessimism fall more appropriately under the discussion of objective kinds and subjective kinds in §2. This would be a problematic conclusion to draw since concerns regarding objective kinds and subjective kinds are independent of questions or concerns regarding the methodological or metaphysical stances of research paradigms. Concerns regarding objective kinds and subjective kinds are about the objects of inquiry rather than about the subjects of inquiry and

They propose that those involved in scientific pursuits abandon or radically alter the use of folk emotion terms in order to adopt a new scientific language. Given this prescribed disassociation with folk emotion terms and their associated meanings, pessimists hold that folk emotion terms and scientific emotion terms are not or ought not to be understood as trans-theoretical terms. They typically suggest that these two categories of emotion terms are or ought to be understood as polysemous terms.

## 4 The Meta-Semantic Taxonomy of Theories of Emotion

Given the metaphysical and the meta-semantic perspectives on what Emotion is, we can identify theories of emotion from various disciplines along the intersections of these two perspectives, although I will focus here on philosophical and psychological theories of emotion. The result is a *meta-semantic taxonomy of theories of emotion*.<sup>15</sup> According to this interdisciplinary taxonomic scheme, many philosophical and psychological theories of Emotion fall within one of the following four categories of theories of Emotion: 1) *realism about Emotion*, 2) *instrumentalism about Emotion*, 3) *eliminativism about Emotion*, and 4) *eliminative-realism*

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their practices when pursuing their epistemic aims. One may, however, infer that the seeming misplacement of the discussion of scientism, along with its metaphysical and methodological foundations, under a discussion of pessimism about ordinary languages suggests instead that discussions regarding conflicting scientific paradigms other than those tailored for emotion research might also benefit from a similar treatment as the one provided here in regard to theories of Emotion.

<sup>15</sup> For alternative interdisciplinary taxonomies of theories of Emotion see Barrett (2007a,b), de Sousa (1992), Griffiths (1997) and Prinz (2004). Also, one ought to note that Zachar's (2006) psychological categories of scientific realism, experimental realism, and instrumental realism should not be subsumed under my category of realism. This is because Zachar's (2006) categories focus primarily on the natural kind status or realness of Emotion as an object of scientific inquiry, leaving the question of what Emotion is from the meta-semantic perspective as an implicit background assumption that distinguishes experimental realism from instrumental realism, although they both fall under the larger class of scientific realism. The most appropriate similarities to draw between my taxonomy and Zachar's (2006) is to understand my categories of realism and eliminative-realism as being respectively consistent with Zachar's categories of instrumental realism and experimental realism, while also maintaining that these two taxonomic categories are sub-classes of scientific realism, as defined by Zachar (2006).

*about Emotion* (I abbreviate these categories by dropping the phrase ‘about Emotion’).<sup>16</sup>

## 4.1 Realism about Emotion

*Realists* are optimists about ordinary languages (e.g. Lyons 1980; de Sousa 1987; Lazarus and Smith 1990; Ekman 1992; Levenson 1999; Ben-Ze’ev 2000; Goldie 2000; Izzard 2009; Scherer 2009). They answer, “Yes” to the question of what Emotion is from the meta-semantic perspective. They claim that there is an important relationship between folk emotion terms and scientific emotion terms. More specifically, clarifying the meaning of folk emotion terms is thought to be a central task of emotion research. Scientific emotion terms and concepts are corrected, clarified, or further elucidated versions of folk emotion terms and concepts. Thus realists regard folk emotion concepts to entail some approximately correct definite description, and they regard folk emotion terms to be trans-theoretical terms. The justification for understanding the relationship between Ordinary Language and Scientific Language is that both types of languages share the same referents. From the metaphysical perspective, realists claim that emotions constitute an objective kind. They hold that all emotions are unified by some objective, non-arbitrary, physical property or set of properties (including the property of causal efficacy) that can possibly exist independent of human conceptualizations. These essential elements are typically characterized in terms of innate, biologically given emotional mechanism(s) or system(s), which are thought to be responsible for the cohesion of various elements of an emotional experience. Thus realists generally understand emotions to involve significant causal connections between the psychological (perceptions, thoughts, appraisals, etc.), neurophysiological, feeling, expressive, or behavioral aspects of emotional experiences.

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<sup>16</sup> These categories were inspired by the categories of realism, instrumentalism, and material eliminativism in the philosophy of mind; however, it is important to note that the categories of realism, instrumentalism, and eliminativism about Emotion are not constituted by the same set of theories that respectively constitute the categories of realism, instrumentalism, and eliminative materialism. Furthermore, although the terms ‘realism,’ ‘instrumentalism,’ or ‘eliminativism,’ as they are used here, do not carry the same meaning (extension and intension) as the terms ‘realism,’ ‘instrumentalism,’ and ‘eliminative materialism,’ as they are used in the philosophy of mind, there are some overlaps that may be of interests. One of my purposes for using these specific terms was to provide possible nodes through which theories of Emotion can be related to theories of mind, thereby providing avenues through which the two discourses can be merged. For a discussion of the categories of realism, instrumentalism, and eliminative materialism in the philosophy of mind see Greenwood (1991).

## 4.2 Instrumentalism about Emotion

*Instrumentalists* are also optimists about ordinary languages (e.g. Averill 1980; Armon-Jones 1986; Solomon 1993; Nussbaum 2001; Colombetti 2009a,b; Barrett et al. 2015).<sup>17</sup> They also answer, “Yes” to the question of what Emotion is, understood from the meta-semantic perspective. They hold that folk emotion terms are or ought to be understood as trans-theoretical terms. The meanings of folk emotion terms are typically taken to be approximately correct definite descriptions of what emotions are, even if such concepts need further correction, clarification, or refinement. Instrumentalists also ground their emotion terms in the same referents as ordinary language emotion terms. From the metaphysical perspective, instrumentalism denies that emotions constitute an objective kind. They deny that there is some objective, non-arbitrary, physical property, or set of properties that are possibly independent of human conceptualizations, that unify all emotions. What unifies all emotions into a single category, according to instrumentalists, is that they involve a unique class of conceptual categories, such as judgments, appraisals, social roles, social functions, or the like. These conceptual categories are necessarily dependent on human conceptualizations.

## 4.3 Eliminativism about Emotion

*Eliminativism* is not a common position among emotion researchers compared to realism and instrumentalism about Emotion (e.g. Sarbin 1986; Russell 2009).<sup>18</sup>

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<sup>17</sup> My category of instrumentalism is neither synonymous nor consistent with Zachar’s (2006) category of instrumental realism. Furthermore, one interesting insight gained from the meta-semantic taxonomy of theories of Emotion is that although both Russell and Barrett hold theories of psychological construction, their views differ in at least one fundamental aspect. As evidenced by the use of ordinary language emotion terms in her work, it is clear that Barrett is an optimist about ordinary language whereas Russell is a pessimist about ordinary language (see Barrett 2006, 2012; Barrett et al. 2015; also see Russell 2009). Although Barrett argues for rejecting emotion as a natural kind, and that ordinary language emotion terms do not track phenomena that can be categorized into discrete natural kinds, she does not reject the usage of ordinary language emotion terms in the Science of Emotion. Furthermore, according to personal correspondence with Barrett, she rejects the concepts rather than the terms and the referents of ordinary language.

<sup>18</sup> Some might regard Russell (2009) to be proposing that Emotion is a theoretically derivative category that has core affect as a natural kind as its basis, but personal correspondence with Russell confirms that this mischaracterizes Russell’s view. Russell (2009) explicitly denies Emotion to be a natural kind, and although core affect may be a natural kind and serves as a basis for an emotional meta-experience or an emotional episode, Russell (2009) denies that core affect

This is because theorizing about Emotion has typically been carried out under the opposing assumption of optimism, and eliminativists are pessimists about ordinary languages. Eliminativists answer, “No” to the question of what Emotion is from the meta-semantic perspective. They understand folk emotion terms to have meanings that are inadequate for the pursuits of scientific research. This understanding of the meanings of folk emotion terms is rooted in two interdependent assumptions: First, it is assumed that the meanings of folk emotion terms entail that Emotion or each species of Emotion (e.g. anger, joy, sorrow, etc.) is an objective kind. Second, it is concluded that folk emotion terms suffer from reference failure because there is no evidence to support positing Emotion or any species of Emotion as an objective kind. From a metaphysical perspective, eliminativists claim that Emotion is a subjective kind. Thus not only is it the case that folk emotion terms fail to refer, but it is not possible for them to refer since eliminativists take folk emotion terms to refer to objective kinds. According to eliminativists, there is no non-arbitrary, physical property that unifies all of our emotional experiences into a single coherent class. Furthermore, given that folk emotion terms have problematic meanings, and Emotion is not an objective kind, eliminativists also propose that the Language of Science be revised so as to eliminate folk emotion terms and concepts from the scientific discourse on emotion. They do not, however, suggest the elimination of ordinary language emotion terms and concepts for non-scientific endeavors since they consider the aims of scientific research to be different from non-scientific endeavors.

#### 4.4 Eliminative-Realism about Emotion

*Eliminative-realism* is also an uncommon position compared to realism and instrumentalism (e.g. Griffiths 1997; Prinz 2004; Charland 2005; Panksepp 2008; Scarantino and Griffiths 2011, Scarantino 2012). This can be attributed to the fact that eliminative-realists, like eliminativists, hold that folk emotion terms are not or ought not to be understood as trans-theoretical terms. Thus

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is a necessary condition for either. The characterization of Russell’s position as an eliminativist position is also consistent with Zachar’s characterization of Russell’s view as an “eliminativist stance” (Zachar 2006, p. 127), although my use of the term ‘eliminativism’ goes beyond a discussion of dimensional theories in psychology. Furthermore, it is important to note that although Russell is an eliminativist about Emotion as an appropriate domain of scientific research, it would be incorrect and uncharitable to characterize his view as denying the existence of emotional experiences or episodes.

eliminative-realists also answer “No” to the question of what Emotion is from the meta-semantic perspective. They are pessimistic about folk emotion terms and concepts. Like eliminativists, eliminative-realists differentiate scientific research on Emotion from research on folk emotion terms and concepts. They hold that the study of folk emotion terms and concepts does not aim at obtaining truths about objective kinds, which is taken to be the proper aim of scientific research. They also do not believe that folk concepts are approximately true definite descriptions of what emotions are. They argue that folk emotion terms and concepts entail that Emotion as a class, along with each species of Emotion (e.g. anger, joy, sorrow, etc.), is an objective kind, and they offer evidence to suggest that ‘emotion’ and other emotion terms refer to various disparate kinds. Therefore, eliminative-realists also argue that folk emotion terms suffer from reference failure, and propose that they ought to be eliminated from the languages and conceptual frameworks of scientific research. From the metaphysical perspective, eliminative-realists, like realists, understand Emotion to be an objective kind. They hold that there is at least one non-arbitrary, physical property that is possibly independent of human conceptualizations that unify all or some emotions into an objective kind. Typically, this physical property is a property of a biologically given mechanism or system of Emotion. This mechanism or system might also be understood in terms of causal relations that are imposed by an Emotion mechanism or system, which explains the cohesion between the psychological (perceptions, thoughts, appraisals, etc.), neurophysiological, feeling, expressive, or behavioral aspects of emotional experiences.<sup>19</sup>

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**19** In regard to sub-categories within the categories of realism, instrumentalism, eliminativism, and eliminative-realism, I propose that theories within each of the categories defined here to be related in terms of families of theories of Emotion rather than further delineating sub-categories that focus on more narrow necessary or sufficient conditions. In contrast with family resemblance categories, the notion of families, as it is used here, is more akin to Ekman and Cordaro’s (Ekman and Cordaro 2011) use when referring to families of Emotion. All family categories, unlike members of family resemblance categories (Wittgenstein 1997), have members that share at least one essential feature. This essential feature qualifies each member as a member of a family. Nevertheless, some family categories maybe said to have fuzzy boundaries, especially when sharing essential properties that can come in degrees (e.g. a meta-semantic perspective). Organizing theories within the categories of realism, instrumentalism, eliminativism, and eliminative-realism in accordance with a family principle of categorization is also more consistent with interdisciplinary pursuits in emotion research. It allows us to see how various theories of emotion can share certain essential features and yet differ in other significant ways. This allows subcategories of theories of Emotion to be more clearly defined, while also accommodating idiosyncratic intradisciplinary features that are essential to understanding and appreciating a particular theory.

## 5 Clarifying the Crisis in Emotion Research

Several academics have observed that emotion research is in a state of crisis. For example, *Emotion Review* (2010 and 2012), a respected journal that aims to foster interdisciplinary research and theorizing on Emotion, recently published two issues with special sections on defining Emotion. In the philosophical literature on Emotion, Charland has characterized similar concerns in terms of “the demarcation problem for emotion” (Charland 2005, p. 84). The general consensus regarding this state of crisis identifies the lack of a consensual definition of Emotion as the significant cause of this crisis (see Mulligan and Scherer 2012; Russell 2012). Some have argued in response to this crisis that the project of scientific research on Emotion ought to be distinguished from scientific research on folk emotion terms and concepts. For example, Scarantino attempts to distinguish scientific research on emotion (the “Scientific Emotion Project”) from research involving folk emotion terms and concepts (the “Folk Emotion Project”) (Scarantino 2012, p. 364). According to Scarantino, the Scientific Emotion Project “aims to offer a prescriptive definition of the conditions of membership of natural kinds of emotion, natural kinds of anger, and so on” (Scarantino 2012, p. 364). The Folk Emotion Project “aims to offer a descriptive definition of the conditions of membership of traditional emotion categories such as emotion, anger, and so on” (Scarantino 2012, p. 364). In this section, I argue that distinguishing metaphysical concerns regarding what Emotion is (which involve questions about the status of Emotion as an objective kind) from concerns regarding the meta-semantic perspective on what Emotions is (which involve questions regarding the value of ordinary languages of emotion to scientific research on Emotion) can shed more light on the nature of the current crisis in emotion research.

First, given the meta-semantic taxonomy of theories of Emotion, which was constructed along the intersections of the metaphysical and meta-semantic perspectives on what Emotion is, we can see that Scarantino’s proposal to distinguish the Scientific Emotion Project from the Folk Emotion Project overlooks the fact that many emotion researchers, such as realists and instrumentalists, are not only involved in the Scientific Emotion Project but also understand the Folk Emotion Project to be an integral part of the Scientific Emotion Project. Thus in contrast with Scarantino’s demarcations of the field of emotion research, we can understand that those involved in the Scientific Emotion Project and those involved in the Folk Emotion Project are in fact involved in the same overarching project – the Science of Emotion; and the similarities and differences between these projects can be drawn along the distinctions drawn by the meta-semantic taxonomy of theories of Emotion. Furthermore, an analysis of the observed crisis in Emotion research through the lenses of the metaphysical and the meta-semantic

perspectives on what Emotion is suggest that the crisis may not be rooted in questions about the natural kind status of Emotion. Thus an attempt to resolve the crisis by demarcating concerns regarding Ordinary Language from metaphysical concerns by distinguishing the Scientific Emotion Project from the Folk Emotion Project, as Scarantino suggests, may be problematic.

## 5.1 The State of Crisis in the Science of Emotion

If it is true that the Science of Emotion is currently facing a crisis, we must be able to clearly identify the source of the problem in order to provide an appropriate solution. A brief survey of the various articles presented in the two special sections of *Emotion Review* that are dedicated to defining Emotion reveal the following consequences associated with the lack of a consensual definition of Emotion, the questionable nature of Emotion, and the meanings of folk emotion terms:

1. Fruitless debates
2. Major impediments to interdisciplinary dialogue and research collaboration
3. The misplaced tendency to separate cognition from emotion
4. Unfalsifiable theories
5. Blindness to cultural differences due to an emphasis on English words

One may argue that disagreements over the status of Emotion as a natural kind is what lies at the heart of these problems. For example, one may argue that an answer to the question of whether or not Emotion is a natural kind would yield testable hypotheses that could adjudicate between competing theories of Emotion. Such an argument, however, not only provides an analysis in terms of ‘natural kinds’ and ‘social constructions,’ which no longer clarify the discourse on Emotion, but also oversimplifies the problem by failing to explicitly distinguish the metaphysical perspective from the meta-semantic perspective. As suggested by the meta-semantic taxonomy of theories of Emotion, theories of Emotion can be distinguished by their metaphysical perspective as well as their meta-semantic perspective. Thus answers from these two perspectives can logically, conceptually, and metaphysically come apart.

## 5.2 Clarity Through the Meta-Semantic Taxonomy of Theories of Emotion

In regard to the natural kind status of Emotion, although both the metaphysical and meta-semantic perspectives are ultimately concerns regarding the nature of

the referent of the term ‘emotion,’ the meta-semantic taxonomy helps us see that there are in fact at least four possible answers to the question of what Emotion is rather than the two answers that “Emotion is a natural kind” and that “Emotion is a social construction”:

1. Realism – The ordinary language term ‘emotion’ refers to an objective kind.
2. Instrumentalism – The ordinary language term ‘emotion’ refers to a subjective kind.
3. Eliminativism – The scientific term ‘emotion<sup>S</sup>’ refers to a subjective kind.<sup>20</sup>
4. Eliminative-realism – The scientific term ‘emotion<sup>S</sup>’ refers to an objective kind.

These four possibilities suggest that the metaphysical and the meta-semantic perspectives are logically and conceptually distinct. Furthermore, even if we grant the possibility of establishing whether or not Emotion is an objective kind or a subjective kind, the attempt to do so fails to recognize that such an answer requires us to presuppose an answer to the question of what Emotion is from the meta-semantic perspective. It would require us to presuppose whether the appropriate domain for the kind of scientific research that we are concerned with (viz., Emotion) is the domain of ‘emotion’ or ‘emotion<sup>S</sup>.’ Thus two out of the four competing categories of theories of Emotion would be privileged, albeit circularly, above the other two regardless of the status of Emotion as an objective kind or a subjective kind. Consequently, concerns from the metaphysical perspective are logically and conceptually distinct from the meta-semantic perspective, and *vice versa*.

Furthermore, concerns regarding what Emotion is from the meta-semantic perspective do not have any necessary metaphysical implications on concerns regarding what Emotion is from the metaphysical perspective. The reason why can be illustrated by the difficulties that arise in emotion research due to either the cultural diversity or cultural universality of Emotion concepts.<sup>21</sup> 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

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<sup>20</sup> The term ‘emotion<sup>S</sup>’ is used as a variable for any pessimistic replacement of the term ‘emotion’ in scientific research on Emotion. I use this distinction to clearly illustrate the distinction between realism/instrumentalism and eliminativism/eliminative-realism.

<sup>21</sup> For example, consider the debate among emotion researchers regarding the implication of culturally diverse or culturally universal emotion terms and concepts (see Griffiths 1997; Wierzbicka 1999; Barrett et al. 2009; Russell 2009).

objective kind status of Emotion. In other words, one must prove that one of the following is the case: 1) that the cultural diversity of emotion terms or concepts implies that Emotion is not an objective kind or 2) that the fact that Emotion is an objective kind implies that emotion terms or concepts are not culturally diverse. I respectively refer to these two statements as  $CD^E$  and  $OK^E$ :

$CD^E$ : If emotion terms or concepts were culturally diverse, then Emotion would not be an objective kind.

$OK^E$ : If Emotion were an objective kind, then emotion terms or concepts would not be culturally diverse.

These two possible relations, and their logical equivalents, exhaust the possible ways in which the cultural diversity of emotion terms or concepts can be logically and conceptually related to the metaphysical status of Emotion as an objective kind. Whether or not the cultural diversity of emotion terms has any metaphysical import on the metaphysical status of Emotion depends on the truth of at least one of these statements. Some pessimists have attempted to argue against optimism by assuming the truth of  $CD^E$ . I argue here that  $CD^E$  is false.

One might suggest that nothing we know suggests that either  $OK^E$  or  $CD^E$  is false. However, there are analogous cases of culturally diverse terms and concepts being associated with objective kinds. For example, the cultural concept(s) associated with the English folk term ‘cow’ and the cultural concept(s) associated with its cognate in Hindu Sanskrit ‘gow’ or ‘gau’ are very different, yet cows constitute an objective kind (Bovine). Reasoning by analogy, it would follow that  $CD^E$  would be false: it would be false that if emotion terms or concepts were culturally diverse, then Emotion would not be an objective kind. Furthermore, one might suggest that given this conclusion, it would logically follow that every rational emotion researcher believes in the truth of the proposition that would make statement  $OK^E$  false. This is because statement  $CD^E$  is logically equivalent to statement  $OK^E$  by the logical rule of inference referred to as *transportation*, which states that statements of the kind “If p, then q” are logically equivalent to statements “If  $\sim$ q, then  $\sim$ p.” In other words, statements that have these forms, given the same contents, will have the same truth-values. So if one statement were false, then the other statement would also be false by logical necessity, and *vice versa*. Thus, given the validity of the rule of transportation and the rational norm of logical consistency, it should follow that everyone who believes that  $CD^E$  is false ought to also believe that  $OK^E$  is false, and *vice versa*. Finally, those who hold some other belief about the truth-values of  $CD^E$  and  $OK^E$  would bear the burden of proof to show that their beliefs are either not false or not irrational in some appropriate

way, which includes the condition of not being inconsistent or running into vicious circularities.

This argument addresses the lack of metaphysical dependence between the cultural diversity of emotion terms, or concepts, and the objective kind status of Emotion by illustrating how concerns regarding the cultural diversity of emotion terms or concepts have no metaphysical import on what Emotion is. We can draw the same conclusions, *mutatis mutandis*, about species of Emotion and any other postulated objective kind. Furthermore, we can draw a corollary conclusion about the relationship between conceptual facts and metaphysical facts: Conceptual facts do not entail any metaphysical facts, although the goal of “getting concepts right” might be to ensure that such entailments pertain. As to whether or not metaphysical facts entail any logical or conceptual facts, I leave open to further investigation and arguments. For example, although the cultural diversity of emotion terms or concepts does not have any metaphysical import on what Emotion is, the cultural universality of emotion concepts might (see Wierzbicka 1999; Prinz 2004). Thus the resolution to the crisis in the Science of Emotion may not lie in determining the natural kind status of Emotion nor in demarcating an aspect of the Science of Emotion, specifically the Folk Emotion Project, as being outside its area of concern.

## 6 The Crisis as a Call for Unification

In light of the foregoing analysis, I offer an alternative understanding of the crisis in the Science of Emotion, and a possible way of resolving at least some of the problems associated with the observed crisis. Although the current call for a universally shared definition of Emotion indicates a state of crisis for the Science of Emotion, I argue that such a call is also an acknowledgment or reiteration of the aim or ultimate purpose of the Science of Emotion. Definitions, of any kind including emotions, have holistic meanings. They are meaningless outside a theory, i.e. a language. A definition of ‘Emotion’ is thus a theory of Emotion, and a theory of Emotion is a language that defines and employs emotion terms. The meta-semantic perspective (pessimism or optimism) defines one aspect of a theory’s framework, and the metaphysical perspective defines another (objective kind or subjective kind). These are some of the presuppositions on which a theory is constructed. Furthermore, theories of Emotion are constructed in order to contribute to the process of building a body of knowledge regarding what Emotion is. This is or ought to be the ultimate aim of the Science of Emotion. We can regard this body of knowledge as the Theory of Emotion: A single, consistent,

unified theory that is mutually accepted by experts on Emotion as an account of what Emotion is. Thus the call for a single, mutually agreed upon definition is an affirmation and, perhaps, a recommitment to the ultimate aim of establishing a Theory of Emotion by those involved in the Science of Emotion.

The call for a consensual definition of Emotion may also be the recognition of a need, and a call for, constraints in emotion research. The necessity of constraints for emotion research is evident in complaints about fruitless debates, impediments to interdisciplinary dialogue and research, and unfalsifiable theories. Thus as I understand the Science of Emotion, and all other scientific projects undergoing what some might call a period of crisis, such crises are calls for renewing our commitment to the project of unification as well as a call for a foundation on which such a project can flourish. The meta-semantic taxonomy of theories of Emotion contributes to providing such a foundation. It carves out a conceptual space which allows emotion researchers to see that theories from one discipline can and do share essential features, and therefore the same theoretical space, with theories of another discipline. It also provides a way of understanding how seemingly disparate theories from within the same discipline can be similar or different in at least two essential ways.<sup>22</sup>

This taxonomy is not intended to displace the pre-existing taxonomies of theories of Emotion in any discipline. Current intradisciplinary taxonomies of theories of Emotion successfully serve the purposes for which they were established. This is why they remain in use. Nevertheless, these taxonomies reflect the methods, interests, and goals of intradisciplinary research. As such, they are inadequate for serving the purposes of interdisciplinary research, which seeks to go beyond the more narrowly defined methods, aims, and goals of intradisciplinary research. Thus the meta-semantic taxonomy of theories of Emotion provided here may help resolve at least some of the problems of fruitless debates and major impediments to interdisciplinary dialogue and research collaboration in the Science of Emotion.

Finally, although the meta-semantic taxonomy of theories of Emotion, as it is presented here, only addresses philosophical and psychological theories of Emotion, it is also able to incorporate theories of Emotion from other disciplines (e.g. linguistics, anthropology, and sociology), as long as these theories are explicit about their metaphysical and meta-semantic perspectives. This is because the metaphysical and meta-semantic concerns, along which the meta-semantic

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<sup>22</sup> For example, the meta-semantic taxonomy of theories of Emotion can explain, to a certain extent, how some appraisal theories, some social constructionist theories, and some basic emotion theories of Emotion in psychology can be consistent with some psychological constructionist theory of Emotion (see Barrett 2013; Ortony and Clore 2015).

taxonomy of theories of Emotion has been constructed, are fundamental concerns for the Science of Emotion.

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