Introduction

A New Role for Emotions in Epistemology?

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This paper provides an overview of the issues involved in recent debates about the epistemological relevance of emotions. We first survey some key issues in epistemology and the theory of emotions that inform various assessments of emotions' potential significance in epistemology. We then distinguish five epistemic functions that have been claimed for emotions: motivational force, salience and relevance, access to facts and beliefs, non-propositional contributions to knowledge and understanding, and epistemic efficiency. We identify two core issues in the discussions about such epistemic functions of emotions: First, even though it is plausible that emotions are involved in epistemic processes, it may be doubted whether they really matter for the normative question of what counts as knowledge or justified belief. Second, some of the epistemic functions claimed for emotions in general may only be attributed to some specifically epistemic emotions, which have been present all along in traditional epistemology, albeit under different labels such as 'intuitions'.

Epistemic activities can be very emotional affairs. Curiosity, doubt, hope and fear trigger everyday cognitive activities as well as academic research, which in turn are sources of surprise, frustration and joy. Less intellectual emotions may also play their part when tireless scrutinizing is driven by jealousy, or when an experiment is too disgusting to occur to any researcher.

Nevertheless, emotions did not play a significant role in traditional epistemology and if they were paid any attention at all, they were mainly thought of as impairing cognition. Recently, however, epistemologists and emotion theorists have started to discuss the question of whether the epistemological standing of emotions needs to be reassessed. Are there epistemic functions that can be assigned to emotions? And which

emotions are suitable candidates for these functions? These questions are at the centre of this collection of essays.

The significance some epistemologists have attributed to emotions over the last ten years or so can arguably be claimed to be new in the context of contemporary English speaking epistemology. Emotions entered epistemology discussions in the 1990s after having been reintroduced to ethics and moral philosophy some decades earlier. This development has been helped by the rediscovery of emotions in cognitive science (Antonio Damasio's *Descartes' Error* among the best-known examples[1]) and by epistemology becoming more closely associated with action theory and moral philosophy, as in virtue epistemology. But while the cognitive significance of emotions was quickly acknowledged and, under headings like 'emotional intelligence', made it to newspapers, general interest magazines and self-help books, most epistemologists have been less enthusiastic about emotions. For instance, in Blackwell's 1992 *Companion to Epistemology* (Dancy and Sosa 2001), 'emotion' is not even listed in the index (neither are related terms, such as 'feeling' or 'affect') and nothing significant can be found in Kluwer's 2004 *Handbook of Epistemology* (Niiniluoto et al. 2004). Over the last decade, however, many strands of research centring on the nature and function of emotions have led to important insights and adjustments, both within and outside of epistemology.

While this introduction focuses on recent research, one should not forget that the idea that emotions matter a great deal in epistemology has a longer history. An example can be found in a surprising passage of Moritz Schlick's *On the Foundation of Knowledge*, where he explicitly uses satisfaction, fulfilment and even joy as the criteria for successful validation of inductively achieved hypotheses:

> [We] pass an observational judgement that we expected, and have in doing so a sense of fulfilment, a wholly characteristic satisfaction; we are content. It is quite proper to say that the affirmations or observation statements have fulfilled their true mission, as soon as this peculiar satisfaction is obtained. … Once the prediction comes to pass, the aim of science is achieved: the joy in knowledge is joy in verification, the exaltation of having guessed correctly. … Are our predictions actually realized? In every single case of verification or falsification an 'affirmation' answers unambiguously with yes or no, with joy of fulfilment or disillusion. The affirmations are final. (Schlick [1934], 382–3)

Affirmations ('Konstatierungen') are a core element of Schlick's foundationalism and, it turns out, they have their 'true mission' in eliciting emotional responses. The immediate joy of seeing a hypothesis confirmed and the disappointment of experiencing it falsified make it possible for affirmations to provide the infallible foundation of knowledge and science. This basic function of emotions is echoed in Quine's observation that Goodman's 'new riddle of induction' is best dealt with by appealing to a feeling of simplicity (Quine 1960, 19). Recently, Christopher Hookway picked up on this remark (Hookway 2003a, 81; Hookway, this vol., p. 000), using it as a starting point for his own contribution to the current debate on emotions and epistemology. Goodman himself started to highlight the epistemological significance of the emotions in the 1960s (Goodman 1976, ch. VI.4). His arguments for adopting understanding, instead of knowledge, as the central epistemic goal were taken up by Catherine Elgin, who developed a comprehensive account of epistemology that gives emotions a prominent role (Goodman and Elgin 1988; Elgin 1996).

In what follows, we first sketch some traditional stances and more recent developments in epistemology (section 1) and the theory of emotions (section 2). On this basis, we will then (section 3) present a survey of various ways in which emotions recently have been claimed to be relevant to epistemology, followed by a brief discussion of some possible objections to the proposed reappraisals of emotions in epistemology (section 4).

1. Background in Epistemology

Recent developments within philosophical epistemology have prepared the ground for attributing epistemic significance to emotions. These developments are best understood against the background of some core features of traditional epistemological thinking.

Features of Traditional Epistemology

Within the philosophical tradition, epistemology has tended to present itself not as an empirical, but as a normative discipline, often motivated by a wish to answer sceptical challenges. Philosophical epistemologies explore the grounds and validity of knowledge. While the question of *how we go about* acquiring and maintaining knowledge has countless aspects that call for empirical investigations, epistemology as

traditionally understood attempts to tell us *what counts as* acquiring or having knowledge.

Accordingly, questions of the validity of epistemic claims (e.g. evaluating something as epistemically justified, attributing knowledge to somebody) are often contrasted with questions of their formation or genesis, and only the former are treated as epistemologically relevant. This view is often presented by recourse to the distinction between the 'context of discovery' and the 'context of justification'. The resulting picture with respect to the emotions is familiar enough. Research, actual processes of discovering and justifying, may well be driven by all sorts of emotions, such as curiosity or fear of dropping out of an academic career, but these emotions do not play any part in evaluating whether the results of research add to our knowledge. Emotions are important in the context of discovery as they influence the way researchers actually proceed. Nevertheless, they are irrelevant to the context of justification since the validity of the results is independent of such emotions. We will discuss this stance in more detail in section 4.

A considerable part of traditional epistemological theorizing includes a further assumption that contributes to a situation in which emotions were not perceived as epistemologically relevant. Clearly present in Descartes' *Meditations* (Descartes [1641]) and prevalent in traditional foundationalist epistemological projects, certainty or infallibility have been conceived as requirements of knowledge. This prioritizes deductive over inductive inferences and it leads to quests for infallible epistemic foundations and algorithms to choose between competing theories. On the face of it, emotions do not make promising candidates for such processes, since their cognitive output seems particularly fallible. The feeling of jealousy, for example, may occasionally help to discover facts that would otherwise go unnoticed; thus it may help acquire knowledge. But all too often it results in nothing but ill-founded suspicion (see Goldie, this vol.).

Apart from attempts to formulate and answer sceptical challenges or epistemic regress worries (e.g. by recourse to foundationalism), contemporary analytic epistemology has long been preoccupied with analysing key epistemic concepts such as (epistemic) justification and, above all, propositional knowledge. Analysis in terms of justified true belief has served as a promising starting point. Again, this model is

unfavourable to emotions as long as the justification condition remains tied to inferential relations between beliefs. To say that subject S knows that p is to say that S truly believes that p and that this belief is epistemically justified. Whether p is justified depends primarily on its inferential relations to S's beliefs.

Developments Within Epistemology

A range of more or less recent developments have shaped epistemology in favour of emotions. In this respect, debates about the justification condition of knowledge have been especially influential. According to an important proposal, what is needed for subject S to know that p is not that S be in a position to give reasons for p, but that S be in a position to rule out relevant alternatives to p (Dretske 1970; Goldman 1976). Attempts to determine what counts as epistemically relevant in any given situation soon opened the door to considerations previously thought of as alien to epistemology. Some difference between real, felt doubts and idle philosophical paper doubts, for example, could be used to establish that blind tasting Barolo is a relevant alternative to blind tasting Chianti, whereas being a brain in a vat is not. As we will describe in section 3, epistemic relevance and salience have become some of the most discussed functions of emotions within epistemology (see de Sousa 1987; Elgin 1996; Hookway 2003b).

In further attempts to remove the justification condition from the epistemic subject's cognitive control, it was argued that for a true proposition p to count as knowledge, it matters not so much whether the subject is in a position to give reasons for p. Instead, we better ask whether p was produced in an appropriate way, for instance by suitable causal chains (Goldman 1967), by reliable belief-forming mechanisms (Goldman 1976) or by properly functioning cognitive equipment (Plantinga 1986). To some extent, such moves towards 'externalist' theories of epistemic justification have blurred the traditional distinction between context of discovery and context of justification. After all, causal chains and the kinds of mechanism that produce or fix beliefs are features of the formation of knowledge.

But even though emotions are often part of processes of knowledge production, they did not immediately attract the externalists' attention. It was largely assumed that the function of the justification condition, whether spelt out in internalist or externalist terms, is to rule out beliefs that are merely accidentally true. Consequently, only those

features of belief-forming processes that systematically contribute to the truth of their products were seen as normatively, and hence epistemologically, relevant. Insofar as emotions seem particularly fallible, they do not seem epistemologically relevant.

The case for emotions is strengthened once principled questions are raised with respect to counterexamples to various analyses of the concept of knowledge. As Hilary Kornblith has recently insisted, at the end of the day we are not interested in our concepts of knowledge and epistemic justification, but in knowledge and justification themselves (Kornblith 2006, 12). Mark Kaplan (1985, 354) makes a similar point when he argues that unless it concerns the 'proper conduct of inquiry', analysis of the concept of knowledge is idle. The underlying view of epistemology is that it should primarily aim at 'understanding and advancing rational inquiry' (Kaplan 1985, 362).

Hookway (1990) suggests a similar shift away from characteristics of static belief systems to epistemic activities. This move is motivated by a pragmatist interpretation of sceptical challenges. Hookway thinks that sceptical challenges undermine the idea that we can simultaneously understand ourselves as participating in normatively regulated inquiries and as autonomous, responsible agents (Hookway 1990, 215). For him, this move towards practices and processes goes together with a widening of the epistemological focus from propositional knowledge to epistemic evaluations in general, as has also been argued for by Goodman and Elgin (1988; Elgin 1996).

Various considerations and claims have been put forward to defend such a development. Knowledge may just be ill chosen as the goal of epistemic activities. It may be too hard to achieve (especially if the tripartite analysis is correct) or it may impose inapplicable standards to our inquiries. Furthermore, knowledge, as it is typically discussed in epistemology, is restricted to propositions. But propositional knowledge may rest upon non-propositional elements, such as categories, concepts and methods. Or it may even be better approached in terms of knowing how to do certain things, such as conducting inquiries or revising one's beliefs.

Elgin (1996) argues that inquiry is better seen in terms of striving for understanding than in terms of knowledge acquisition. If analysis of epistemic processes is not restricted to their propositional results, but includes non-propositional components of understanding, then values, rules, categories and methods may be epistemically evaluated along with judgements or assertions (Elgin 1996, 122). Related

considerations have led to a weakening of the truth-requirement in epistemic evaluations to acceptability (Goodman and Elgin 1988), tenability (Elgin 1996) or 'enough' truth (Elgin 2004) to make room for approximations and even fictions that contribute to understanding (Elgin 1996, esp. 122–7; see the discussion in Wild, this vol.).

Such moves towards epistemic processes and activities highlight aspects and properties of epistemic agents that have previously been neglected. Emotional states can be seen as part of this new, broader picture, which is also influenced by philosophers of science such as Kuhn or Feyerabend, who argue for broadly construed scientific rationality to replace the logical empiricists' ideal of logical procedures in matters of theory choice. One way of spelling out such a notion of rationality appeals to scientists' decision making. Harold Brown, for example, models the rational scientist on Aristotle's man of practical wisdom, who is

> … a model of the maker of crucial scientific decisions which cannot be made by appeal to an algorithm, and I offer the making of these decisions as a model of rational thought. It is the trained scientist who must make these decisions, and it is the scientists, not the rules they wield, that provide the locus of scientific rationality. (Brown 1977, 149)

Ernest Sosa (1980; 1985), James Montmarquet (1993) and Linda Zagzebski (1996; see also DePaul and Zagzebski 2003) undercut the distinction between internalist and externalist theories of epistemic justification by adopting the notion of virtue from ethical theory and focusing on epistemic or intellectual virtues.[2] This amounts to a reversal of direction of epistemological analysis. In the traditional order, epistemic evaluations of propositions, sentences or mental states were analysed first, and epistemic agents, acts and processes were then accounted for in terms of these analyses. Virtue epistemologists, however, start with normative properties of epistemic agents. Emotions come to play parts within such a strategy by contributing to the analysis of the epistemically relevant virtues or character traits (cf. the critique of Wild, this vol.).

Lorraine Code's (1984; 1987) and Alvin Goldman's (1986; 1999) social epistemology further widens the scope from individual epistemic agents to processes within epistemic communities, while feminist epistemologists and philosophers of science examine whether, and in what ways, the gender of epistemic agents may be

epistemically significant. The epistemic agent's emotional involvement is one aspect of the gender differences that are discussed in this context (Jaggar 1989; Diamond 1991).

Two more developments inside and outside philosophy should be mentioned as having led to a surge of interest in emotions. In philosophy, Quine (1969) and others have initiated the project of naturalizing epistemology by assimilating it to psychology and cognitive science. Similar considerations fuelled hopes for a naturalized theory of mental states and concepts, which have contributed to the tendency to assign philosophical significance to empirical research on belief-forming processes and belief-revision (see Fodor 1984; Fodor 1987; Nisbett and Ross 1980; Goldie, this vol.). At roughly the same time, philosophical theories of emotions that emphasize their cognitive significance have been revived (e.g. Kenny [1963]), while the cognitive revolution in psychology started to give emotions a central place (see Lazarus 1999). Some twenty years later, the time was ripe for fusing these trends. Ronald de Sousa (1987) and Damasio ([1994]) combined cognitivist and naturalist aspects with great effect.

In summary, we can identify the following developments within philosophical epistemology that invite epistemological discussions of emotions: relevant alternative accounts and externalism about epistemic justification; calls for a theory of epistemic agents and practices, paradigmatically as opposed to conceptual analysis; opening the focus from propositional knowledge to epistemic evaluations in general; criticism of narrowly construed epistemic rationality within the philosophy of science; the recent prominence of virtue epistemology, discussions of social and feminist epistemology; and finally, the rise of cognitive science and naturalized epistemology.

2. The Landscape of Emotions

Any exploration of possible epistemic functions of emotions presupposes some understanding of the variety and nature of emotion phenomena. In this section, we highlight a few general points that help to structure discussions of emotions and to avoid some sources of misunderstanding.

The Variety of Emotions

The first thing worth noting about the concept of emotion is the number and variety of emotion terms. Empirical research suggests that about 300 colloquial terms referring to emotions can be found in the English language (Plutchik 2003, 64–8). These range from 'anger' and 'anxiety' to 'indifference' and 'interest' as well as to 'self-respect', 'shame' and 'surprise'. Also, philosophers have compiled various systematically organized 'dictionaries' of emotions. Descartes' list in *The Passions of the Soul* (Descartes [1649], §§53–67) is a prominent example. More recently, Robert Solomon presented an *Emotional register – Who's who among the passions* with descriptions covering about fifty emotion terms (Solomon 1993a, ch. 8). Any such list faces the problem of what terms exactly deserve to be included, and the apparent diversity of phenomena classified as emotions raises the question of whether all emotions may be claimed to have epistemic relevance or only those of a certain type.

Attempts at structuring the universe of emotions include taxonomies along dimensions such as intensity (Plutchik 1980, 157–60), backward-looking and forward-looking, positive and negative (Lyons 1980, 89–91; Gordon 1987, 25–32; Prinz 2004b, ch. 7), as well as outer and inner direction (Solomon 1993a, ch. 8). Other ways of organizing the realm of emotions draw on designating certain emotions as 'basic', though this is an ambiguous attribute of emotions (see Ortony and Turner 1990; Plutchik 2003, ch. 4). One influential idea is to take some emotions as basic in the sense of 'elementary' and explain the others as derivations, mixtures or compounds thereof, in analogy to primary and secondary colours or chemical elements and compounds. There is a long history of attempts at such a reduction including some well-known philosophical proposals such as Descartes' list of *passions primitives:* wonder, hatred, joy, desire, love, sadness (Descartes [1649], §69). In cognitive science, Robert Plutchik's account (Plutchik 1980) is a paradigm of such a position. Alternatives to elementary emotions include the view that the emotions form a multidimensional spectrum which is structured by components that are not emotions themselves (Ortony and Turner 1990). Equally common is the use of 'basic' in the sense of 'pan-cultural'. Empirical investigations in psychology suggest that some emotions can be found in all cultures and have expressions that can be cross-culturally recognized (e.g. Ekman 1999b). This has been treated as evidence for their being relatively basic from a

biological, specifically evolutionary perspective. In particular, these findings have been put forward as a challenge to the rival stance that emotions are social constructions (cf. Prinz 2004c). A classical list of pan-cultural emotions are the 'big six': anger, fear, happiness, sadness, disgust, surprise (Ekman et al. 1969).[3]

Notable Distinctions

One reason why 'emotion' covers such a remarkable diversity of phenomena is that this term itself is used with a range of different meanings. In modern philosophical terminology, 'emotion', the older terms 'passion' and 'affect', as well as related adjectives are used in a great variety of ways, sometimes with contrasting meanings, sometimes as synonyms.[4] The same holds for everyday language, which additionally tends to use 'feeling' interchangeably with 'emotion'. In theoretical writings, there is a discernible tendency to distinguish between emotions, feelings and moods. Furthermore, 'affective' tends to be used in a broad sense, including but not confined to emotions and feelings, but covering, for instance, moods as well (cf. Davidson et al. 2003, xiii; Griffiths 2004b, 240–43).[5] Nevertheless, these are trends, not rules. One always has to be prepared to find divergent uses of 'emotion', 'affective' and the like, as well as distinctions drawn differently from what is suggested here.

Non-English usage of 'emotion' is an additional source of confusion because superficially similar terminology may cover up differences in meaning (see Cassin 2004). In German, for example, 'Emotion' has fairly recently been adopted from English and French and has started to replace more traditional terms such as 'Affekt' or 'Gemütsbewegung'. Often, but by no means always, it is used as a synonym for 'Gefühl', which in turn is not only the standard translation for 'feeling' but also used to cover emotions.

Two distinctions are particularly useful in any discussion of the epistemic relevance of emotions, since they help to avoid some misunderstandings and confusions that are caused by the variety of terminologies in use.[6] First, if an emotion is ascribed to somebody, what does the emotion term refer to? This question calls for distinguishing dispositions, processes, episodes and states. The second distinction concerns contrasting uses of 'emotion', 'feeling' and 'mood', where feelings can be seen as an aspect of emotions among others.

To begin with, there are *dispositional* and *non-dispositional* uses of emotion terms (Lyons 1980, 53–6). When we say

(1)   Toby has a fear of flying.

we may want to say that it is a characteristic of Toby that he fears flying; that is, we ascribe to him a disposition *to* an emotion. If this is the case '*S* has *e*' can be interpreted as a shorthand for '*S* is disposed to have *e*' or '*S* is the *e* type of person'.[7] Such a reading of (1) is appropriate in a context like:

(2)   Don't even ask him to join you on this trip. He has a fear of flying.

Alternatively, we may use (1) to talk about an emotion actually affecting Toby (sometimes called an 'occurrent' emotion):

(3)   The trip to Hawaii was a nightmare for Toby because, suddenly, he had a fear of flying.

In this case, '*S* has *e*' means the same as '*S* is affected by *e*'. The difference between these two usages makes it possible to say something like

(4)   Toby's fear of flying has saved him from actually experiencing his fear of flying.

without contradicting oneself.

Additionally, this latter use of emotion terms can be further differentiated. Expressions that refer to an emotion affecting somebody can in fact refer to a great variety of emotional or emotion related phenomena. There are two relevant dimensions here. On the one hand, emotions have the character of a process. They develop over time, showing a pattern of changing features (Frijda 1993, 382; Goldie 2000, 12–14). This renders emotion terms applicable to anything from long term processes lasting for hours or months to episodes of short duration, in the limiting case even states with almost no discernible pattern of evolution (cf. Solomon 2003, 2). For example:

(5)   The trip to Hawaii was a nightmare for Toby, for he started having his fear of flying the very day I suggested the trip to him.

(6)   Everything went well, until Toby suddenly had another rush of his fear of flying in the middle of our flight.

On the other hand, having an emotion can include a great many elements or aspects such as feelings, behaviour, bodily conditions and dispositions, including dispositions to certain emotions:

(7)   Irritated by his fear of flying, Toby was always on the verge of getting angry with the cabin crew.

Many expressions can be used for referring to an emotion as a whole as well as for picking out one, or a few, of all aspects of an emotion. Often the aspect referred to is a feeling:

(8)   As soon as we started, Toby's fear of flying got even more intense.

Behind this distinction between emotions and feelings lurk important problems concerning the nature of emotions. For there are theories of emotions which claim that emotions essentially *are* feelings, while others reject such an identification or insist on them being conceptually or factually independent. 'Feeling' and the verb 'to feel' are themselves used in a wide variety of ways in everyday language. Sometimes they are obviously closely related to emotions, as in 'I feel angry at him'. For other uses, the relations to emotions are less obvious, as in 'I feel like having a bath', 'I feel hungry', 'I cannot feel the vibrations you are talking about', 'I feel you should not interfere' and so on (cf. Alston 1967, 483; Kenny [1963], 36–7). In philosophy, the majority of writers use 'feeling' to refer to some quality of consciousness; that is, to some state of awareness, to be described, if possible, in phenomenological terms, similar to the qualia of perception.[8] On-going disputes concern the question of what it is that is sensed in a feeling, the relation of feelings to bodily conditions and to behaviour, as well as the questions of whether feelings are accessible by introspection alone and whether they are intentional (cf. Goldie 2000, ch. 3).

Finally, there is 'mood', a third term which is used in close connection with emotions:

(9)   Ever since Toby flew to Hawaii, he has been a bit down.

A widely accepted psychological definition holds that moods are diffuse, global, low intensity emotions of longer duration (Oatley et al. 2006, 30). Against this it has been quite convincingly argued that the most salient difference between emotions and moods is not their duration or intensity, but the fact that moods do not have a specific intentional object (e.g. Frijda 1993; Goldie 2000, 143–51; Prinz 2004b, 182–8; for sceptical remarks see Plutchik 2003, 63). Emotions, so the argument goes, can be described as intentional affective states, oriented towards rather specific objects. The target of an outburst of anger, for instance, may be a certain word one believes to have overheard. Moods, on the other hand, either lack intentionality altogether or they are non-specifically oriented towards, for example, 'everything', 'nothing' or 'the world'. In short, moods are emotions without specific objects, the difference being gradual rather than categorical (Goldie 2000, 17).

To sum up, as emotion terminology is anything but uniform, statements about emotions are often ambiguous. They admit of disposition-to- and affected-by-readings, or of being interpreted as referring to emotional processes of different 'sizes' or to some aspect of an emotion, such as a feeling or a bodily condition. Furthermore, we may expect that these distinctions will prove important for claims about the epistemic significance of emotions.

Characteristics of Emotions and Theories of Emotions

Emotional processes are studied from a wide range of perspectives.[9] Consequently, theories of emotions have drawn attention to many different aspects of emotions, relating to sensation, cognition and action, to the body and its environment. The result is that the discussion about the nature of emotions refers to a bewildering variety of characteristics. These include feelings, behaviour (e.g. facial or gestural expressions), bodily reactions (e.g. muscle tone or neurological processes), cognitions, dispositions to act (e.g. to fight or explore) and to more emotions. But emotions are also associated with causes and intentionality; that is to say, emotions are directed towards something else (an object, event, state of mind, disposition, proposition etc.), which can be identical to their cause or different from it (e.g. a future event may be the object of my hope or fear, but not its cause; Kenny [1963], 49–52; Gordon 1987). Furthermore, emotions are held to include or presuppose certain evaluations, beliefs or other

cognitions. They can be analysed with respect to their narrative structure, their being embedded in society and culture, as well as with respect to the question of whether they merit being assessed as appropriate, justified, rational, reasonable, intelligible or warranted.

As Jesse Prinz (2004b, ch. 1) has pointed out, this multiplicity of features confronts theories of emotions with a 'problem of parts' as well as a 'problem of plenty'. On the one hand, the various aspects of emotions must be accounted for; on the other hand, it must be explained how they integrate into emotions. Consequently, different theories of emotions not only distinguish different features of emotions, they also assign different functions to those features, interpreting them as aspects, parts, preconditions, causes or effects of emotions. Moreover, the same feature may be taken as important or even essential to all or some emotions by one theory, but largely ignored, declared irrelevant or even non-existent by another. Some theories try to reduce emotions to some of these features. William James, for example, suggested in his influential *What Is an Emotion?* (James 1884; cf. James [1890], 442–67) that consciously felt emotions just are sensations of physiological disturbances directly caused by perceptions. Other theories try to integrate different aspects (e.g. 'affect programs' as introduced in Ekman 1977) or take 'emotion' to be a family resemblance concept (e.g. Alston 1967).

In our epistemological context, two questions about theories of emotions are of special relevance: Are emotions cognitive? And is a uniform theory of *the* emotions needed for assessing the epistemological status of emotions?

Firstly, the discussion of whether emotions are cognitive is partly fuelled by divergent and unclear uses of 'cognitive' (see Solomon 2003; Prinz 2004b, ch. 2). A rather restrictive interpretation of 'cognitive' requires that theories of emotions count as cognitive only if they attribute propositional content to emotions. On such accounts, emotions are typically assimilated to beliefs or normative judgements. Claims along these lines can be found in the theories of, for example, Solomon (1993a, ch. 5.3; but cf. Solomon 2003 and 2007, ch. 18), William Lyons (1980, 71–7) and Martha Nussbaum (2001, ch. I.1).

More liberal interpretations of 'cognitive' additionally include theories that construe emotions on the model of perception. Such an analysis of emotions has already

been present in de Sousa's influential study *The Rationality of Emotion* (1987; cf. de Sousa 2004). It is currently defended by several authors, Sabine Döring (this vol.), Elgin (1996; this vol.) and Prinz (2004b).[10] As a minimal definition of cognitive theories of emotions, one may count all theories as cognitive which include the claim that emotions are intentional (Döring 2003, 225–6; this vol.). According to this criterion, strictly behaviouristic theories and theories that reduce emotions to feelings are not cognitive.

There are two ways in which an emotion can be said to be intentional or oriented towards an object. (Kenny [1963], 131–5) On the one hand, an emotion has a 'formal' object such as *being dangerous* in the case of fear[11] or *being disgusting* in the case of disgust. In de Sousa's characterization, the formal object of an attitude is 'that which gives the trivial answer to the question *Why do you hold this attitude?*' (de Sousa 2007, 5; cf. de Sousa 1987, 121–3). More specifically, the formal object of an emotion can be defined as the property *x* must have, or the norm *x* must comply with, if the emotion in question is to be appropriate or at least intelligible with respect to *x*. On the other hand, a specific emotional episode is oriented to something particular, the 'material' or 'particular' object, which at least seemingly fits the formal object. The formal object of surprise, for example, is *being unexpected*, while the particular object of your surprise may be a long lost key found in one of your shoes. Intentionality in this sense of formal and particular objects is not just intentionality in the sense that emotions relate to some bodily conditions (Goldie 2004, 93). To say that disgust presents the body as being in a state of disgust is to miss the point of this emotion, which rather consists in presenting some object or situation as disgusting. For this reason, accounts which simply identify emotions with awareness of bodily changes do not count as intentional.[12]

As an alternative to a general cognitive theory of emotions, one may defend the more restricted view that certain emotions are specifically cognitive in one of the senses explained. This issue will be discussed in the final section.

A second debate revolves around the charge that philosophical theories of emotions rely on the invalid assumption that it is possible to develop a uniform theory of *the* emotions. Several writers, notably Amélie Rorty and Paul Griffiths, have claimed that the emotions do not constitute a natural kind (Rorty 1980b; Rorty 2004; Griffiths 1997; Griffiths 2004a; Griffiths 2004b). Rorty argues that there is no clear distinction between emotions and other mental states such as motives, moods and attitudes.

Consequently, she emphasizes that philosophical accounts of emotions should be integrated into a comprehensive framework of a philosophy of mind (see also Solomon 2004a, 84). Griffiths claims that the diversity of phenomena called 'emotions' does not allow for a unified scientific account; that is, the category of emotions cannot be used to reliably derive the inductive generalizations that biology, neuroscience and psychology need for explaining the mechanisms underlying emotions. Even what appears to name a single type of emotion, for example 'anger', may collect diverse phenomena, ranging from an instinct-like 'affect program' to a voluntarily adopted strategic behaviour.[13]

Many philosophers have resisted this analysis, objecting that the emotions do have a lot in common (even if not with respect to biological mechanisms), that the taxonomies of the vernacular should be respected, and that Griffiths's arguments rely on too narrow a conception of what theories of emotion should aim at explaining (see e.g. Prinz 2004b, ch. 4; Roberts 2003, ch. 1.4). At any rate, even if philosophical analysis starts with vernacular concepts, it would be a misunderstanding to conclude that it is thereby confined to simply accepting these concepts. Philosophy, no less than the sciences, relies on the method of explication, which aims less at finding extensional equivalents than at replacing vernacular concepts for the sake of precision, simplicity and fruitful theories (cf. Carnap 1962, §§2–3). For the question about epistemological significance of emotions, we may draw the consequence that it could be a serious strategic error to presuppose that all emotions can be treated the same in this respect. Rather, one should be prepared to find that certain emotions fulfil some epistemic functions – perhaps only under certain circumstances – whereas other emotions are unsuitable for these functions, or are altogether irrelevant from an epistemological point of view.

3. Emotions in Epistemology

Emotion's Bad Reputation in Epistemology

Most epistemologists have not given positive accounts of emotions. This is part of an attitude that holds that 'reason should be the master of passion'[14]. Its roots can be traced back to ancient Greece, where Democritus, for example, stated: 'Medicine cures diseases of the body, wisdom frees the soul from emotions' (Diels 1951–52, 68 B 31; transl. in Sorabji 2000, 2). Such maxims have served as a guide not only for practical

decision making, but also for cognitive activities. The distinction on which they depend remains in place when they are turned upside down, as most famously in Hume's declaration that reason is and ought to be the slave of the passions (Hume [1739/40], II.iii.3, 415).

In any case, the metaphor of master and slave is more ambiguous than one may first think. If reason is the master then the emotions are servants. Servants are generally kept because they do something useful, they sometimes have abilities their masters lack, and many a master would be rather lost without them. The metaphor of master and servant, together with the metaphorical mind vs. heart categorization of practical decisions, is embedded in a pre-theoretic cultural tradition of treating reasons and emotions as opposing one another.[15] In the philosophical tradition, the contrast between reason and emotion is closely related to various doctrines about the different faculties of the soul. However, irrespective of their position in various theories of the mind, and notwithstanding Hume's famous dictum, the reputation of emotions in epistemology tended to be unfavourable throughout the history of philosophy. There are a number of reasons for this traditionally prevalent negative assessment of emotions.

To start with, emotions have long been recognized as threats to rational and epistemic decision making. They can impair processes of knowledge acquisition or the assessment of knowledge claims. The most straightforward version of such a view, usually attributed to the Stoics, holds that emotions simply are misguided judgements (see Sorabji 2000, 55). Independently from such an identification, emotions have been charged with distorting perception, as well as leading to wishful thinking and self-deception. Explanations of such phenomena often rely on tying emotions to the will or to desires. Emotions are then criticized for being a means by which will or desire can 'take over' reason or perception, or disrupt a rational process. To guard oneself against such influences, emotions either have to be mastered (as recommended, for example, by the Stoics) or one has to strive for having the 'right' emotions (as Aristotle argued). In this volume (p. 000), Peter Goldie takes a closer look at how emotions can 'skew the epistemic landscape', especially when triggered in environments that are different from those they have evolved in (see also Wild, this vol.).

A second concern is that emotions do not contribute to knowledge because they are too subjective or private to be relevant to what should ultimately be the objective

truth of beliefs, independently of how exactly 'objective' and 'truth' are understood. If, for example, two people spot an animal and one of them believes it to be a wolf while the other sees a dog, there is a fact that decides who is right. However, if somebody experiences fear when coming across a dog, then this emotion indicates the presence of something frightening, but this is so *only for that person*. It neither follows that the animal should be experienced similarly by other people, nor that they should consider it to be frightening.

Thirdly, even if it is commonly conceded that there are emotions which are obviously linked to cognition by motivating and regulating cognitive activities, this motivational force is often dismissed as epistemologically irrelevant. Wonder, which comes first on Descartes' list of basic emotions (Descartes [1649], §69), is a case in point; it may motivate us to acquire a belief, but does not enter into epistemic evaluation of the belief. Typically, such arguments hinge on a distinction between the validity of beliefs and theories, and the history of their formation, which is thought to be epistemologically irrelevant. This issue will be discussed in section 4.

Similar considerations are brought to bear on those emotions which involve an evaluation of a propositional content with respect to some cognitive standard. A feeling that something is the case and similar emotions are not sources of knowledge, because their affective attitudinal aspect as such does not contribute to the justification of the embedded belief. Feeling that something is the case fares no better than acts of guessing or instances of clairvoyance (see Dohrn, this vol.).

The Trend Towards a Rehabilitation

Several points have been instrumental in the recent reassessment of emotions as candidates for epistemic functions. First of all, emotions can be and often are evaluated as rational or appropriate. There is currently a discussion on whether the appropriateness of emotions may be interpreted as emotional *truth* (see e.g. de Sousa 2002; Salmela 2006). Either way, this undermines the view that they necessarily misguide or distort cognition. Rather, one would expect that they only do so if they are irrational or inappropriate. Instead of dismissing emotions as intrinsically interfering with knowledge acquisition, we should specify the conditions under which they contribute to knowledge. Secondly, there are reasons to doubt the claim that the privacy

and alleged subjectivity of emotions render them epistemically useless (Goldie 2004, 94–5; Solomon 2007, 150–58). In this respect the analogy between emotion and perception plays an important role (see de Sousa 1987, 145–58; Deonna 2006).

Finally, the renewed interest in the emotions has led to a whole range of philosophical theories of the emotions. Most of these theories hold that emotions include a cognitive element, which means that they are directed toward the world and can be evaluated accordingly. Such cognitive functions call for epistemological analysis, which in turn may lead to an epistemological reassessment of emotions.

Despite the recent trend to give emotions a more favourable place in epistemology, theories vary enormously with respect to the actual functions they assign to emotions, with respect to the kinds of emotions they give such functions to and with respect to the epistemological consequences they draw. Some conceive of themselves as still compatible with traditional positions in epistemology, invoking emotions, for example, to underwrite relevant alternative accounts of reliability. Others depart from traditional conceptions of epistemology and opt for emotions' cognitive significance in the context of a more or less drastic redesign of epistemology (Elgin, this vol.). In what follows, we look at the most frequently mentioned candidates for epistemologically relevant features and functions of emotions. These are motivational force, salience and relevance, epistemic access to facts and beliefs, non-propositional contributions to knowledge and understanding, and epistemic efficiency.

Motivational Force

That emotions motivate cognitive activities can hardly be doubted. There is an abundance of anecdotal evidence of researchers describing themselves as motivated by emotions when they tell their stories outside the academic journals (cf. the case-study in Thagard 2002). Examples of motivating emotions include surprise, interest, doubt and puzzlement sparking inquiry, pride in standards of research, frustration and disappointment with the results achieved.[16] It has been argued that precisely emotions' disruptive character, so often treated as evidence for their supposed irrationality, makes them important, perhaps even indispensable for cognition. Emotions kick in when we are cognitively challenged, when our knowledge seems false, inadequate, irrelevant or

not useful. Emotions are mechanisms that make us learn something (Oatley 1999, 274–5).[17]

Emotions can motivate not only further research within some accepted framework and according to shared and accepted standards, but also critical reflection on such frameworks or standards. In this way, the disappointing outcome of some experiment may not just motivate the scientist to repeat the experiment or to redesign it, but also to doubt the reliability of his instruments or to envisage theoretical revisions. In some cases, researchers may also be led to question the standards determining what counts as, for example, an established result or a reliable replication. Hookway argues that doubt, especially if assimilated to anxiety, can be counted as an emotion that motivates critical reflection of the reliability of results and standards of epistemic evaluation (Hookway 1998; Hookway 2000; Hookway, this vol.; Dohrn, this vol.).

While there is no doubt that inquirers sometimes are motivated by emotions, the question is whether the inquirer's motivation is epistemologically relevant. Considerations relying on a distinction between contexts of discovery and justification suggest a negative answer. However, one way of arguing to the contrary hinges on a shift of epistemological attention from the pursued result to the pursuit itself; that is, from knowledge and/or true belief to epistemic activities and cognitive agents. As mentioned in section 1, both Elgin (1996) and Hookway (1990; 2000) defend such a move. Consequently, justification of beliefs may be conceived as dependent on the history of their acquisition (Elgin 1996, 121–2). And since beliefs have to be evaluated in relation to cognitive actions, their evaluation may also depend on the identity and properties of desires, goals, mechanisms, motivations and virtues. Because emotions with motivating force can themselves be normatively assessed in many ways ('How unreasonable to be disappointed and continue to do all these nightly experiments.'), appropriate motivating emotions could become available for constitutive accounts of justified beliefs. Including motivating emotions in justifications of beliefs is not far from, and is sometimes seen as related to, the account of justified beliefs that some virtue epistemologists tend to give (cf. Fairweather 2001).

Salience and Relevance

Emotions' potential function as a source of salience and relevance has been emphasized by de Sousa in his influential thesis that 'emotions are determinate patterns of salience among objects of attention, lines of inquiry, and inferential strategies.' (de Sousa [1979], 137; de Sousa, this vol.; Lance and Tanesini 2004; Hookway, this vol.) This thesis has been applied to a well-known problem in decision theory (de Sousa 1987, 190–96).[18] In the standard model of rational choice, an ideal agent faces a combinatorial explosion because for each of the unlimited number of possible actions open to her at a given time there is an unlimited number of consequences to be taken into account. Real agents with limited resources to spend on a decision must therefore limit the number of actions and consequences to be considered if they ever want to reach a decision. The standard methods of rational choice cannot be used for accomplishing this reduction, because they would only reintroduce the combinatorial problem for every consequence of every action when the agent must decide on whether she should include this action in her reasoning about the decision she set out to take in the first place. According to de Sousa's argument, emotions, by functioning as sources of salience, effect the necessary narrowing down of the number of actions and consequences. Guilt, for example, may be an emotion that helps selecting strategies of social interaction by drawing attention to possible dangers of non-cooperative behaviour (Ketelaar and Todd 2001, 200–203).

As a first approximation, for emotions to be sources of salience means that they establish a focus on certain aspects of a situation, they act as 'spotlights' (Peters 2006, 458). However, as Elgin has emphasized, emotions establish salience in highly complex ways that are not limited to simply putting some properties of a situation into the foreground. An emotion is 'a frame of mind or pattern of attention that synchronizes feelings, attitudes, actions, and circumstances' (Elgin 1996, 148). Like beliefs, emotions cannot be reduced to an attitude towards a proposition or situation, but comprise attitudes to other situations, commitments to categories being appropriate for classifying aspects of the actual and alternative situations, acceptance of standards for the evaluation of and dispositions to act, believe or feel in such situations. (Elgin 1996, 153; Elgin, this vol.) An unnerved neighbour, for example, may perceive a child's crying as nothing but loud and piercing, whereas the child's dismayed parents hear signs of some

specific kind of distress, say pain, drawing their attention to possible causes and ways of bringing relief (see Elgin 1996, 153–4).

Just as with motivation, salience and relevance come into focus once we see epistemology as primarily dealing with cognitive activities, as opposed to properties of belief systems. As sources of salience and relevance, emotions are themselves evaluations. To consider something to be relevant or salient with respect to some goal and context of inquiry is to evaluate it; namely as something that ought to be considered further. Moreover, emotions fulfilling this function can be evaluated, for we can wrongly find something salient or relevant.

Additionally, salience can (but need not) be seen as an instance of epistemic immediacy. We often struggle to find out why we find something salient, and whether and why we are right to do so. Sometimes, at least, this happens because our epistemic evaluation of salience is either not governed by rules or governed by rules that we cannot articulate (Hookway, this vol.; see the remarks on Goodman's grue paradox p. 000).

Finally, relevance has been taken seriously by epistemologists who support relevant alternative accounts of knowledge. According to such theories, we would deny that a subject knows that she is looking at, say, a robin if she could not visually distinguish this situation from an alternative in which she is looking at some other bird (e.g. Dretske 1970; Goldman 1976; Goldman 1986). Some possible situations however, including sceptically threatening brains-in-vats scenarios, need not be ruled out – they are irrelevant to assessing the knowledge claim in question (e.g. Goldman 1976, 775). The strategy thus requires a distinction between relevant and irrelevant alternative scenarios, which may be established by emotions, for example by some difference between real, felt doubts and mere philosophical paper doubts. We may just need confidence in our ability to focus on relevant alternatives (see Hookway 2003b, 190–91).

Epistemic Access to Facts and Beliefs

A third way of attributing epistemological significance to emotions is based on the claim that emotions are an additional source of knowledge (alongside reason, perception, intuition, testimony). This thought can be fleshed out in two ways, although

they are not always easy to keep apart in the literature. The strong version holds that emotions provide epistemic access to otherwise inaccessible facts. Weaker varieties claim that while emotions can be sources of true beliefs, they are not indispensable.

As Elgin observes (1996, 164–5; this vol.), emotions provide epistemic access to certain response-dependent properties that are directly tied to emotions. The properties of being amusing, depressing or disgusting may serve as examples. Response-dependent properties are typically, but not exclusively, part of discussions of secondary qualities. Their defining feature is that whether a given object has the property in question must be decided with reference to our responses to that object. Some of the properties that lend themselves to analysis as response-dependent are dependent on differing emotional responses. There is a sense in which for something to *be* disgusting, for example, is for us (or at least some of us) to respond to it by finding it disgusting. It is highly plausible that, in the right circumstances, emotions can disclose such response-dependent properties.

Moreover, emotions are said to provide access to facts more generally (e.g. Goldie 2004, 94–9). Typically, emotions are not only reactions to stimuli, but are intertwined with beliefs that may relate to many aspects of a given situation. They are, generally speaking, 'sensitive to information' (Elgin 1996, 156). The result is that emotions provide complex patterns of attitudes, feelings, expectations and dispositions which correlate to complex nets of features of actual and possible situations. This is the basis for 'exploiting' emotions as cues for facts which are in some way or other related to the occurrence of the respective emotion.

While these points support the claim that emotions can provide access to certain facts, it is not obvious that they also support the strong claim that there are facts that are epistemically accessible only through emotions. As an example, we may look at response-dependent properties such as *amusing* and *disgusting*, which are plausible candidates for the strong claim. For the sake of the argument, we may put aside questions related to the criteria of correct application of such predicates. We can, for example, simply think of a new predicate 'minimally disgusting' defined as applying to anything at least one person finds disgusting. If Jacques, for example, finds immature cheese disgusting, then the proposition that immature cheese is minimally disgusting can be justified by appeal to his emotion, and indeed it must be justified by appeal to

somebody's emotion. However, this does not amount to a proof of the strong claim. Although the fact that something is minimally disgusting is by definition constituted by somebody's emotional response, this does not imply that one cannot know about it without having certain emotions. Perhaps Jacques's disgust can be reliably read off his facial expressions, which reliably express his emotion.

A more convincing case for the strong claim may be made with reference to emotions that provide epistemic access to one's own propositional attitudes and commitments (perhaps even beliefs, if we allow for subjects' having beliefs without being aware of them). By 'behaving' emotionally the way one happens to do, one can make discoveries about the beliefs, expectations or standards one implicitly endorses. This may often be the only way to find out about a certain commitment. However, such discoveries presuppose that one knows about one's emotions. The fact that somebody's behaviour disappoints me can be my sole clue for discovering that I had certain expectations towards this person's behaviour, which in turn can imply that I am committed to certain standards of behaviour or to beliefs about the person or situation (cf. Elgin 1996, 159–61; Elster 1996, 1393–4).

The view that emotions are sources of beliefs is particularly attractive in the context of cognitive theories of emotions, which hold that emotions embed beliefs or other propositional contents. A paradigmatic example is Aristotle's analysis of anger as 'a desire accompanied by pain, for a conspicuous revenge for a conspicuous slight at the hands of men who have no call to slight oneself or one's friends' (Aristotle Rhetoric, 1378a31–33). On this account, being angry presupposes believing quite a few things: that a slight occurred, that it was unjustified and so on. Although belief-centred cognitive theories have proved difficult to defend as general theories of emotions, it is still possible to defend the view that some emotions are essentially tied to types of propositional content. The question is whether such emotionally accessed beliefs are not of just the same epistemological interest that beliefs in general are. Emotionally 'embedded' propositions can be true or false, and believing them can be justified or unjustified, just like any other propositional content or belief.

Non-propositional Contributions to Knowledge and Understanding

As mentioned in section 1, there have been attempts to widen traditional epistemology's focus from propositional knowledge to a broader conception of understanding that includes non-propositional contributions, skills and methods. Emotions have been claimed to contribute significantly to the formation of categories and cognitive organization, as well as standards of inquiry and warrant.

The central aspect of cognitive organization is a system of categories or concepts used for classification. Any epistemological theory that deals with propositions and concepts will acknowledge that the content of propositional attitudes depends, among other things, on conceptual content. Hence the content of Anna's belief that the stone she bought is obsidian depends on the concept *obsidian*, as used by herself or by the person that attributes this belief to her. The involvement of categories in belief is also a crucial point in theoretical debates, such as the one between epistemological foundationalism and coherentism (e.g. BonJour 1985, ch. 2.3). Concepts and categories can themselves be evaluated. It is, for example, not difficult to think of stupid or fruitless ways of dividing the animal kingdom, as exemplified in Borges' story 'The Analytical Language of John Wilkins' (Borges [1942]). Consequently, one may claim that categories are themselves subject to justification in relation to some given epistemic end or general epistemic considerations. Elgin, for example, holds that for categories to be justified is for them to 'fit' into a constellation of 'tenable commitments to promote tenable ends'; that is, to be part of a consistent and systematic system of beliefs, commitments, standards and methods that is tethered in pre-theoretic commitments (Elgin 1996, 104–5).

Similarly to the view that salience ought to be understood in affective terms, it may be argued that the application of new categories, the abandonment of pointless categories, the re-activation of dormant categories and the revision of existing categories are best tied to emotions. There are two ways in which emotions may affect classifications (Elgin 1996, 161–9). Emotional responses constitutive of response-dependent properties (e.g., amusing, interesting, boring, disgusting) are examples of emotions that straightforwardly affect conceptual organization. In this case, emotions we accept as appropriate determine what is covered by certain concepts. In a second family of cases, appropriate responses are not criteria for the applicability of a given

predicate, but criteria for the appropriateness of a category, as is obviously the case with certain moral categories. If two situations strike us in the same way as being, say, outrageous, this can count as evidence against a proposed system of classes and its standards if that would compel us to classify them as opposites from a moral point of view (e.g. the same behaviour is good or bad just because it is a man's or a woman's behaviour respectively); and similarly the other way around.

Hookway applies the idea that emotions can be invoked in order to justify preferences for some categories or concepts to Goodman's 'grue' paradox (Goodman 1983, 74). Quine suggests that we ought to prefer the green-hypothesis, because we somehow feel that this is simpler (Quine 1960, 19). The crucial claim is that such a choice is epistemically immediate insofar as it would be mistaken to put epistemic subjects under the obligation to justify such a choice by, for example, articulating the rules they follow; that is, the principles of induction and projection they rely upon. If one accepts that simplicity is, at least sometimes, just felt, then such a feeling of simplicity also exemplifies how emotions may be said to embed epistemic standards that may not be applicable in other, rule-based ways. More precisely, emotions can reflect evaluations that rely on standards which are not directly accessible to reflection. Consequently, attempts to uncover such standards must rely on methods that explore our emotions for evaluative patterns, such as thought experiments. Hookway concludes: 'We can formulate our evaluative standards only as a result of a search for an explanation of our habits of evaluation.' (Hookway 2002, 253)

At least with respect to certain standards, such as validity of basic patterns of inference, one may want to go one step further and claim that they must be reconstructed as principles that explain patterns of emotional reactions. Although this does not imply that emotions justify these standards, it amounts to claiming that some standards are accessible via emotions only (de Sousa 1998).

In line with Quine's naturalistic stance, such claims may get support from a more biologist point of view. Paul Thagard, for example, has presented a theory of coherence which includes emotional aspects in such a way that one can interpret it as the hypothesis that judgements about coherence are connected to emotional reactions on a neurological level (Thagard 2000, 211–13; Thagard 2002, 245–7; Thagard, this vol.). This boils down to the claim that there is a causal connection between coherence and

some emotions, for conceptual and emotional coherence are associated on a biological level. If we accept coherence as a crucial standard for assessing theories, we can argue that such causal connections warrant the claim that aesthetic emotions sometimes are relevant to the evaluation of a theory. They can be interpreted as indicators of (in)coherence and, if conscious, as perceptions of (in)coherence.

Epistemic Efficiency

There are two ways of claiming epistemological significance for emotion's contributions to cognitive efficiency. The first and weaker claim is that emotions make it easier to perform things that could also be done in their absence. This claim is hardly controversial, but even if it is true that emotions are merely heuristic devices that are in principle dispensable, it is unclear whether we have to take emotions seriously when engaging in responsible epistemic evaluation (Hookway 2003a, 80).

According to the stronger and more controversial claim, there are important cognitive functions which humans cannot perform successfully at all without relying on the efficiency-enhancing quality of emotions. A candidate for the stronger claim is de Sousa's view that emotions make rational deliberation humanly possible by selecting relevant information (p. 000). Furthermore, emotions could also be seen as bringing sceptical challenges to a halt. They determine the point at which the demand for yet another justification can be rejected, thereby blocking the threatening regress. Such 'shallow reflection'-accounts (Hookway 2003a, 82) do not only claim that emotions enhance epistemic efficiency, but also that without the help of emotions 'excessive reflection' would block any inquiry right at the start (see Dohrn, this vol. for a critical discussion).

Research in the context of recent discussions of emotional intelligence and emotions' cognitive functions has aimed at identifying evidence for claims along these lines. Our ability to take rational decisions, in particular, seems to be severely limited without emotions (e.g. Damasio [1994]). These findings primarily relate to practical decisions, but it seems plausible that they also hold for theoretical decisions, insofar as they, too, involve decisions to act in certain ways. For example, the question of whether a certain experimental design can be considered valid is related to the decision whether

the experiment can be carried out as designed or should be redesigned (see Goldie 2004, 98–9).

4. Two Focus Questions

As one would expect, the proposed positive contributions of emotions to epistemology are contested far various reasons. In the following, we concentrate on two issues. Firstly, the epistemological significance of emotions can perhaps be denied by invoking the distinction between the context of discovery and the context of justification. Secondly, we may suspect that epistemological relevance cannot be claimed for emotions in general, but only for a subset of specifically epistemic emotions, and that some of the mental states epistemologists have recently invoked as emotions are not really emotions. We think that these issues implicitly shape a great deal of the discussion on epistemology and emotions.

A Normative Perspective on Emotions

As pointed out in section 1, the field of epistemology has often been delineated with reference to a distinction between context of discovery and context of justification.[19] On this basis, one may argue that emotions are just one of many epistemologically irrelevant aspects of epistemic agents, practices, processes and states. They may be important factors in actual processes of belief acquisition and revision, partly determining what beliefs we arrive at and how much confidence we have in them, but they do not play any role when it comes to epistemically assessing beliefs or cognitive processes. Neither can we reasonably answer the question whether a belief counts as knowledge by appealing to emotions, nor will the answer to this question depend on whether emotions contributed to our getting to consider this belief as a candidate for knowledge. In short, epistemologists deal with the question of what counts as knowledge; it is not their job to find out, for example, about how efficient various processes of belief formation are or about what motivations tend to advance or hinder inquiry. Concerns along these lines are probably at work in many positions in the debate on the potential epistemological significance of emotions. Within this volume, they are explicitly addressed in the papers of Tanesini and Thagard.

However, it is not at all clear what exactly the objection is, for the distinction between the context of discovery and the context of justification is not as plain as it might seem. As Paul Hoyningen-Huene has pointed out, it has been associated with at least five different senses, which often have been conflated (Hoyningen-Huene 1987, 504–6; Hoyningen-Huene 2006, 119–23). Firstly, the distinction can be taken to distinguish between two different types of historical processes, typically assumed to be temporally distinct. Or, secondly, between actual historical processes of discovery and considerations relevant to their justification; that is, between the factual and the normative. Thirdly, between empirical study of a discovery, which may involve historical, psychological and sociological research, and analysis or critical testing of justification by logical means. Fourthly, between academic disciplines with respect to their methodology; specifically, between epistemology and philosophy of science on the one hand, history, psychology and sociology on the other. Finally, between two types of questions.

According to Hoyningen-Huene's analysis, some of these distinctions face serious difficulties (especially the first one), but at the heart of the second to fifth version of the distinction we can identify a difference between factual and normative perspectives and questions (Hoyningen-Huene 1987, 511). When we examine cognitive agents, processes and products, we can either ask what exactly they are, or we can ask whether they are correct, good, rational, justified, etc. We can aim at accurate descriptions or at epistemic (or other) evaluations.

This way of understanding the distinction has the advantage that different questions can have the same answer, different perspectives can single out different aspects of the same practice, process or state (Hoyningen-Huene 2006, 129). Specifically, it would be fallacious to think that describing epistemic activities and agents by appeal to emotions precludes the latter from being relevant to the epistemic evaluation of the former. There is no reason why emotions should not feature in answers to both normative and empirical questions. Epistemic states as well as processes, agents and practices can all be examined from both factual and normative perspectives. Of course, we may look at processes of belief formation when epistemically evaluating beliefs or theories. In fact, this is just what causal, reliabilist and virtue theorists of epistemic justification do. For a belief to be epistemically justified is, according to those

views, for it to be caused in the right way, to be produced by mechanisms with certain properties or to be formed by applying certain virtues. Clearly, such accounts take a normative perspective, for they attempt to spell out the conditions that determine whether something can be evaluated as epistemically justified.

Nonetheless, it is possible to appeal to the context distinction as a way of stressing that epistemological questions are evaluative, not descriptive. But of course, advocates of emotions in epistemology may defend the normative character of epistemology as well. Elgin, for example, is explicitly committed to doing so (Elgin 1996, 5–6). Consequently, the real disagreement concerns the question whether emotions matter at all in evaluating knowledge claims or only in various descriptions of cognitive agents and activities. But defending the normative significance of emotions is not enough. For emotions to be epistemologically significant, they must not only be significant from a normative perspective, but from a specifically epistemic (as opposed to moral, practical, aesthetic) perspective. Critiques of emotions in epistemology may admit that emotions play an important role in living up to certain norms, but argue that these norms are epistemically irrelevant by pointing out that they are independent of epistemic ends, which are typically identified as truth and truth-conducive justification. Such a charge against, for example, the claim that cognitive efficiency is epistemically significant can be countered in various ways. One may defend that more efficiently arrived at beliefs are more likely to be true, that efficiency is suitably related to some other epistemic end or maybe that efficiency itself is an epistemic end.

Epistemic Emotions

The second issue concerns the nature of some of the states or dispositions epistemologists appeal to under the heading 'emotions'. It is not always clear that arguments for epistemological reappraisal of emotions really amount to anything like a general defence of the epistemological standing of emotions. To begin with, various authors have claimed that there are emotions which are tied to specifically epistemic contexts and thus have specifically epistemic character. Surprise is a paradigmatic case. Israel Scheffler ([1977]), for example, defines as 'cognitive emotions' those emotions which presuppose a claim that concerns the nature of the subject's cognitions. Especially interesting are cases where such a claim is epistemologically relevant to the

cognitions it concerns. Surprise, for example, involves the 'supposition that what has happened conflicts with prior expectation' (Scheffler [1977], 12). But Scheffler also mentions joy of verification and disappointment or joy of falsification, echoing the quote from Schlick in the introduction to this paper. Such emotions are epistemologically significant since they embody epistemic standards. In a Peircean vein Scheffler then goes on to point out that a certain receptivity to surprise is an attitude which plays an important epistemic function shielding the inquirer from the 'epistemic apathy' (Scheffler [1977], 13) of radical scepticism and radical credulity, as well as from the inertia of dogmatism. We cannot hope to improve epistemically without allowing ourselves to be surprised (see Hookway, this vol., on doubt and Tanesini, this vol., on intellectual modesty).

On this base, one might object that even if epistemic emotions merit a place in epistemology, this may not be the case for emotions in general. Perhaps epistemic emotions are epistemologically relevant not insofar as they are emotions, but simply because they are epistemic. In addition, such an objection implicitly suggests that the whole case for the epistemological significance of emotions boils down to the truism that the epistemic is epistemologically significant.

However, neither Scheffler nor the other advocates of emotions rest their case just on arguments that are restricted to some narrowly defined class of epistemic emotions. In this volume, de Sousa, for example, gives an overview of epistemic feelings based on a double classification according to their object and the phase of inquiry in which they can occur. This covers a wide range of phenomena from curiosity to certainty. But his account is not restricted to such epistemic feelings. For he also argues that emotions in general have epistemologically relevant aspects and consequently we should think of the emotions as epistemologically relevant in various degrees. Hookway, too, despite sometimes speaking of specifically epistemic emotions, often draws parallels between epistemic evaluations and emotional responses in general (Hookway 1998; Hookway, this vol.).

If we examine what states, dispositions and feelings have been invoked by epistemologists, we find not only paradigmatic emotions such as fear (de Sousa, this vol.; Elgin, this vol.) and anger (Thagard, this vol.), but also less straightforward examples like experience of beauty in the context of theory evaluation (Thagard 2002),

de Sousa's (this vol.) feeling of knowing or Hookway's (2003a; this vol.) recourse to Quine's feeling of simplicity. Even if we grant epistemic value to those latter phenomena, we may still wonder whether they are emotions.[20] Or, to put it provocatively: have we started to call 'emotions' what has always been recognized as epistemologically relevant, albeit under different labels such as 'intuition'? Would not Descartes' 'mentis inspectio clara & distincta' (Descartes [1641], II.12, p. 31), translated as 'clear and distinct mental scrutiny' (Descartes 2002, 21), be a perfect example of what nowadays many call an 'epistemic emotion'? To some extent, such qualms can be dismissed as idle terminological questions about the use of the word 'emotion'. But this only highlights how important it is for epistemologists to discuss the question of which mental states and processes contribute to what aspects of epistemic practice and evaluation.

Notes

1   See Lazarus (1999) for a short historical account.

2   Hookway (this vol.) appeals to emotions to combine key internalist and externalist commitments; Alessandra Tanesini (this vol.) introduces the concept of intellectual modesty to account for fallibilism about knowledge.

3   In the wake of this research, 'basic' has sometimes been used meaning 'being a product of evolution'. Paul Ekman (1994) maintains that all emotions are basic in this sense. Furthermore, he now claims that it is actually *families* of emotions that are basic (Ekman 1999a).

4   Indices of recently published philosophy handbooks suggest that 'emotion' is in the process of replacing 'passion' and especially 'affect' (but not 'affective'). In psychology, 'emotion' and 'affect' are both widely used, though with various meanings as well (cf. Schwarz and Clore 2007, 385–6; Plutchik 2003, 62–3).

5   Hookway (this vol.), for example, uses 'affective' in this broad sense.

6   Ryle (1949, ch. 4) discusses many such sources of potential misunderstandings.

7   For further differentiation between dispositions and character traits see Goldie (2000, ch. 6).

8   In his contribution to this volume (p. 000), de Sousa draws another contrast between 'emotion' and 'feeling'. 'Emotion' is reserved for phenomena on a personal level, whereas 'feeling' includes subpersonal phenomena as well.

9   Short historical overviews of theories of emotions can be found in Solomon (1993b) and Lyons (1999). For parallels and differences of modern theories to ancient Greek accounts see Konstan (2006, ch. 1). A succinct survey of recent contributions can be found in de Sousa (2003).

10   The terminological muddle is illustrated by the fact that Prinz (2004b, ch. 2) defends his 'perceptual' theory as non-cognitive. He relies on his explication of cognition as organismic control: 'I propose that we call a state cognitive just in case it includes representations that are under the control of structures in executive systems, which, in mammals, are found in the prefrontal cortex.' (Prinz 2004b, 47)

11   Those who argue that all emotions have response-dependent properties as their formal objects associate fear with *being frightening* (cf. Salmela 2006, 386).

12   This is often raised as an objection to accounts along the lines of James and Lange. (See Prinz 2004a, 54–6 for a brief rejoinder.)

13   Griffiths (e.g. 2004b, 234) argues that his view that the emotions do not form a natural kind does not imply that they do not fall under an univocal concept.

14   Cf. '[Our passions] are *Good Servants,* but *Bad Masters,* and Subminister to the Best, and Worst of Purposes, at once.' (L'Estrange [1699], 38)

15   The issue has been related to western culture's more general dualism of mind–body, culture–nature and the like (e.g. White 1993). However, similar oppositions can also be found in Asian thinking (see Marks and Ames 1995).

16   The motivational function of emotions must not be conflated with the view that there is some kind of basic affective orientation in life, which motivates or orients scientific as well as philosophical inquiry. This view, put forward by Heidegger, turns not on emotions but on dispositions to feelings or moods; in Heidegger's terminology, 'Gestimmtheit' ('mood', literally 'being tuned') or 'Befindlichkeit' ('state of mind', better 'affectedness').

17   A different point is, that emotions have a huge impact on how effective we learn and on the ways in which we can later use what we have learned. Neurological studies have turned out ample evidence for this long standing didactic truism. (Cf. LeDoux 1998)

18   The issue is discussed under labels such as 'the (philosopher's) frame problem' or 'the search problem' and it is debated how the various ways of spelling out the problem are related to each other (cf. Evans 2002).

19   Introduction of the terms 'context of discovery' and 'context of justification' is usually attributed to Reichenbach (1938; in German, Reichenbach introduced a distinction between 'process of discovery' and 'process of justification' in Reichenbach 1935). However, the distinction was common ground for the logical empiricists, and there are a range of historical precursors, sometimes under different labels, such as 'genesis' vs. 'validity' or 'quid facti' vs. 'quid juris' in Kant's *Critique of Pure Reason* (Kant [1781/87], A84/B116; see Hoyningen-Huene 1987, 502–3 for historical details).

20   In psychology, cognitive and metacognitive 'emotions' (e.g. surprise, feelings of familiarity and accessibility of information; see Schwarz and Clore 2007) are sometimes termed 'nonaffective' (e.g. Bless et al. 2004) or 'nonemotional' (e.g. Stepper and Strack 1993) feelings and distinguished from emotions proper.

References

Alston, William P. 1967. 'Emotion and Feeling'. In: Edwards, Paul (ed.). *The Encyclopedia of Philosophy*. New York: Macmillan. Vol. 2. 479–86.

Aristotle. 1985. *The Complete Works of Aristotle. The Revised Oxford Translation*. Ed. Jonathan Barnes. Princeton: Princeton University Press.

Bless, Herbert; Fiedler, Klaus; Strack, Fritz. 2004. *Social Cognition. How Individuals Construct Social Reality*. Hove: Psychology Press.

BonJour, Laurence. 1985. *The Structure of Empirical Knowledge*. Cambridge, Mass.: Harvard University Press.

Borges, Jorge L. [1942] 1964. 'The Analytical Language of John Wilkins'. In: *Other Inquisitions, 1937–1952*. Transl. Ruth L.C. Simms. Austin: University of Texas Press. 101–5.

Brown, Harold I. 1977. *Perception, Theory and Commitment. The New Philosophy of Science*. Chicago: Precedent Publishing.

Carnap, Rudolf. 1962. *Logical Foundations of Probability*. 2nd edition. Chicago: University of Chicago Press.

Carruthers, Peter; Stich, Stephen; Siegal, Michael (eds). 2002. *The Cognitive Basis of Science*. Cambridge: Cambridge University Press.

Cassin, Barbara (ed.). 2004. *Vocabulaire européen des philosophies. Dictionnaire des intraduisibles*. Paris: Editions du Seuil.

Code, Lorraine. 1984. 'Towards a "Responsibilist" Epistemology'. *Philosophy and Phenomenological Research* 45: 29–50.

Code, Lorraine. 1987. *Epistemic Responsibility*. Hanover: University Press of New England and Brown University Press.

Dalgleish, Tim; Power, Mick J. (eds). 1999. *Handbook of Cognition and Emotion*. Chichester: Wiley.

Damasio, Antonio R. [1994] 2000. *Descartes' Error. Emotion, Reason, and the Human Brain*. New York: Harper Collins.

Dancy, Jonathan; Ernest Sosa (eds). 2001. *A Companion to Epistemology*. Oxford: Blackwell.

Davidson, Richard J.; Scherer, Klaus R.; Goldsmith, H. Hill (eds). 2003. *Handbook of Affective Sciences*. New York: Oxford University Press.

Deonna, Julien A. 2006. 'Emotion, Perception and Perspective'. *Dialectica* 60: 29–46.

DePaul, Michael R.; Zagzebski, Linda (eds). 2003. *Intellectual Virtue. Perspectives from Ethics and Epistemology*. Oxford: Clarendon Press.

Descartes, René. [1641] 1996. *Meditationes de Prima Philosophia*. In: Adam, Charles; Paul Tannery (eds). *Oeuvres de Descartes*. Paris: Vrin. Vol. 7.

Descartes, René. [1649] 1996. *Les passions de l'âme*. In: Adam, Charles; Tannery, Paul (eds). *Oeuvres de Descartes*. Paris: Vrin. Vol. 11. 293–497.

Descartes, René. 2002. *Meditations on First Philosophy. With Selections from the Objections and Replies*. Transl. and ed. John Cottingham. Cambridge: Cambridge University Press.

de Sousa, Ronald. [1979] 1980. 'The Rationality of Emotion'. In: Rorty 1980a, 127–51.

de Sousa, Ronald. 1987. *The Rationality of Emotion*. Cambridge, Mass.: MIT Press.

de Sousa, Ronald. 1998. 'Modeling Rationality. A Normative or Descriptive Task?' In: Danielson, Peter A. (ed.). *Modeling Rationality, Morality and Evolution*. New York: Oxford University Press. 119–34.

de Sousa, Ronald. 2002. 'Emotional Truth'. *Proceedings of the Aristotelian Society*, *Supplementary Volume* 76: 247–63.

de Sousa, Ronald. 2003. 'Emotion'. In: Zalta, Edward N. (ed.). *The Stanford Encyclopedia of Philosophy* Spring 2003. http://plato.stanford.edu/archives/spr2003/entries/emotion/.

de Sousa, Ronald. 2004. 'Emotions. What I Know, What I'd Like to Think I Know, and What I'd Like to Think'. In: Solomon 2004b, 61–75.

de Sousa, Ronald. 2007. 'Truth, Authenticity, and Rationality'. *Dialectica*. In press. DOI 10.1111/j.1746-8361.2007.01104.x.

Diamond, Cora. 1991. 'Knowing Tornadoes and Other Things'. *New Literary History* 22: 1001–15.

Diels, Hermann (ed.). 1951–52. *Die Fragmente der Vorsokratiker. Griechisch und Deutsch*. Ed. Walther Kranz. 6th edition. Berlin-Grunewald: Weidmannsche Verlagsbuchhandlung.

Döring, Sabine A. 2003. 'Explaining Action by Emotion'. *Philosophical Quarterly* 53: 214–30.

Dretske, Fred. 1970. 'Epistemic Operators'. *Journal of Philosophy* 67, 1007–23.

Ekman, Paul. 1977. 'Biological and Cultural Contributions to Body and Facial Movement'. In: Blacking, John (ed.). *The Anthropology of the Body*. London: Academic Press. 39–84.

Ekman, Paul. 1994. 'All Emotions Are Basic'. In: Ekman, Paul; Davidson, Richard J. (eds). *The Nature of Emotion. Fundamental Questions*. Oxford: Oxford University Press. 15–19.

Ekman, Paul. 1999a. 'Basic Emotions'. In: Dalgleish and Power 1999, 45–60.

Ekman, Paul. 1999b. 'Facial Expressions'. In: Dalgleish and Power 1999, 301–20.

Ekman, Paul; Sorenson, E. Richard; Friesen, Wallace V. 1969. 'Pan-Cultural Elements in Facial Displays of Emotion'. *Science* 164: 86–8.

Elgin, Catherine Z. 1996. *Considered Judgment*. Princeton: Princeton University Press.

Elgin, Catherine Z. 2004. 'True Enough'. In: Sosa, Ernest; Villanueva, Enrique (eds). *Epistemology*. (*Philosophical Issues* 14.) Malden: Blackwell. 113–31.

Elster, Jon. 1996. 'Rationality and the Emotions'. *Economic Journal* 106: 1386–97.

Evans, Dylan. 2002. 'The Search Hypothesis of Emotion'. *British Journal for the Philosophy of Science* 53: 497–509. [Reprinted in: Evans, Dylan; Cruse, Pierre (eds). 2004. *Emotion, Evolution, and Rationality*. Oxford: Oxford University Press. 179–91.]

Fairweather, Abrol. 2001. 'Epistemic Motivation'. In: Fairweather, Abrol; Zagzebski, Linda (eds). *Virtue Epistemology. Essays on Epistemic Virtue and Responsibility*. Oxford: Oxford University Press. 63–81.

Fodor, Jerry. 1984. 'Observation Reconsidered'. *Philosophy of Science* 51: 23–42.

Fodor, Jerry. 1987. *Psychosemantics*. Cambridge, Mass.: MIT Press.

Frijda, Nico H. 1993. 'Moods, Emotion Episodes, and Emotions'. In: Lewis and Haviland 1993: 381–403.

Goldie, Peter. 2000. *The Emotions. A Philosophical Exploration*. Oxford: Clarendon Press.

Goldie, Peter. 2004. 'Emotion, Feeling, and Knowledge of the World'. In: Solomon 2004b, 91–106.

Goldman, Alvin. 1967. 'A Causal Theory of Knowing'. *Journal of Philosophy* 64: 357–72.

Goldman, Alvin. 1976. 'Discrimination and Perceptual Knowledge'. *Journal of Philosophy* 73: 771–91.

Goldman, Alvin. 1986. *Epistemology and Cognition*. Cambridge, Mass.: Harvard University Press.

Goldman, Alvin. 1999. *Knowledge in a Social World*. Oxford: Oxford University Press.

Goodman, Nelson. 1976. *Languages of Art. An Approach to a Theory of Symbols*. 2nd edition. Indianapolis: Hackett.

Goodman, Nelson. 1983. *Fact, Fiction, and Forecast*. 4th edition. Cambridge, Mass.: Harvard University Press.

Goodman, Nelson; Elgin, Catherine Z. 1988. *Reconceptions in Philosophy and Other Arts and Sciences*. London: Routledge.

Gordon, Robert M. 1987. *The Structure of Emotions. Investigations in Cognitive Philosophy*. Cambridge etc.: Cambridge University Press.

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

Griffiths, Paul E. 2004a. 'Emotions as Natural and Normative Kinds'. *Philosophy of Science* 71: 901–11.

Griffiths, Paul E. 2004b. 'Is Emotion a Natural Kind?' In: Solomon 2004b, 233–49.

Hookway, Christopher. 1990. *Skepticism*. London: Routledge.

Hookway, Christopher. 1998. 'Doubt. Affective States and the Regulation of Inquiry'. In: Misak, Cheryl (ed.). *Pragmatism. Canadian Journal of Philosophy,* suppl. vol. 24: 203–25.

Hookway, Christopher. 2000. 'Regulating Inquiry. Virtue, Doubt and Sentiment'. In: Axtell, Guy (ed.). *Knowledge, Belief, and Character. Readings in Virtue Epistemology*. Lanham: Rowman and Littlefield. 149–60.

Hookway, Christopher. 2002. 'Emotions and Epistemic Evaluations'. In: Carruthers et al. 2002, 251–62.

Hookway, Christopher. 2003a. 'Affective States and Epistemic Immediacy'. *Metaphilosophy* 34: 78–96.

Hookway, Christopher. 2003b. 'How to Be a Virtue Epistemologist'. In: DePaul and Zagzebski 2003, 183–202.

Hoyningen-Huene, Paul. 1987. 'Context of Discovery and Context of Justification'. *Studies in History and Philosophy of Science* 18: 501–15.

Hoyningen-Huene, Paul. 2006. 'Context of Discovery versus Context of Justification and Thomas Kuhn'. In: Schickore, Jutta; Steinle, Friedrich (eds). *Revisiting Discovery and Justification. Historical and Philosophical Perspectives on the Context Distinction*. Dordrecht: Springer. 119–31.

Hume, David. [1739/40] 1978. *A Treatise of Human Nature*. Ed. Lewis A. Selby-Bigge and Peter H. Nidditch. Oxford: Oxford University Press.

Jaggar, Alison. 1989. 'Love and Knowledge. Emotion in Feminist Epistemology'. In: Garry, Ann; Pearsall, Marilyn (eds). *Women, Knowledge, and Reality*. Boston: Unwin Hyman.

James, William. 1884. 'What Is an Emotion?' *Mind* 9: 188–205.

James, William. [1890] 1950. *The Principles of Psychology*. Vol. 2. New York: Dover.

Kant, Immanuel. [1781/87] 1976. *Kritik der reinen Vernunft*. Hamburg: Meiner.

Kaplan, Mark. 1985. 'It's Not What You Know That Counts'. *Journal of Philosophy* 82: 350–63.

Kenny, Anthony. [1963] 2003. *Action, Emotion and Will*. New edition. London: Routledge.

Ketelaar, Timothy; Todd, Peter M. 2001. 'Framing Our Thoughts. Ecological Rationality as Evolutionary Psychology's Answer to the Frame Problem'. In: Holcomb III, Harmon R. (ed.). *Conceptual Challenges in Evolutionary Psychology. Innovative Research Strategies*. Dordrecht: Kluwer. 179–211.

Konstan, David. 2006. *The Emotions of the Ancient Greeks. Studies in Aristotle and Classical Literature*. Toronto: University of Toronto Press.

Kornblith, Hilary. 2006. 'Appeals to Intuition and the Ambitions of Epistemology'. In: Hetherington, Stephen (ed.). *Epistemology Futures*. Oxford: Clarendon Press. 10–25.

Lance, Mark; Tanesini, Alessandra. 2004. 'Emotion and Rationality'. In: Ezcurdia, Maite; Stainton, Robert; Viger, Christopher (eds). *New Essays in the Philosophy of Language and Mind. Canadian Journal of Philosophy*, suppl. vol. 30: 275–95.

Lazarus, Richard S. 1999. 'The Cognition–Emotion Debate. A Bit of History'. In: Dalgleish and Power 1999, 3–19.

LeDoux, Joseph E. 1998. *The Emotional Brain. The Mysterious Underpinnings of Emotional Life*. London: Weidenfeld and Nicolson.

L'Estrange, Roger. [1699] 1972. *Fables, of Aesop and Other Eminent Mythologists. With Morals and Reflections*. Westmead: Gregg. (Reprint of the 3rd edition, London, 1699.)

Lewis, Michael; Haviland, Jeannette M. (eds). 1993. *Handbook of Emotions*. New York: Guilford Press.

Lyons, William. 1980. *Emotion*. Cambridge: Cambridge University Press.

Lyons, William. 1999. 'The Philosophy of Cognition and Emotion'. In: Dalgleish and Power 1999, 21–44.

Marks, Joel; Ames, Roger T. (eds). 1995. *Emotions in Asian Thought. A Dialogue in Comparative Philosophy*. Albany: State University of New York Press.

Montmarquet, James. 1993. *Epistemic Virtue and Doxastic Responsibility*. Lanham: Rowman and Littlefield.

Niiniluoto, Ilkka; Sintonen, Mattik; Woleński, Jan (eds). 2004. *Handbook of Epistemology*. Dordrecht: Kluwer.

Nisbett, Richard E.; Ross, Lee D. 1980. *Human Inference. Strategies and Shortcomings of Social Judgment*. Englewood Cliffs: Prentice-Hall.

Nussbaum, Martha C. 2001. *Upheavals of Thought. The Intelligence of Emotions*. Cambridge: Cambridge University Press.

Oatley, Keith. 1999. 'Emotions'. In: Wilson, Robert A.; Keil, Frank C. (eds). *The MIT Encyclopedia of the Cognitive Sciences*. Cambridge, Mass.: MIT Press. 273–5.

Oatley, Keith; Keltner, Dacher; Jenkins, Jennifer M. 2006. *Understanding Emotions*. 2nd edition. Malden: Blackwell.

Ortony, Andrew; Turner, Terence J. 1990. 'What's Basic about Basic Emotions?' *Psychological Review* 97: 315–31.

Peters, Ellen. 2006. 'The Functions of Affect in the Construction of Preference'. In: Lichtenstein, Sarah; Slovic, Paul (eds). *The Construction of Preference*. Cambridge: Cambridge University Press. 454–63.

Plantinga, Alvin. 1986. 'Epistemic Justification'. *Noûs* 20: 10–19.

Plutchik, Robert. 1980. *Emotion. A Psychoevolutionary Synthesis*. New York: Harper and Row.

Plutchik, Robert. 2003. *Emotions and Life. Perspectives from Psychology, Biology, and Evolution*. Washington, DC: American Psychological Association.

Prinz, Jesse J. 2004a. 'Embodied Emotions'. In: Solomon 2004b, 44–58.

Prinz, Jesse J. 2004b. *Gut Reactions. A Perceptual Theory of Emotion*. New York: Oxford University Press.

Prinz, Jesse J. 2004c. 'Which Emotions Are Basic?' In: Evans, Dylan; Cruse, Pierre (eds). *Emotion, Evolution, and Rationality*. Oxford: Oxford University Press. 69–87.

Quine, Willard V. 1960. *Word and Object*. Cambridge, Mass.: MIT Press.

Quine, Willard V. 1969. 'Epistemology Naturalized'. In: *Ontological Relativity and Other Essays*. New York: Columbia University Press. 69–90.

Reichenbach, Hans. 1935. 'Zur Induktionsmaschine'. *Erkenntnis* 5: 172–3.

Reichenbach, Hans. 1938. *Experience and Prediction. An Analysis of the Foundations and the Structure of Knowledge*. Chicago: University of Chicago Press.

Roberts, Robert C. 2003. 'Emotions. An Essay in Aid of Moral Psychology'. Cambridge: Cambridge University Press.

Rorty, Amélie O. (ed.). 1980a. *Explaining Emotions*. Berkeley: University of California Press.

Rorty, Amélie O. 1980b. 'Introduction'. In: Rorty 1980a, 1–8.

Rorty, Amélie O. 2004. 'Enough Already with "Theories of the Emotions"'. In: Solomon 2004b, 269–78.

Ryle, Gilbert. 1949. *The Concept of Mind*. London: Hutchinson's University Library.

Salmela, Mikko. 2006. 'True Emotions'. *Philosophical Quarterly* 56: 382–405.

Scheffler, Israel. [1977] 1991. 'In Praise of the Cognitive Emotions'. In: Scheffler, Israel. *In Praise of the Cognitive Emotions and Other Essays in the Philosophy of Education*. New York: Routledge. 3–17.

Schlick, Moritz. [1934] 1979. 'On the Foundation of Knowledge'. In: Mulder, Henk L.; van de Velde-Schlick, Barbara (eds). *Moritz Schlick. Philosophical Papers.* Vol. 2. 1925–1936. Dordrecht: Reidel. 370–87. (German original in *Erkenntnis* 4: 79–99.)

Schwarz, Norbert; Clore, Gerald L. 2007. 'Feelings and Phenomenal Experiences'. In: Kruglanski, Arie W.; Higgins, E. Tory (eds). *Social Psychology. A Handbook of Basic Principles*. 2nd edition. New York: Guilford Press. 385–407.

Solomon, Robert C. 1993a. *The Passions. Emotions and the Meaning of Life*. 2nd edition. Indianapolis: Hackett.

Solomon, Robert C. 1993b. 'The Philosophy of Emotion'. In: Lewis and Haviland 1993, 3–15.

Solomon, Robert C. 2003. 'Emotions, Thoughts and Feelings. What Is a "Cognitive Theory" of the Emotions and Does It Neglect Affectivity?' In: Hatzimoysis, Anthony (ed.). *Philosophy and the Emotions*. (*Royal Institute of Philosophy Supplement* 52). Cambridge: Cambridge University Press. 1–18.

Solomon, Robert C. 2004a. 'Emotions, Thoughts, and Feelings. Emotions as Engagements with the World'. In: Solomon 2004b, 76–88.

Solomon, Robert C. (ed.). 2004b. *Thinking about Feeling. Contemporary Philosophers on Emotions*. Oxford: Oxford University Press.

Solomon, Robert C. 2007. *True to Our Feelings. What Our Emotions Are Really Telling Us*. Oxford: Oxford University Press.

Sorabji, Richard. 2000. *Emotion and Peace of Mind. From Stoic Agitation to Christian Temptation. The Gifford Lectures*. Oxford: Oxford University Press.

Sosa, Ernest. 1980. 'The Raft and the Pyramid. Coherence versus Foundations in the Theory of Knowledge'. *Midwest Studies in Philosophy* 5: 3–25.

Sosa, Ernest. 1985. 'Knowledge and Intellectual Virtue'. *Monist* 68: 224–45.

Stepper, Sabine; Strack, Fritz. 1993. 'Proprioceptive Determinants of Emotional and Nonemotional Feelings'. *Journal of Personality and Social Psychology* 64: 211–20.

Thagard, Paul. 2000. *Coherence in Thought and Action*. Cambridge, Mass.: MIT Press.

Thagard, Paul. 2002. 'The Passionate Scientist. Emotion in Scientific Cognition'. In: Carruthers et al. 2002, 235–50.

White, Geoffrey M. 1993. 'Emotions Inside Out. The Anthropology of Affect'. In: Lewis and Haviland 1993, 29–39.

Zagzebski, Linda. 1996. *Virtues of the Mind. An Inquiry into the Nature of Virtue and the Ethical Foundations of Knowledge*. Cambridge: Cambridge University Press.