

Epistemic Emotions: Nature and Roles

1. Summary of the research plan

Various affective phenomena —e.g. intellectual courage, astonishment, curiosity, interest, wonder, surprise, the feeling of certainty, the feeling of doubt, the fear of the unknown, misogyny¹, the joy of verification, the feeling of knowing— have been labelled “epistemic emotions or feelings”. Two main questions deserve to be asked about epistemic emotions: first, what are they? Second, which role do they play in epistemic activities, such as deliberation, beliefs’ revision and inquiry. The project is, accordingly, divided into main parts that are further subdivided into four research modules.

The first part is dedicated to investigating the affective (module 1) and the epistemic (module 2) nature of the so-called “epistemic emotions” and “epistemic feelings”.

The second part looks at the causal (module 3) and justificatory (module 4) roles that the formerly delineated epistemic emotions could play in our epistemic activities.

The intended research would rely on studies into particular epistemic emotions or feelings already carried out by psychologists and cognitive scientists and by philosophers writing on emotions in general.

2. Research plan

2.1 Current state of research in the field

2.1.1 Two characteristics

Two features characterize the contemporary research that ties up with the topic of epistemic emotions.

First, to our knowledge, none of this research explicitly discusses the boundaries of the category of epistemic emotions. Various affective phenomena —e.g. intellectual courage, astonishment, curiosity, interest, wonder, surprise, the feeling of certainty, the feeling of doubt, the fear of the unknown, misogyny, the joy of verification, the feeling of knowing²— have been labelled “epistemic (or cognitive³) emotions (or feelings⁴)”.⁵ But the crucial issue

¹ The hate of the reasoning, see Plato’s *Phaedo* (89d-91b).

² An ordinary expression of the feeling of knowing is the tip of the tongue feeling, i.e. the feeling of knowing the answer before being able to give it.

³ In this project, “epistemic” and “cognitive” are considered to be synonymous.

⁴ The question whether the aforementioned affective phenomena should be considered to be feelings or emotions is an important one. One of the objectives of the present project is to clarify the distinction between epistemic *feelings* and epistemic *emotions*. See module 2 below.

pertaining to the unity of these phenomena seems to have been largely neglected in the philosophical and the psychological literature. And yet, it is not certain that they form a unified class. Curiosity and intellectual courage, for instance, may well be considered to be, respectively, a desire and an epistemic virtue rather than proper emotions. Which of the aforementioned items can appropriately pretend to be an emotion, a feeling, a character trait etc.? And —perhaps, even more importantly— what makes an emotion (a feeling, a virtue, etc.) an *epistemic* emotion (an *epistemic* feeling, an *epistemic* virtue, etc.)? As we shall explain in more detail below, one of the main objectives of the present project is to solve these two problems of categorization.

Second, the major part of the studies connected to the topic of epistemic emotions consists in “particular case studies” —i.e. studies of a particular epistemic emotion (or feeling)— which come from the fields of cognitive science and psychology and not philosophy.⁶

Given these two features, there is apparently need for a philosophical project the purpose of which is the formulation of a conception of a general theory regarding the nature and the role of the epistemic emotions.

2.1.2 *Philosophical works on connected issues*

As just said above, the unity of the category of the so-called “epistemic emotions” or “epistemic feeling” has, to our knowledge, never been the object of a systematic philosophical study. This, obviously, does not amount to saying that no philosophical work has ever tackled issues that are related to the topic of epistemic emotions (or feelings). Philosophical research dealing with issues connected to this topic are rare⁷ but they are not inexistent. More accurately, they seem to have taken two main directions.

First, against the traditional view according to which emotions impede the functioning of theoretical reasoning, efforts have been made to show that emotions are able to influence

⁵ For an explicit designation of these phenomena as epistemic emotions or feelings, see Bain (1865), de Sousa (2008, 2011), Morton (2010), Mulligan (2009a), Scheffler (1991).

⁶ See, for instance, the literature devoted to curiosity (Loewenstein 1994), the feeling of knowing (Koriat 2000, Mangan 2000, Ravett Brown 2000), interest (Langsdorf et al. 1983, Izard 1972, Silvia 2006), surprise (Lorini & Castelfranchi 2007, Reizenstein 2000) and the feeling of familiarity. The feeling of familiarity aroused a lot of interest probably because the role it seems to play in the explanation of the Capgras' delusion, that is, in cases in which a subject illusorily believes that an impostor has replaced a known person. For a careful exam of the Capgras' delusion and its connection to the affective processes underlying the feeling of familiarity, see Pacherie (2008).

⁷ See Hookway (1998), Lukasiewicz (1970) for a similar remark. The rarity of the philosophical works devoted to epistemic emotions is made still more striking when you compare the few philosophical literature on this topic with the substantive amount of philosophical books and papers devoted to emotions in general. On emotions in general, see, in the contemporary literature, among many others, De Sousa (1987, 2011), Deonna & Teroni (2009, forthcoming), Goldie (2002, 2010), Prinz (2004), Sander & Scherer (2009), Tappolet (2000).

positively our epistemic activities, such as deliberation, beliefs' revision and inquiry.⁸ Note that these efforts are not restricted to the so-called epistemic emotions. Their purpose is to show that some emotions—including emotions, like anger and guilt, the epistemicity of which is doubtful⁹— can play a positive role in our epistemic activities (see module 3 for a description of various roles of this kind).

Second, in a rather distinct research field, some philosophers have claimed that such or such epistemic standing— e.g. true belief, knowledge— is finally valuable in virtue of being what satisfies our *curiosity*. This line of reasoning presumes that *curiosity* is a desire (e.g. a desire for true beliefs or a desire to know).¹⁰ It would lose its credibility if we happened to discover that curiosity does not have the affective nature it is supposed to have, that to be curious is not to desire something.¹¹ These considerations cast light on the connection between the topic of epistemic emotions and the philosophical discussions pertaining to the identification of the final epistemic goal(s) or the finally valuable epistemic standing(s). They also suggest the influence that the achievements of the present project could have on the philosophical discussions devoted to the identification of the proper epistemic values (see module 2 below).

2.2 Current state of our own research

2.2.1 Pascal Engel

Pascal Engel is ordinary professor in contemporary philosophy at the University of Geneva. His interest in topics located at the crossroads of the psychology, the philosophy of mind and the epistemology is attested to by the vast number of books and articles he wrote in these domains.

See e.g., for the philosophy of mind and the psychology, Engel 1991, 1994, 1996, 1997a, 1999a, 2000, more recently, 2008a, 2009a, 2009c.

See e.g., for the epistemology, Engel 2002, 2007a, 2007b, 2008b, 2009d, 2010a, 2010b, 2011a.

Moreover, Engel's field of specialisation is directly related to the research intended to be

⁸ For a variety of perspectives on the claim that emotions play a role in epistemic activities, see the contributions to the volume edited by Brun, Doğuoğlu & Kuenzle. See also de Sousa (1987), Elgin (1996), Frijda et al. (2000), Hookway (1998, 2002, 2003), Thagard (2002).

⁹ It is precisely one of the present project's purposes to consider what delineates the range of the *epistemic* emotions in contrast to the non-epistemic ones. See module 2 below.

¹⁰ See Goldman (1999, pp. 88-96) for true belief, Williamson (2000, p. 31) for knowledge.

¹¹ See Brady (2009) for an objection of this kind. Note that this is not the only potential problem, which can be raised against this line of reasoning. It is also apparently grounded on the following objectionable principle: what satisfies a desire is finally valuable. But what satisfies, for instance, a vicious desire is not finally valuable. We do not dwell on these considerations here.

undertaken in the present project. A large part of his work is devoted to:

- (i) the nature of belief and its relationship to the will and other mental states (see, for instance, Engel 1997b, Engel 1999b, Engel 2001);
- (ii) the *normativity of beliefs* (see, for instance, Engel 1999, 2008a, 2008b, 2009b, 2011b).

One of the main problems that we intend to tackle in this project pertains precisely to the influence that epistemic emotions can have on the philosophical debate regarding the identification of the final epistemic value (see module 2 below). Another main objective of this project is to show whether the epistemic emotions can possibly justify our judgements about what is certain, doubtful, or even true (see module 4 below). If it turns out to be plausible, this hypothesis might require a reshaping of the norms used to appraise epistemic activities. In this sense as well, the present project naturally extends Engel's pronounced interest in epistemic normativity (see also Engel's archived SNF Project: Knowledge, Reasons and Norms: 100011-116032).

2.2.2 *Anne Meylan*

Anne Meylan is a postdoctoral researcher at the philosophy department of the University of Geneva. Anne Meylan's work methodology is generally characterized by her wish to take advantage of the solutions developed in the practical realm in order to solve epistemic problems. Part of her dissertation on the Ethics of Belief (2009) is, for instance, devoted to considering whether a compatibilist conception of the conditions under which we are responsible for our actions is also relevant for beliefs. This methodology is perfectly adapted to the objectives of the present project. Indeed, research on epistemic emotions will also benefit from consideration of the widely discussed results pertaining to the role that the emotions play:

- (i) in the motivation of actions and;
- (ii) the justification of practical evaluations.

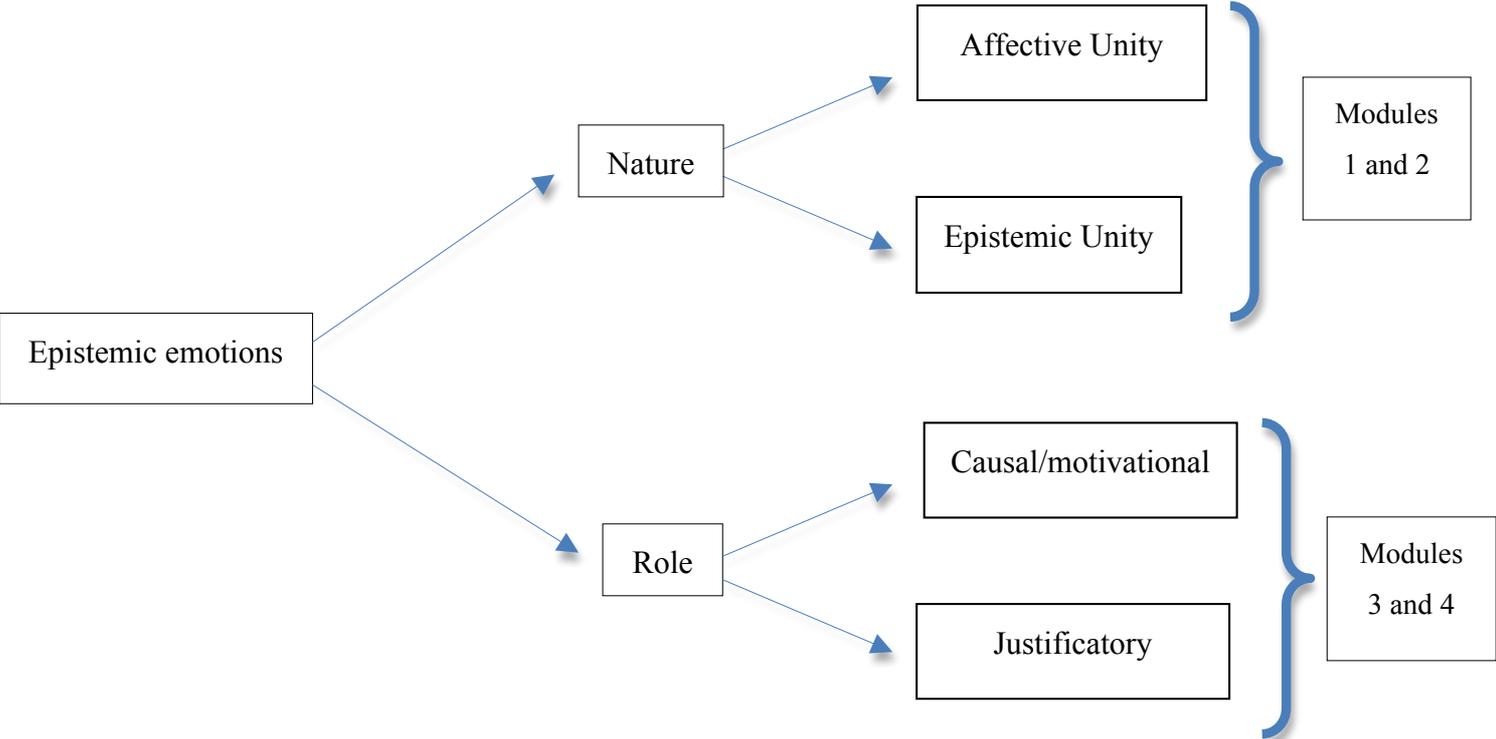
Moreover, various themes of Meylan's research are connected to the topic of epistemic emotions. First, her work (Meylan 2008, 2011) devoted to the problem of doxastic voluntarism — the problem of whether beliefs can be controlled in the way actions can be controlled— connects to one of the hypothesis that the present project aims to consider (see module 3 below). Second, her interest in the justification of beliefs (Meylan 2012b) naturally extends to the question whether epistemic emotions play a particular role in the justification of certain judgements (see module 4 below). Third, she will be able rely on her familiarity

with the problem of the value of knowledge (Meylan 2007, 2012a) to address the question of the epistemicity of emotions and the already mentioned question pertaining to the identification of the final epistemic value (see module 2 below).

2.3 Detailed Research Plan

As indicated by its title, the project “Epistemic Emotions: Nature and Roles” is divided into main parts. Its first part is dedicated to investigating the nature of the so-called “epistemic emotions” and “epistemic feelings”. The second part looks at the various potential roles that the now accurately delineated epistemic emotions could play in our epistemic activities. These two parts are, themselves, subdivided into four research modules as illustrated in the following schema:

Structure



The content and objectives of each research module are presented in the forthcoming sections.

2.3.1 Nature (module 1 and 2)

The general purpose of the first part of the project is to close the gap —described in section

2.1.1—pertaining to the demarcation of the category of the epistemic emotions.¹²

The two main questions that we intend to answer in the first part of the present project are the following:

Module 1: What is the affective nature of the various epistemic affective phenomena enumerated in section 2.1.1 above? They have been labelled “epistemic emotions” or “epistemic feelings” but it is far from obvious that they all really are emotions or feelings.

Module 2: What makes such or such emotion or feeling, etc. an epistemic one, i.e. what is the standard of epistemicity with regard to these affective phenomena?

Module 1: Affective nature

The general purpose of this module is to determine the affective nature of the various epistemic affective phenomena listed at the beginning of section 2.1.1. Recall that affective states, in general, come in many different kinds. Beside emotions and feelings, desires, character traits, moods, and affective dispositions are different kinds of affective states.¹³ Given this affective diversity, we can legitimately wonder whether some of the so-called “epistemic emotions” or “epistemic feelings” have not been wrongly classified, i.e. whether some of the so-called “epistemic emotions” or “epistemic feelings” are not characterized by a different affective nature.

Curiosity, surprise and interest are particularly interesting with regard to this problem. As we have mentioned already, the affective nature of *curiosity* is especially controversial. De Sousa (2008) and Brady (2009) regard it as an epistemic feeling, and Morton (2010) as an epistemic emotion, whereas other philosophers (Mulligan 2009, Whitcomb 2010) consider curiosity to be a desire of a specific kind.¹⁴ The latter is certainly an attractive view for it really seems that to be curious about something is to desire “something” about this thing. The difficulty is then to say what is this “something”: is curiosity a desire to *know*, a desire to acquire *true beliefs* or something else?¹⁵ This is a question that we will have to address if we want to defend the

¹² Note that the so-called “epistemic emotions” and “epistemic feelings” cannot be associated with a specific behavioural response. The questions pertaining to the unity/diversity cannot, therefore, be decided by appealing to the typical behaviour they would trigger.

¹³ See Deonna and Teroni (2008, forthcoming).

¹⁴ Loewenstein’s view about curiosity is, apparently, even distinct from the aforementioned. It is a form of deprivation that arises from the perception of a gap in knowledge or understanding. See Loewenstein (1994). As we have mentioned already, the determining of the affective nature of curiosity will have a significant influence on discussions bearing on the explanation of what is finally epistemically valuable.

¹⁵ On this question, see Kvanvig (2003), Whitcomb (2010).

view that curiosity is rather a desire than an emotion.

Surprise is another contentious case. Sheffler (1991, p. 12) takes it to be a cognitive emotion “resting on the epistemologically relevant supposition that what has happened conflicts with prior expectation”.¹⁶ According to Ortony & Turner (1990, p. 317), surprise should rather be “viewed as a (an intrinsically unvalenced) *cognitive* state.... Surprise is not itself an emotion, although it often plays a major role in the elicitation and intensification of emotions”.

Finally, *interest* seems to raise the same kind of debate. Izard (1992) and Fredrickson (1998) consider it as an emotion. By contrast, according to Ortony & Turner (1990), interest is a simple state not an affective one.¹⁷

The other (related) task we would like to undertake in module 1 is to look into the distinction between “epistemic *emotions*” and “epistemic *feelings*”. Until now we have used these two expressions indifferently. To our knowledge, this is also the usage of the few philosophical literature dealing explicitly with epistemic emotions and feelings. However, there is one immediate reason to doubt that this practice is legitimate: it is intuitively inappropriate to call the feeling of knowing, the feeling of familiarity and the feeling of certainty “emotions”. Another objective of module 1 is to help us understanding the reason why some epistemic affective phenomena qualify as feelings rather than emotions¹⁸. This will lead us consider the already existing discussions regarding the distinction between feelings and emotions in general.¹⁹ One of the potential upshots of the latter consideration is to help cast new light on these discussions.

Module 2: Epistemicity

The second module aims at determining whether the aforementioned epistemic affective phenomena really belong to the category of the *epistemic* and if so what makes them epistemic rather than non-epistemic affective phenomena.

Distinctions between kinds of emotions have often been grounded on their respective *formal*

¹⁶ Moreover, many theorists of emotions’ list of basic emotions contain surprise. See Ortony and Turner (1990), p. 316.

¹⁷ For an overview on the literature on interest, see Silvia (2006).

¹⁸ According to de Sousa (2008), epistemic feelings work on a sub-personal. Elaborating on his idea, a way of drawing the line between epistemic feelings and epistemic emotions might appeal to the level of consciousness required by epistemic emotions by contrast to epistemic feelings.

¹⁹ In the literature on emotions in general, the term “feeling” is used in different ways. According to some authors, “feeling” seems to refer to something like the phenomenal character of an emotion. It is our understanding that others seem to consider that feelings are affective states that enter in the making-up of emotions.

objects.²⁰ Let us explain. It is a rather commonly accepted thesis that emotions are intentional. But the intentionality of emotions seems to be of a more complex nature than the one characterizing beliefs or perceptions. Emotions seem to be directed towards *two* distinct objects: a proper (or material) object and a formal object.²¹ When Peter is afraid of James' dog, his fear is not only directed toward a material object, James' dog. It is also directed toward a formal object, the dangerousness of James' dog. The important thing to note at this point is that the dangerousness of James' dog, i.e. the formal object of Peter's fear, is not a natural property. The formal object of Peter's fear is a value property and this is so for emotions in general: formal objects of emotions are value properties.

Now, the formal objects of emotions provide a promising way of classifying emotions into distinct kinds. Emotions belong to the same kind if and only they have the same kind of formal object. More concretely, Jane's guilt about her drug addiction qualifies as a *moral* emotion, if only if it is directed toward a *moral* value, for instance, its wickedness. If what makes her feeling guilty is the fact that her drug addiction prevents her from saving money for vacation her feeling guilty does not count as a moral emotion.

At first sight, there is no reason why this way of proceeding could not be used in order to distinguish epistemic emotions from non-epistemic ones. If so, the epistemicity of emotions would be ruled by the following standard:

The Formal Object Standard of Epistemicity (FOS):

An emotion is epistemic if only if its formal object is an epistemic value.

The potential adoption of FOS would have two immediate consequences.

First, it would cast doubt on the claim that such epistemic affective phenomena as fear of the unknown, misogyny and joy of verification belong to the category of the epistemic emotions. Indeed, what turns them into "epistemic" affective phenomena seems to be the "epistemicity" of their material objects —i.e. the fact that fear is directed at the absence of knowledge, that the joy is directed at verification— rather than the epistemicity of their formal objects. This actually speaks in favour of FOS. There is intuitively something that distinguishes the fear of the unknown, the misogyny, the joy of verification from the other epistemic affective phenomena mentioned at the beginning of section 2.1.1 above. FOS provides a way of capturing this difference.

The second consequence of the adoption of FOS would be the following: questioning the

²⁰ See Deonna and Teroni (2008), Mulligan (2007, 2009b), Tappolet, (2000).

²¹ The initial distinction between proper (or material) and formal objects of emotions goes back to Kenny (1963).

epistemic unity of the so-called epistemic affective phenomena will actually amount to questioning the epistemic unity of distinct value properties. Henceforth, the next pressing question will be:

Do the surprising, the interesting, the curious, etc. have something in common which explains their common belonging to the *epistemic* type?

A very natural way of classifying distinct value properties in the same category is to show that they hold a specific relation with a *final value* of a certain kind, in our case, with the final epistemic value. Given this, the question just mentioned can be reformulated in the following terms:

Do the surprising, the interesting, the curious, etc. owe their epistemicity to the specific relation they hold with a *final epistemic value*?²²

One recurring proposal since Plato is that truth is the core epistemic value. But is the interesting, for instance, really connected to the true in a way that could explain why the formal object of the interest —i.e. the interesting— seems to belong to the category of the *epistemic* value properties?²³ This is doubtful. First, the interesting does not seem to be connected to the true in the way thick value properties (like the property of being graceful) are related to thin value properties (like the property of being beautiful): to be interesting is not a way of being true. Second, the interesting does not seem to be linked to the true in the way instrumental value properties are connected to final value properties: the interesting does not lead causally to the true²⁴.

What about the other candidates for the title of final epistemic value: knowledge and understanding²⁵? Will they do a better job than truth regarding the unification of such various value properties as the surprising, the interesting, the curious, etc.?

If we answer the last question negatively, should we conclude that the usual list of plausible candidates to the title of final epistemic values is necessarily incomplete?²⁶ Are we bound to

²² Here, our interest in epistemic emotions comes to cross once again (see the last part of section 2.1.2 and note 13 above) the well-debated problem regarding the identification of the final epistemic value.

²³ Another difficulty faced by this proposal is that it is not clear that truth is a value rather than a value bearer. If truth is not itself a value but something having value, it cannot of course be identified *as the value* responsible for the unification of distinct value properties.

²⁴ Note that the suggestion that the interesting is instrumentally valuable would raise a difficulty anyway. According to the standard conception, affective states are taken to be directed toward final value properties and not instrumental ones. Indeed, it is not at all clear that we experience emotion directed toward instrumental value properties.

²⁵ See Kvanvig (2003, 2009).

²⁶ Other plausible intellectual values are coherence, rationality, justification, open-mindedness, etc. The problem with these is that they seem to be instrumental rather than final value properties and it is dubious that affective states ever take instrumental value properties as formal objects. See note 24 above.

classify curiosity, interest and surprise into a non-epistemic category of emotions? These are the main questions that we plan to tackle in the second module.

Before tackling the presentation of the second part of the project, let us say a few words about another direction that the research planned in the second module might take. Another potential task that we might have to undertake is to revise FOS or to suggest another standard of epistemicity. We haven't yet any clear idea about what this alternative could be. An interesting suggestion is Sheffler's (1991, pp. 9-10):

An emotion is specifically cognitive if it rests upon a supposition of a cognitive sort— that is to say, a supposition relating to the content of the subject's cognitions (beliefs, predictions expectations) and in cases of special interest to us bearing upon their epistemological status... When I characterize an emotion as *specifically cognitive*... I mean not simply that it presupposes the existence of a factual claim but that the claim in question specifically concerns the nature of the subject's cognitions.

Sheffler's standard of epistemicity seems to imply that a subject's cognitive (epistemic) emotions are "meta-emotions". Briefly said, epistemic emotions—in contrast to non-epistemic emotions— bear upon the subject's cognitive mental states. This standard deserves further considerations. It has the advantage of capturing the epistemicity of such clearly "meta- affective-phenomena" like the feeling of knowing. But it is doubtful that some other affective phenomena that we regard as epistemic—like interest—satisfy it.

2.3.2 Roles in epistemic activities (module 3 and 4)

As we mentioned already (see section 2.1.2 above), the influence that the epistemic emotions²⁷ might have on our epistemic activities is not as neglected an issue as the question pertaining to their affective and their epistemic unity. But it remains a rather confidential topic.²⁸ For the purpose of our research program, it is helpful to classify the roles that epistemic emotions might play in epistemic activities into two categories:

The causal/motivational theoretical role (i.e. the non-normative roles);

The justificatory role (i.e. the normative role).

The questions that we plan to address in the research modules, which make up the second part

²⁷ For sake of brevity, we use the expression "epistemic emotions" to refer to any epistemic affective phenomena leaving open the possibility (considered in our first research module) that some of them should rather be called "feelings", "desires", etc.

²⁸ In contrast the reverse direction of influence, i.e. the role that beliefs might play in the formation of emotions, has been extensively studied. See Frijda et al. (2000, p. 1) for a similar remark

of the present project, are accordingly the following:

Module 3: Which significant motivational/causal influence epistemic emotions have on our epistemic activities?

Module 4: Which significant justificatory role epistemic emotions play in our epistemic activities?

Module 3: Causal/Motivational Roles

To our knowledge, three main causal or motivational roles in our epistemic activities have been ascribed to epistemic emotions.

The first one has been only occasionally mentioned. Epistemic emotions are causally interconnected. The transformation of surprise into astonishment and curiosity provides an example of this causal influence. This, according to Sheffler (1991, p. 15), offers:

“an educative occasion. Curiosity replaces the impact of surprise with the demand for explanation.”

That is, surprise displays its epistemic benefits via the occurrence of other epistemic emotions (wonder, astonishment, curiosity) that it naturally triggers.

One of the objectives of module 3 is to deepen these kinds of considerations. How are the various epistemic emotions causally connected? More specifically, we would like to consider the influence of what we are tempted to label “negative epistemic emotions” —boredom²⁹, disappointment— on positive epistemic emotions such as curiosity and interest.

The second (and related) role that epistemic emotions apparently play in our epistemic activities has been more widely discussed. As we have just alluded, epistemic emotions, like curiosity, wonder, astonishment and most famously doubt³⁰, seem to have a causal influence on the conduct of inquiry, especially on the conduct of scientific investigation.³¹

But how significant is the influence of epistemic emotions? The question is twofold.

On one hand, it is legitimate to question the degree at which the influence of epistemic emotions is significant for the conduct of inquiry. Epistemic emotions are certainly not *necessary* to the instigation of inquiry. It is possible to initiate an inquiry about something

²⁹ Despite the intuitive influence of boredom and the avoidance of boredom on our epistemic activities, philosophical considerations on boredom are, to our knowledge, almost inexistent. One exception is Shand (1926).

³⁰ The claim that doubt provides an unconditional motivation to inquire is most famously defended by Peirce in the “Fixation of Belief”. See Peirce (1984-1986). For a comprehensive study of various pragmatist views on doubt, see Tiercelin (2005). For a contemporary version of the pragmatist conception of doubt and its influence on the regulation of inquiry, see Hookway (1998, 2002).

³¹ See Thagard (2002).

without being curious, astonished, surprised, etc. Consider a case in which your mother has asked you to find out which European city has the highest number of mini-golf courses. Your investigation, in this case, does not seem to be induced by an *epistemic* emotion, but rather by the desire to please your mother. To avoid this difficulty, should we rather take the influence of epistemic emotions to be essential to the conduct of a *good* inquiry? Why would it be so? After all, it seems that we do not need to “feel things” in order to conduct a good inquiry. We just need to be competent.³² Part of the work that we intend to complete in module 3 would be devoted to address this worry. On the other hand, it is also legitimate to ask whether the instigation of inquiry is the only form that the significance of epistemic emotions for the conduct inquiry could take: do the epistemic emotions only initiate investigation or do they provide other forms of assistance? At least, one other form of help is conceivable: epistemic emotions —more strikingly, the feeling of knowing— also indicate when to stop investigation.³³

The third role that the epistemic emotions seem to play in our epistemic activities bear on the revision of our current doxastic attitudes (i.e. beliefs, suspension of judgements, disbeliefs). It has been claimed, for instance, that surprise occasionally induces a revision of the subject’s beliefs (Lorini & Castelfranchi 2007).³⁴ Here the present project directly connects with Engel’s (Engel 2010b) and Meylan’s (Meylan 2008, 2011) previous research into the problem of doxastic voluntarism, i.e. the question of whether and how we can control our doxastic attitudes. If epistemic emotions are able to induce a modification of our doxastic attitudes, one way of controlling what we believe or do not believe is by controlling our epistemically emotional reactions, for instance, by making ourselves more inclined to be surprised, curious, etc³⁵. Part of the research that we would like to complete in module 3 would be devoted to

³² If you, additionally, consider that a belief which results from a good inquiry counts as justified, the claim that epistemic emotions play an essential role in the conduct of good inquiry comes to clash with the virtue epistemologists’ view according to which justified beliefs are beliefs which result from the exercise of an epistemic competence. (e.g., Greco 2010).

³³ See Hookway (2002), de Sousa (2008). As Hookway (2002, p. 259) notes, this function perfectly fits de Sousa’s idea according to which emotions (in general) serve to restrict the degree of information that we have to take into account by providing “determinate patterns of salience among objects of attention, line of inquiry and inferential strategies.” (de Sousa, 1987, p. 201).

³⁴ This claim is ambiguous between two meanings: either it suggests that epistemic emotions, sometimes, *directly* induce the modification of our doxastic attitudes, or it states that epistemic emotions are *indirectly* able to trigger beliefs’ revision. There is nothing really controversial with the second interpretation of the claim. As we have said already, the influence of epistemic emotions on the conduct of inquiry is relatively well recognized and it is unquestionable that inquiry occasionally leads us to revise our doxastic attitudes.

³⁵ According to Elgin (2008), emotions can be “refined” in order increase their epistemic yield. “The refinement of our epistemic emotions” might constitute another indirect way of exercising control over our doxastic attitudes. For the role that metacognition —and possibly epistemic feelings— could play in the control of our

considering this hypothesis.

Module 4: Justificatory Role

While the third module is focused on the causal role of epistemic emotions in epistemic activities, the fourth module raises the question of their ability to justify our judgments, including our judgements about our own mental states.³⁶ According to several theorists of emotion³⁷, emotions are able to justify judgments about axiological facts. Roughly stated, the idea is that, in certain circumstances, a subject experiencing an emotion, such as moral disgust, is justified in judging that there is something morally disgusting in the situation he is watching. The hypothesis we would like to explore is whether something analogous can be said about epistemic emotions, that is to say, whether what would have been identified — thanks to the research undertaken in the first and the second module— as an epistemic emotion can justify judgements about “epistemically axiological facts” in certain circumstances. More concretely, suppose that a subject feels doubt about a proposition, e.g. that the fecundity rate is higher in Italy than in the other European countries. Are there circumstances in which this subject feeling doubt will be sufficient to justify his judgement that a certain proposition is doubtful? Similarly, are there circumstances in which my feeling of certitude about a proposition will be sufficient able to justify my judgment that something is certain? The possibility of applying to epistemic emotions the well-developed theoretical model regarding the justificatory power of emotions in general is, to our knowledge, quite unexplored. Were our application successful it would address this current lacuna, thereby providing epistemologists with a wide range of new and fascinating insights which a complete theory of justification ought to honour.

2.3.3 Methodology: Psychological and philosophical literature

As the previous considerations show, the already existing literature on which we plan to rely in the conduct of our research belong to two distinct fields.

First, we intend to make the most of the various psychological works devoted to epistemic emotions. They would provide the empirical evidence on which we would base the conceptual considerations described in sections 2.3.2 and 2.3.1. Hopefully, the same will be true the other way round. That is, our wish is that further work from psychologists and cognitive scientists

doxastic attitudes, see Proust (2008).

³⁶ For considerations pertaining to metacognition, see the work of Proust, e.g. Proust (2008, 2009, 2010).

³⁷ See e.g. Deonna & Teroni (forthcoming), Tappolet (2000) for a presentation of this claim.

could benefit from the conceptual framework that we intend to develop.

Second, we plan to rely on the already existing works pertaining to the emotions in general. They will serve as sources of inspiration at various moments in the conduct of our project: e.g. when the question of the affective nature of the so-called “epistemic emotions” will be at stake, when we will consider whether epistemic emotions play a justificatory role.

2.3.4 References

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2.4 Schedule and milestones

The modules described above also constitute progressive steps in the conduct of the research project.

Nov. 2012-Nov. 2013

Research Objectives:

- Finalization of the first module: Pascal Engel and Anne Meylan;
- Launch of the second module: Pascal Engel and Anne Meylan.

Publications:

- Submission of an article pertaining to the affective nature of surprise and astonishment, to their difference, and their impact for the thesis that emotions are essentially valenced (see the outcomes of module 1 and 2 below): Anne Meylan (under the supervision of Pascal Engel);
- Submission of an article devoted to the affective nature of curiosity and its impact for the identification of the final epistemic value: Anne Meylan (under the supervision of Pascal Engel).

Workshops and conferences

- June 2013: Workshop on “Surprise and Curiosity”
Potential keynote speakers: D. Whitcomb (Western Washington University), K. Mulligan (University of Geneva), M. Brady (University of Glasgow), R. de Sousa (University of Toronto).

Nov. 2013-Nov. 2014

Research Objectives:

- Finalization of the second module (Pascal Engel and Anne Meylan);
- Launch of the third module (Pascal Engel and Anne Meylan).

Publications

- Submission of an article devoted to interest and boredom, their relation to other apparently close epistemic emotions (attention, curiosity, lack of curiosity) and their role in the conduct of inquiry: Anne Meylan (under the supervision of Pascal Engel).
- Submission of an article synthesizing the results of the first and the second module and offering, thereby, a general conceptual framework in which the various affective epistemic phenomena enumerated at the very beginning of this research plan can be located: Anne Meylan (under the supervision of Pascal Engel);
- Submission of an article devoted to the role of epistemic emotions (more specifically surprise) within naive epistemology, based on developmental studies: Pascal Engel.

Workshops and conferences:

- May 2014: Workshop on “Interest and boredom: positive and negative emotions?”
Potential keynote speaker: P. Silvia (University of North Carolina at Greensboro)

Nov. 2014-Nov. 2015

Research Objectives:

- Finalization of the second module (Pascal Engel and Anne Meylan);
- Launch of the third module (Pascal Engel and Anne Meylan).

Publications

- Submission of a paper synthesizing the various motivational roles of epistemic emotions and describing the significance of these motivational role for solving the problem of doxastic voluntarism: Anne Meylan (under the supervision of Pascal Engel);
- Submission of a book's project gathering the various papers published during the 3-years funding: Anne Meylan (under the supervision of Pascal Engel).

Workshops and conferences:

- October 2015: Closing conference on Epistemic Emotions and the Conduct of Inquiry: Potential keynote speakers: Ch. Hookway (University of Sheffield), C. Elgin (Harvard University), Markus Wild (Humboldt-University Berlin), D. Evans (Cork, Ireland), P. Thagard (University of Waterloo).

2.5 Relevance and impact

2.5.1 Scientific relevance

The main outcome of the research planned in modules 1 and 2 is the following: this research should provide philosophers, psychologists, and cognitive scientists with a general conceptual framework which should help them to locate the various epistemic affective phenomena with which they are respectively dealing.

More specific outcomes of module 1 and 2 are the following:

- For the philosophical question pertaining to the identification of the final epistemic value: the determining of the affective nature of curiosity has a direct impact on the philosophical debates, which pertain to the identification of the final epistemic value. See the description of the module 1 above for details.
- For the theory of emotions in general: According to a well-accepted thesis, emotions are essentially valenced phenomena (see e.g. Deonna & Teroni forthcoming). Roughly said, emotions are essential either pleasant or unpleasant. Now, surprise and astonishment—more strikingly— do not seem to be valenced in this way. There are, after all, pleasant, unpleasant and neither pleasant nor unpleasant surprises. The same thing seems to be true regarding astonishment. If we come to conclude that surprise and/or astonishment are genuine emotions, this will be sufficient to shake the thesis according to which an essential feature of emotions is that they are valenced.

The outcomes of the research planned in modules 3 and 4 are the following:

- This research will provide an overview of the causal influences of epistemic emotions on various epistemic activities, e.g. revision of beliefs, deliberation, gathering of evidence. More particularly, it will cast light on the positive and negative role that interest and boredom play with this regard.
- It will widen philosophers' understanding of the part that emotions can play in the justification of our judgements. More specifically, it will settle the decisive question of whether emotions are also able to justify judgements which bears on the exemplification of epistemic value properties, for instance, judgements about whether such or such piece of reasoning is rational, coherent, etc.

2.5.2 Publication of the results

Nov. 2012-Nov. 2013

- Submission of an article pertaining to the affective nature of surprise and astonishment, to their difference, and their impact for the thesis that emotions are essentially valenced (see the outcomes of module 1 and 2 below): Anne Meylan (under the supervision of Pascal Engel);
- Submission of an article devoted to the affective nature of curiosity and its impact for the identification of the final epistemic value: Anne Meylan (under the supervision of Pascal Engel).

Nov. 2013-Nov. 2014

- Submission of an article devoted to interest and boredom, their relation to other apparently close epistemic emotions (attention, curiosity, lack of curiosity) and their role in the conduct of inquiry: Anne Meylan (under the supervision of Pascal Engel).
- Submission of an article synthesizing the results of the first and the second module and offering, thereby, a general conceptual framework in which the various affective epistemic phenomena enumerated at the very beginning of this research plan can be located: Anne Meylan (under the supervision of Pascal Engel);

Nov. 2014-Nov. 2015

- Submission of a paper synthesizing the various motivational roles of epistemic emotions and describing the significance of these motivational role for solving the problem of doxastic voluntarism: Anne Meylan (under the supervision of Pascal Engel);
- Submission of a book's project gathering the various papers published during the 3-years funding: Anne Meylan (under the supervision of Pascal Engel).