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Emotions, perceptions, and emotional illusions

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Emotions often misfire. We sometimes fear innocuous things, such as spiders or mice, and we do so even if we firmly believe that they are innocuous. This is true of all of us, and not only of phobics, who can be considered to suffer from extreme manifestations of a common tendency. We also feel too little or even sometimes no fear at all with respect to very fearsome things, and we do so even if we believe that they are fearsome. Indeed, instead of shunning fearsome things, we might be attracted to them. Emotions that seem more thought-involving, such as shame, guilt or jealousy, can also misfire. You can be ashamed of your big ears even though we can agree that there is nothing shameful in having big ears, and even though you judge that having big ears does not warrant shame. And of course, it is also possible to experience too little or even no shame at all with respect to something that is really shameful.

Many of these cases involve a conflict between one's emotion and one's evaluative judgement. Emotions that are thus conflicting with judgement can be called 'recalcitrant emotions'. The question I am interested in is whether or not recalcitrant emotions amount to *emotional illusions*, that is, whether or not these cases are sufficiently similar to perceptual illusions to justify the claim that they fall under the same general heading.

The answer to this depends on what emotions are. For instance, the view that emotions are evaluative judgments makes it difficult to make room for the claim that emotional errors are perceptual illusions. Fearing an innocuous spider would simply amount to making the error of judging that the spider is fearsome while it is in fact innocuous. This might involve an illusion of some sort, but it certainly does not amount to anything like a perceptual illusion.

In this chapter, I argue that recalcitrant emotions are a kind of perceptual illusion. In order to do this, I first sketch the case for the thesis that emotions, or more precisely occurrent emotions, are perceptions.ⁱ As will become clear, one important argument in favour of the perceptual account of emotions is based on the claim that the conflict between

emotions and evaluative judgements is similar to the conflict between sensory perceptions and judgements that one can find in perceptual illusions. In other words, the claim is that recalcitrant emotions are significantly similar to cases of recalcitrant perceptions that are characteristic of perceptual illusions such as the Müller-Lyer illusion. So, as one might have expected, the argument for the perceptual theory of emotions is not independent of the claim that recalcitrant emotions are perceptual illusions. In the next section, I discuss an important argument against the perceptual account. According to Bennett Helm (2001), the conflict between emotions and evaluative judgements is importantly different from the conflict between perceptions and judgements: by contrast with the latter, the former involves irrationality. In reply, I argue that there is indeed a difference between the two cases, but that this difference does not threaten the perceptual account. We shall see that emotional systems are more plastic than sensory systems. This is why it makes sense to impose rationality requirements on emotions, but not on perceptions.

1) *The perceptual account of emotions*

Theories of emotion often proceed by assimilating emotions to different, and supposedly better understood, kinds of mental states.ⁱⁱ On one view, emotions are kinds of sensations, i.e. states that are taken to lack cognitive contents (James 1884; Lange 1885).ⁱⁱⁱ According to William James, for instance, fear is the feeling that corresponds to certain physiological changes, such as the racing of one's heart, which are caused by the perception of danger. Emotions have also been claimed to be conative states, such as desires or action-tendencies (Frijda 1986). Conative states can have propositional contents – one can desire that it rains – but it is usually denied that conative states involve representational contents.^{iv} In terms of the direction of fit, conative states have a world to mind direction of fit, in the sense that the world has to change in order to fit what is desired. Cognitive or representational states have the opposite direction of fit: it is the mind that has to try and match the world. By contrast with what could be called “conative theories” of emotions, cognitivist theories claim that emotions are or necessarily involve cognitive states. This is often taken to mean that emotions are kinds of judgements (Solomon 1976; Nussbaum 2001), or thoughts (Greenspan 1988), or else construals

(Roberts 2003). However, emotions have also been thought to involve representational content that is not propositional. This is the view of those who adopt the perceptual account of emotions, according to which emotions are a kind of perception (Meinong 1917; de Sousa 1987, 2002; Tappolet 1995, 2000; Charland 1995; Stocker 1996; Johnston 2001; Wedgwood 2001; Döring 2003, 2007; Prinz 2004, 2008; Deonna 2006).^v

According to the perceptual account, emotions are perceptions of values.^{vi} Thus, fear would consist in perceiving something as fearsome, disgust in perceiving something as disgusting, shame in perceiving something as shameful, and so forth for every distinct kind of emotion. On a weaker version of this account, only a certain class of emotions would consist in value perceptions. One might, for instance, argue that the thesis applies to basic emotions, that is, universally and pan-culturally shared emotions, but not to more thought-involving emotions, which vary from culture to culture and which depend on thoughts.^{vii} Though I will not argue for this here, I favour the more ambitious claim, according to which all emotions are perceptions of values, something which has the advantage of presenting a unified picture of emotions.^{viii}

The argument for the perceptual account of emotions is an argument by analogy. It is based on the observation that emotions and sensory perception, which can be taken to be paradigm cases of perceptual experiences, share a number of important features.^{ix} Let me consider these different features.

1.1) *Phenomenal properties.* A first point is that both emotions and sensory perceptions are usually conscious states, which are characterised by phenomenal properties. There is a way it is like to see something as yellow, just as there is a way it is like to experience fear or disgust. Even if it might make sense to allow for unconscious emotions, it remains true that emotions can be, and are usually, consciously experienced states. If we think, for instance, of what it is like to feel fear and how this relates to the bodily activation that is involved with fear, it is plausible to claim that the phenomenal qualities of emotions depend on the bodily activation involved with those emotions. Emotions would thus involve interoception. But what it is like to experience fear also depends on the way thought and sensory perception are affected. Fear, for instance, at least normally comes with an intense attentional focus on its object.^x

1.2) *Automaticity*. A second point is that neither emotions nor sensory perceptions are directly subject to the will. They are, at least usually, triggered automatically. You can neither decide to feel fear when you do not happen to experience this emotion, nor to see snow as red when you see it as white. Though there are indirect ways to control our emotions, such as breathing slowly to avoid panic, emotions are passive states. If a dog attacks you and you respond with a fear reaction, this fear is not caused by a decision or an intention to feel fear. In general, emotions automatically arise in response to the world.

1.3) *World-guidedness*. The third feature which emotions and sensory perception share is closely related to the previous point. Sensory perceptions are usually caused by states of affairs or events in the world. The banana and its colour are causally responsible for your perception of the banana as yellow. In the same way, emotions are usually caused by states of affairs or events in the world. The huge dog that runs towards you causes you to experience fear. While it is true that imagining something can also cause an emotion, such as when fearing results from

vividly imagining something frightening or when sadness is induced by imagining the death of someone you love, it remains true that in general, emotions are world-guided, in the sense that they are responses to how things are in our environment.

1.4) *Correctness conditions.* A fourth feature is that both emotions and sensory perception have correctness conditions. It has often been underlined that emotions can be assessed in terms of their appropriateness or fittingness. We are prone to assess our emotions with respect to how they appear to fit evaluative facts. We criticise our fears when they are about things that are not fearsome, for instance. This practice suggests that the object of fear is represented as fearsome.

Now, this might be thought to entail that emotions are or involve evaluative judgements or more generally evaluative propositional attitudes. A propositional attitude is a state that requires the possession of concepts, where concepts are taken to be content elements that have to be postulated in order to account for the inferential relations between thoughts.^{xi} Do emotions involve evaluative propositional attitudes? In fact, there are good reasons to think that the representations involved are

not propositional. For one thing, fear, for instance, can be experienced by beings that do not seem to possess concepts, such as animals and newborns.^{xii} Since animals and newborns only experience a limited range of emotions, however, this consideration does not take us to the general claim that emotions of any kind involve non-conceptual contents.

A reason that is not limited to a narrow range of emotions is that we often experience recalcitrant emotions.^{xiii} It happens that we fear something even when we judge that it is not fearsome; we experience shame in spite of the fact that we judge that what we are ashamed of is not shameful. It is worth noting that though the terminology suggests that the emotion is to blame – to accuse something or someone of recalcitrance is certainly not to pay them a compliment – it might well be the judgement, and not the emotion, that is the culprit. It can happen that though you fail to realise this, what you fear is really fearsome. What happens in emotional recalcitrance is simply that the emotion and the evaluative judgement conflict. Now, if one assumes that emotions involve an evaluative judgement, one would have to attribute inconsistent or even contradictory judgements to the person who experiences the emotion. For instance, she would judge that the object of her fear is fearsome, while also

judging that it is not. But whatever irrationality is involved in recalcitrance, it seems to be of a less acute species than what is involved in inconsistent or contradictory judgements.

Instead, one might suggest that the propositional attitude in question is one that fails to involve a commitment to the truth of the proposition. Thus, it has been claimed that fear involves thinking of or construing things as fearsome.^{xiv} Just as it is possible and perfectly rational to imagine that you live in paradise while believing that this is not the case, both thoughts and construals are perfectly compatible with a conflicting judgement. There is no irrationality at all involved in thinking of something or construing something as fearsome while judging that it is not fearsome. One problem with this suggestion, however, is that thinking of something as fearsome, or construing something as fearsome, would not explain why we are nonetheless tempted to avoid what we fear. The fact that we imagine that a harmless kitten is a dangerous tiger does not tend to make us run away. Also, it is not clear how thoughts or construals can be assessed in terms of their appropriateness or fittingness with respect to evaluative facts. After all, it is appropriate to imagine things that are quite different from how things happen to be. In the same way,

thoughts and construals do not aim at fitting how things are. So, the suggestion that recalcitrance can be accounted for by adopting the view that emotions involve evaluative thoughts or construals lacks plausibility.

It can be concluded that the phenomenon of emotional recalcitrance speaks against the view that emotions involve evaluative propositional contents, something that might have accounted for our ability to assess emotions in terms of their fittingness. But how can we account for this fact, then? Do we have to give up the claim that emotions have representational content? In fact, there is an alternative to the claim that emotions involve evaluative propositional contents. It consists in the claim that the appraisals involved in emotions are non-conceptual.^{xv} To fear something and hence to represent it as fearsome, it is not necessary to judge that it is fearsome; fear rather involves a non-conceptual representation of the thing as fearsome. If we also assume that evaluative judgements are the product of a conceptual or “linguistic system”, we can say with Justin D’Arms and Jacobson that “[...] recalcitrance is the product of two distinct evaluative systems, one emotional and the other linguistic. Because these are discrete modes of evaluation, only one of which involves the deployment of conceptual capacities, it is possible for

them to diverge systematically.” (D’Arms and Jacobson 2003, p. 141; see also Robinson 2005)

We have thus reason to think that emotions involve non-conceptual evaluative contents. This assumption consists in what appears to be the best explanation of the phenomena of recalcitrance. Where does this leave us with respect to the claim that emotions are a kind of perception? In fact, the claim that emotions involve non-conceptual evaluative representations strongly suggests that emotions are perceptions of values, for it is generally assumed that the perceptions in question are non-conceptual. Indeed, the point of distinguishing between judgements and perception in this context is to mark a distinction between the conceptual and the non-conceptual.

1.5) *Emotional recalcitrance*. Emotional recalcitrance actually directly militates in favour of the perceptual account. It makes for a further commonality between emotions and sensory perceptions. For what happens in emotional recalcitrance seems to be of the same kind as what happens in cases of visual illusions, such as with the Müller-Lyer illusion, in which you see lines as having different lengths, though you are

perfectly aware that they have the same length.^{xvi} As Jesse Prinz writes when considering cases in which the emotion gets things wrong, this suggests that “[i]n such cases, emotions are like optical illusions: they persist even when we know that they are misrepresenting the actual situation.” (2008, p. 157-158)

Emotions thus appear to be informationally encapsulated, in the sense that in the processing of information, the system’s access to beliefs, desires and utilities is restricted.^{xvii} In fact, as Prinz underlines, what happens is not necessarily that these mental states have no influence at all. Rather, the point is that when there is a competition, emotion wins the day. As Prinz again puts it, “[...] bottom-up inputs *trump* top-down inputs when the two come into conflict.” (2008, p. 140)^{xviii} So, both emotions and sensory perceptions have what is generally considered to be the most important characteristic of modular systems, i.e. informational encapsulation.^{xix}

1.6) *Modularity*. This point makes for a further, though not entirely independent, shared feature between sensory perceptions and emotions. Emotions, or at least emotions such as fear, appear to have all the

characteristics of modules as Jerry Fodor defines them. According to Fodor (1983; 2000), what has now become known as “Fodorian modules” are information processing systems that have the following characteristics:^{xx}

- a) They are domain-specific, in the sense that their responses are restricted to a specific class of stimuli.
- b) They are mandatory rather than subject to the will.
- c) They are opaque, which means that central cognitive processes have no access to the representations contained in the modules.
- d) They are fast, the time between input and output being very short.
- e) They are informationally encapsulated, in the sense that in the processing of information, the system’s access to beliefs, desires and utilities is restricted.
- f) As a consequences of the informational encapsulation, they produce so-called shallow outputs, which are framed in basic categories.
- g) They have a fixed neural architecture.
- h) They correspond to specific breakdown patterns.^{xxi}

What about emotions? Do they possess the features required to count as Fodorian modules? If one considers emotions like fear, the answer is yes.

- a) First, insofar as emotions involve the representation of values, they are domain-specific. This is clearly so for an emotion like fear or shame. Fear is a response that is at least normally restricted to fearsome stimuli, in the sense that it is appropriate with respect to such stimuli, whereas shame is an appropriate reaction to shameful stimuli.
- b) As we have noted above, emotions also satisfy the second condition: emotions are not directly subject to the will.
- c) The same is also true of opacity. Fodorian modules are such that only the “final consequences of input processing are fully and freely available to the cognitive processes that eventuate in the voluntary determination of overt behavior” (Fodor, 1983, p. 56). The intermediate representations (for instance, in visual perception according to Marr’s theory, the representations forming the 2 1/2 D sketch) as well as the necessary computational processes are

inaccessible to consciousness. This certainly seems to be true of emotions as well. We certainly fail to be aware of any intermediate reasoning or processing that would take place between the perception of the stimulus and the emotional reaction.

- d) Much the same is true of the next criterion, fastness. It does not take long before you experience fear when you realise that your plane is about to crash. Indeed, the rapidity of emotional reactions is often considered to be crucial for the evolutionary benefits emotions are thought to have given our Pleistocene ancestors (Griffiths 1997, p. 95).
- e) As we have already seen, there is reason to think that emotions are informationally encapsulated.
- f) The criterion of the shallowness of outputs seems to be met by emotions as well. The shallowness of outputs is explained by the fact that the representations produced by a module do not draw on the background knowledge of central systems. This is often taken to mean that the outputs of modules are non-conceptual (Carruthers 2006). As we have seen, there are good reasons to

believe that the representations involved in emotions are non-conceptual.

- g) As to the next feature of Fodorian modules, that is, the possession of a fixed neural basis, it should be noted that empirical research suggests that at least some kinds of emotions depend on clearly identifiable neural systems. For instance, following the work of Joseph LeDoux (1996), the amygdala is now generally considered to be an essential part of the system underlying fear. This brain structure can be considered to be the hub for the emotion of fear.
- h) Finally, emotions are plagued by specific breakdown patterns. As Prinz reports, emotions are subject to characteristic breakdowns (2008, pp. 155-6). For instance, “[...] damage to the centres that allow bodily information to get into the central nervous system leads to a reduction in emotional experience.” (p. 155)^{xxii}

Thus, there is reason to think that emotions, or at least some of them, are modular systems. Given that sensory perception is generally taken to be modular, this makes for a further reason to adopt the perceptual account of emotions.

To sum up, the numerous analogies between emotions such as fear and sensory perceptions gives us what seems decisive reason to adopt the perceptual account, at least for such emotions. Now, fear is generally considered to be a basic emotion. It thus seems likely that the perceptual account covers all basic emotions. One can think of anger, happiness, sadness, surprise and disgust, which with fear are the six basic emotions Paul Ekman initially enumerated.^{xxiii} In fact, insofar as all types of emotions allow for cases of recalcitrance, there is reason to adopt the more general claim that all emotions are perceptions of values. However, I will leave the question of the scope of the theory open and concentrate on emotions such as fear or anger.^{xxiv} In any case, insofar as the perceptual account is true, recalcitrant emotions can be considered to be a kind of perceptual illusions.

2) *The irrationality of recalcitrant emotions*

But is the perceptual account correct? After all, there also seem to be important differences between emotions and sensory perceptions. For instance, as Ronald de Sousa notes, emotions have no organs or transducers (1987, p. 150). But, as de Sousa would agree, this is only a reason to think that emotions are not sensory perceptions; it is not a reason to think that they are not a kind of perception unless one assumes that perception is necessarily sensory. Maybe the most striking difference between emotions and sensory perceptions is that by contrast with the latter, emotions can be assessed in terms of rationality. This consideration is the starting point of Bennett Helm's argument against what he calls "anti-judgementalism", and which can be easily adapted to counter perceptual accounts of emotion.^{xxv} According to Helm, there is an important difference between recalcitrant emotions and sensory illusions. In a nutshell, recalcitrant emotions are irrational, whereas sensory illusions are not. Helm agrees that recalcitrant emotions are a problem for accounts according to which emotions involve evaluative beliefs or judgements, because "conflicts between emotions and judgements do not verge on incoherence, for they are readily intelligible and happen all too often." (Helm 2001, p. 42) But the denial that emotions involve beliefs or

judgements fares no better: “Although [...] anti-judgementalist accounts clearly avoid the problem of assimilating conflicts between judgements and emotions to incoherence, it is not clear that they are thereby able to provide a proper understanding of the nature of the resulting irrationality. After all, it is not at all irrational to have a stick half-submerged in water look bent even after one has judged that it is straight.” (2001, pp. 42-3) Helm concludes that we have to reject both judgementalism and anti-judgementalism and opt for a third kind of theory, according to which emotions are a special kind of assent.^{xxvi}

According to Michael Brady (2007), there are two further considerations that can be used to bolster this argument. The first pertains to justification. While sensory perception can be assessed in terms of accuracy, it is not the kind of thing that allows for justificatory reasons. By contrast, we usually assume that emotions can be justified. As Brady notes, “[...] the fact that the dog has sharp teeth and a short temper is a reason to fear it [...]”. (2007, p. 276) Let me immediately put this consideration aside, for it raises a different issue. That emotions allow for justification is due to the fact that the evaluative features that are perceived in the emotion depend, and in fact supervene, on the natural

features of the world.^{xxvii} Fearsome dogs usually have sharp teeth and short tempers, for instance. And if a dog has sharp teeth and a short temper, it is usually also fearsome. So, the fact that a dog has these features gives you some reason to perceive it as fearsome, for after all, such a dog is likely to be fearsome. It is true that emotions differ from sensory perceptions with respect to justification, but this has more to do with the nature of values than with the nature of emotions.

By contrast, the second consideration is to the point. According to Brady, “someone who is suffering from recalcitrant emotions is subject to a certain rational requirement.” (2007, p. 276) It seems indeed correct that emotions are related to rational requirements. In particular, someone who experiences a recalcitrant emotion seems to be required to change either her emotion or her judgement to resolve the conflict. No such requirement seems to be in order in the case of sensory illusions: “[...] it makes no sense to claim that someone experiencing the Müller-Lyer illusion should either stop seeing the lines as unequal, or change her perceptual belief.” (2007, p. 276)

There thus appears to be an important difference between emotions and sensory perceptions, one that would seem to seriously threaten the

perceptual account. A first move that might be considered in reply is simply to reject the claim that emotions and sensory perceptions differ with respect to their relation to rationality. This could be so because neither recalcitrant emotions nor sensory illusion are properly described as irrational and properly considered to be subject to rationality requirements. Or it could be so because both sensory illusions and recalcitrant emotions are irrational, so that both would be subject to rationality requirements. None of these options has much initial plausibility. So, it looks more promising to try and make room for the connection of emotions to rationality within a perceptual account.

Before presenting what I take to be the correct solution to what one could call the “rationality problem”, let me discuss two proposals that have recently been made.^{xxviii}

2. 1) *The focus of attention*. According to Brady, the difference between emotions and sensory perception is grounded in the relation between emotions and attention, something that makes for a significant difference between emotions and sensory perceptions. As Brady notes, emotions typically have an impact on attention. Indeed, some emotions, such as fear

or shame, have an important impact on attention: “[...] emotions such as fear and shame do not just automatically and reflexively direct and focus attention: they also *capture* and *consume* attention.” (2007, p. 279; see also Brady 2008) The influence of emotions on attention has been underlined by philosophers as well as by empirical researchers, such as neurologists and psychologists.^{xxix} In fact, it seems that one important function of emotions is to orient the attention on emotional stimuli. As Derryberry and Tucker put it, emotions “[...] serve to regulate orienting, directing attention toward perceptual information that is important or relevant to the current state.” (1994, p. 170)^{xxx}

Now, according to Brady, the tight connection between emotion and attention explains why recalcitrant emotions, but not sensory illusions, are irrational. The irrationality comes from the fact that the recalcitrant emotion consists in what is considered by the person who experiences the emotion as an unnecessary focusing of attention. In Brady’s own words: “[...] this means that the persistence of attention in recalcitrant emotion is, by the subject’s own lights, a *waste* of his attentional resources.” (2007, p. 281). For example, given that you judge that there is no reason to be afraid of this dog, you are likely to judge that

focusing on the dog to check the accuracy of your perception is a waste of time and energy. Brady concludes that “[...] recalcitrant emotions involve conflict between *three* elements: a perception of value, a conviction that this perception is inaccurate, and – in spite of this conviction – a continued attempt to determine the accuracy of the perception.” (2007, p. 281)

This is an ingenious proposal, but it is open to serious objections. A first problem is that Brady’s explanation would only hold for a limited number of emotions. Different kinds of emotions have quite different relations to attention. It has to be underlined that there is in fact a variety of attentional phenomena. Selectivity in information processing, be it voluntary or involuntary, is considered to be the essence of attention.^{xxxii} However, different aspects of attention are usually distinguished. First, there are the different movements of attention, such as orienting oneself towards, or shifting away from a stimulus, as well as the maintenance of attention on the stimulus. Then, there are differences in the scope of attention. Attention can zoom in and concentrate on details, or it can zoom out and focus on global features. Finally, vigilance or alertness, as a state in which attention is not yet focused on anything, but is ready to focus on a range of stimuli, is also considered to be an important form of attention.

What is important to underline, is that different types of emotions can involve different kinds of attentional phenomena. Quite generally, there seems to be a difference between negative and positive emotions. As Barbara Fredrickson argues, a number of studies suggest that “[...] negative emotional states – particularly high arousal ones like anxiety and fear – serve to narrow people’s attentional focus [...]”, while “[...] positive emotions, even high-arousal such as elation and mania, lead to an opposite effect: an expansion of attentional focus.” (1998, p. 307)^{xxxii} In fact, even more fine-grained distinctions are required. While interest comes with an orienting of attention towards its object and the maintenance of attention towards it, this does not seem true in the case of happiness, where attention is likely to wander away from what we are happy about. If we consider negative emotions, it would seem that when experiencing disgust your attention often quickly shifts away from the object of your disgust – what Kenneth Hugdahl and Kjell Morten Stormark have called “cognitive avoidance”^{xxxiii} – while it tends to orient itself towards the object of fear or anger. Or consider boredom: if you are bored while watching a film, your attention will simply drift away. Vigilance or alertness, another form of attention, is something that would seem to

come with fear and perhaps anger, but certainly not with boredom or sadness.

Now, the problem with Brady's suggestion is that all these emotions – anger, disgust, boredom, interest, and joy – allow for recalcitrance. However, given the difference with respect to attention, their irrationality could not be explained in the same neat way as it can in the case of fear. Maybe it could nonetheless be suggested that by the agent's light, emotional illusions mess up – in one way or another – with the agent's attention. But this claim would need to be substantiated.

Another problem is that the emotions' attentional influence is insufficient to explain the accusation of irrationality. To see this, let us suppose that sensory perceptions also influence our attention.^{xxxiv} Seeing a bent stick that is half-immersed in water, for instance, would get you to focus your attention on the stick and its strange shape. Now, if you simultaneously judge that the stick is straight, does this entail that your perception is a waste of attentional resources and thus irrational? This is far from clear. In fact, it is not even clear that you would judge that having your attention focused at the stick is a waste of attentional resources. After all, you might well be puzzled by the strange shape the stick appears to

have when you plunged it into the water.^{xxxv} Moreover, the fact that your attention happens to be captured by the bent stick might be considered to be less than ideal, but since there is not much you can do about it, it is not clear that it warrants the accusation of irrationality.

In a follow-up paper, Brady argues that the irrationality is due to the fact that the capture and consumption of attention involves epistemic and motivational inclinations: it inclines the agent to assent to an evaluative construal and to act according to this evaluative construal (Brady 2008). Now, it is certainly true that emotions come with epistemic inclinations. However, this is also true of sensory perceptions: when you see the stick as bent, you are surely inclined to believe that it is bent. It might thus be more promising to appeal to the idea that emotions involve motivational inclinations. Though even an emotion like fear does not, in fact, necessarily involve behavioural tendencies, it is true that many emotions facilitates action given their physiological underpinnings. Moreover, an emotion such as fear also generally involves a desire that sets a goal, such as the avoidance of a specific harm or loss.^{xxxvi} So, even if perceiving the stick as bent might lead to inappropriate action, there would be a significant difference between sensory illusions and emotional

illusions. As such, sensory perceptions neither facilitate actions nor involve desires. This is so at least if we assume that sensory perceptions neither facilitate actions nor involve desires. This assumption is controversial, but let us make it for the sake of argument.

Would we then have an explanation of why only emotional illusions involve irrationality? One problem with this suggestion is, again, its lack of generality. Not all emotions involve motivational inclinations. Consider admiration. You can certainly admire someone without being primed to act in certain ways, and without necessarily having a corresponding desire. Moreover, the question arises why the lack of motivational inclination would make such a difference. There is no question that there is something wrong with both sensory illusions and emotional illusions. But why would the mere fact that sensory illusions lack motivational inclinations immunize them against irrationality accusations? The close tie to motivational inclinations might explain why we suspect many emotions to lead to practical irrationality, but as such, it fails to explain why we are inclined to consider recalcitrant emotions to be irrational as such.

2.2) *Rational control of emotions*. Let me turn to a second and better explanation, which is proposed by D'Arms and Jacobson (2003). D'Arms and Jacobson consider the case in which the recalcitrant emotion, and not the judgement, is to blame, and wonder how it can be that we assess such an emotion in terms of rationality: "If fear is indeed a tropism – an involuntary, reflexive reaction – then in what sense is it *unreasonable* when one knows one isn't in danger? If fear need not involve the thought that one is in danger, then why should it yield to the judgment that one is not actually in danger, as Deigh suggests? In what sense is it recalcitrant? [...] [H]uman beings are evidently able to exert some measure of rational control over their emotional responses." (2003, p. 144) According to D'Arms and Jacobson, we not only critically assess our emotions in terms of their fittingness, something which "[...] can ground the specific force of the 'should' in Deigh's claim [...]" (2003, p. 145), but these critical assessments can also have an impact on what we feel.

I think that this explanation points towards the right direction, but it will not do as it stands. We might have some control over our emotions – we can take a deep breath in order to try and calm down when we are afraid, or we can go for a walk when we feel anger, for instance (Ben-

Ze'ev 2000). But in general, as we have seen above, the emotional experiences we undergo are automatic responses to the world. They are world-guided and not subject to the will.

What is true, however, is that we can have a considerable influence on our emotional dispositions. This is the heart of what I consider to be the correct solution to the rationality problem.

2.3) *The plasticity of emotional systems.* Quite generally, emotional systems manifest an important degree of plasticity, in the sense that they are largely shaped, and can also be reshaped, by their socio-cultural environment (Prinz 2004, p. 234; Faucher and Tappolet 2008b). Though there is disagreement about the exact degree of plasticity, this is something that is acknowledged both by biological determinists (Ekman 2003; Tooby and Cosmides 1990), who claim that basic emotions are pan-culturally and universally shared as well as innate, and social constructivists (Harré 1986; Averill 1985; Armon-Jones 1986), according to whom emotions are complex structures, composed of cognitions, expressions, experiences, action tendencies, etc., that are created and disseminated by socio-cultural groups. For instance, biological

determinists claim that while fear is adapted to dangers, disgust to noxious stimuli, etc., the specific conditions that elicit our emotional responses may depend on the natural or cultural environment of the individual. Learning is involved in selecting which stimuli activate the emotional systems. And this learning can depend on the natural and social environment. For instance, though it is generally believed that the Rhesus monkey's disposition to fear snakes is innate, it is also acknowledged that this disposition puts itself into place only when the young monkey sees other monkeys manifesting fear when confronted with snakes.^{xxxvii}

Now, what seems clear is that our emotional systems are much more plastic than our ordinary perceptual systems.^{xxxviii} Though both emotions and sensory perceptions have the characteristics of Fodorian modules, emotions are not, or at least much less, diachronically modular, compared to sensory perceptions. Hence, though there is often little we can do about it at the time we experience the emotion, there is nonetheless good reason to subject emotions to rational requirements and to consider inaccurate emotions as not just inaccurate but also as irrational. The irrationality accusation is an indication that something is wrong with the

emotional system that is responsible for the emotional reaction. But it is also the claim that something *ought* to be done to improve the reliability of that emotional system. The important point is that there is some hope that we can get rid of inaccurate emotions. Although there is a debate about the efficacy of both drugs and psychotherapies, nobody doubts that it is possible to undergo deep changes in our emotional dispositions, would it be only by immersing ourselves in a different kind of environment. If our emotional systems lacked plasticity, it would not make sense to require that we try and improve them.

This solution has the advantage of being thoroughly general. All of our emotional dispositions are plastic. Moreover, it is perfectly consistent with the claim that emotions are a kind of perceptions. The claim that emotional dispositions are plastic does not take away any of the analogies between emotions and sensory perceptions. To assess this solution fully, we would need to have a better idea of what rationality and irrationality involve. In particular, we would need to examine the idea that rationality requirements are tied to the possibility of satisfying them.^{xxxix} In any case, one of the main merits of this solution is that it draws the attention to an important and often underestimated feature of emotions.

Conclusion

As we have seen, emotions can misfire. We can overreact, such as when we feel too much fear with respect to something, or we can under-react, such as we feel too little or no fear with respect to something. I have argued for a perceptual account of emotions, which entails that such misfiring is sufficiently similar to sensory misfiring to justify the claim that recalcitrant emotions are a kind of perceptual illusion. This does not mean that there are no differences between emotions and sensory perceptions. For one thing, emotions and sensory perceptions often differ with respect to their relation to action. Many emotions facilitate actions and involve desires. Moreover, emotional systems are more plastic than perceptual systems. We cannot hope to learn to see the lines of the Müller-Lyer illusion as having the same length, but we can hope to lose one's emotional illusions.

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ⁱ Occurrent emotions are episodes of emotions that are experienced at a certain time by a certain person (see Lyons 1980, pp. 53-57). Another useful distinction to be made is between long-lived emotional states, such as Marcel's jealousy for Albertine, to borrow an example from Peter Goldie (2000), and shorter emotional episodes, such as the disgust you

experience when seeing a rotten corpse. Both philosophers and psychologists have in general concentrated on such short-lived emotions and I will follow their lead.

ii But see de Sousa 1987 for the claim that emotions are *sui generis* states. On his view, the analogy with perception is nonetheless important. He speaks of emotions as “apprehensions” of values”. In a later text, de Sousa claims that some emotions “are plausibly characterized as perceptions of values.” (2002, p. 255)

iii But see Tye 1995 and Matthen 2005 for the claim that sensations have representational content.

iv But see Stampe 1987 for the claim that desires represent something as being desirable.

v Note that Prinz does not count perceptual accounts as cognitive, but this is only because he has a narrower and somewhat idiosyncratic use of the term “cognitive”, according to which cognitive states are states “[...] that exploit the representations that are under the control of an organism rather than under the control of the environment.” (2004, p. 45) I find the broader use of the term, which stresses its link with knowledge, more congenial.

^{vi} I assume that perceptions need not be factive; they can be incorrect. There is some disagreement about the ontological status of what emotions represent. Prinz, for instance, claims that emotion represent relative properties, such as being dangerous or poisonous to an organism (Prinz 2004, pp. 60-63). Alternatively, one can claim that what is represented are response-dependent properties, that is, properties which cannot be understood without reference to a kind of response. Contrary to what Prinz suggests, response-dependent properties need not be subjective in the sense that their instantiation would depend on the response. Such properties can be perfectly objective (see Wiggins 1976; Pettit 1991). In any case, it is plausible that the ontological status of what emotions represent is the same as that of the properties represented in sensory perception, such as shapes or colours.

^{vii} For the distinction between basic emotions and higher-cognitive emotions, see Ekman & Friesen 1975, Griffiths 1997, Ekman 1999, and D'Arms and Jacobson 2003.

^{viii} Another possibility is that emotions do not consist in, but depend on value perceptions. See Scheler 1913-16; Robinson 2005; and Mulligan 2007.

^{ix} See Tappolet 2000, chap. 6; and Prinz 2004, chap. 10 and 2008.

^x See de Sousa 1987; Damasio 1994; Wells and Matthew 1994; for a survey, see Faucher and Tappolet 2002.

^{xi} See Evans 1982; Crane 1992; Bermudez 1998; Tye 2006.

^{xii} See Morreal 1993; Deigh 1994.

^{xiii} See Rorty 1978; Greenspan 1988; Deigh 1994; D'Arms and Jacobson 2003.

^{xiv} See Greenspan 1988 for thoughts and Roberts 2003 for construals.

^{xv} For explicit statements of this claim, see Tappolet 1995 and 2000, chap. 6; Tye 2006, pp. 13-14; Prinz 2007, p. 61.

^{xvi} See Tappolet 2000, p. 154; D'Arms and Jacobson 2003, p. 142; Prinz 2008, pp. 157-8.

^{xvii} See Fodor 1983.

^{xviii} This is why Prinz speaks of "stimulus dependence" instead of informational encapsulation and of "quasi-modularity" instead of modularity.

^{xix} See Fodor 2000, p. 63. For more details, see Faucher and Tappolet 2008a.

^{xx} See Charland 1995; Griffiths 1997; Öhman and Mineka 2001; Prinz 2004 and especially Prinz 2008, pp. 154-158.

^{xxi} Note that it is generally assumed that these features allow for degrees: a system can be more or less modular. Prinz also suggests that modularity is a cluster concept: not all the features need to be present for a system to count as modular (2004, p. 232).

^{xxii} See also Chwalisz et al. 1988.

^{xxiii} See Ekman and Friesen 1975. Ekman has recently proposed a list of fifteen basic emotions: amusement, anger, contempt, contentment, disgust, embarrassment, excitement, fear, guilt, pride in achievement, relief, sadness, satisfaction, sensory pleasure, shame (Ekman 1999). Note that there is some disagreement about such lists and the inclusion criteria. See Prinz 2004, pp. 86-91.

^{xxiv} D'Arms and Jacobson suggest that the perceptual account is only true of what they call "natural emotions", such as, amusement, anger, contempt, disgust, embarrassment, envy, fear, guilt, jealousy, joy, pity, pride, shame and sorrow, a list which is close to current basic emotions lists. But the account would not work for what they call "cognitive sharpenings", such as homesickness, religious awe or "tenure rage". Cognitive sharpenings are a type of emotions "constructed by specifying a subclass of instances of an emotion, or other affective state, in terms of

some thought that they happen to share.” (2003, p. 137) For instance, tenure rage is considered to be a cognitive sharpening of anger because you need to believe that you have been denied tenure in order to experience this emotion. They argue that cognitive sharpenings do not allow for stable recalcitrance (2003, pp.142-143). This, however, seems false. It is true by definition that you cannot experience tenure rage without also believing that you’ve been denied tenure. But you certainly can experience tenure rage without making any evaluative judgement about having been denied tenure, or even while believing that there is nothing wrong in the decision.

^{xxv} See Helm 2001; also see Brady 2007, esp. pp. 275-6.

^{xxvi} See Helm 2001, p. 45. It is tempting to think that what Helm calls “evaluative feelings” are a kind of perception, but this interpretation would sit ill with Helm’s argument.

^{xxvii} See de Sousa 1987, p. 122.

^{xxviii} For convincing arguments against Robert Roberts’ (2003) suggestion that the irrationality comes from the fact that emotions are concern-based representations, see Helm 2001, p. 43 and Brady 2007, p. 277. As Brady

notes, one problem with this suggestion is that we can assume that we have a deep concern that our sensory perceptions are correct.

^{xxix} See de Sousa 1987; Damasio 1994; Ledoux 1996; Wells and Matthew 1994; Vuilleumier et al. 2003. For a survey, see Faucher and Tappolet 2002.

^{xxx} See also de Sousa 1987, p.195; Vuilleumier, Armony and Dolan 2003, p. 419; Brady 2007, p. 278.

^{xxxi} See James 1890; Duncan 1999; Matthews and Wells 1999.

^{xxxii} See also Frederickson and Branigan 2005 and Derryberry & Tucker 1994.

^{xxxiii} Kenneth Hugdahl and Kjell Morten Stormark claim that there is cognitive avoidance of aversive stimuli: "We believe that this effect may have been caused by cognitive avoidance in the sense that, after initial perception and registration of the cue, the participant actively avoids further processing if the stimulus is perceived as aversive. Thus there seems to be a mechanism of rapid disengagement of attention from the cue when it is aversive, moving attention to different spatial location." (2003, p. 289)

^{xxxiv} In fact, as is suggested in Bianchi, Savardi, and Kubovy, *this volume*, the recognition that one has been let down by our perceptual system

produces a concern, a state that is naturally taken to involve attentional focus.

^{xxxv} Thanks to Clotilde Calabi for pointing this out.

^{xxxvi} See Tappolet, *forthcoming*. Note that fears felt with respect to fiction appear not to involve such a desire.

^{xxxvii} See Mineka et al. 1984, quoted by Prinz 2004, p. 104.

^{xxxviii} But see Prinz 2004, p. 234, who refers to Gregory's (1966) suggestion that the Müller-Lyer illusion occurs only in cultures whose members see many sharp corners. Emotions and sensory perceptions would not be different, for they would both allow for slow and gradual cultural influences.

^{xxxix} It might be objected that my argument relies on the assumption that only states that are subject to the will can be assessed in terms of rationality. However, the plasticity of emotional systems does not entail that our emotional dispositions are directly subject the will. Thanks to Kevin Mulligan for raising this issue.