

Appraisals, Emotions, and Inherited Intentional Objects

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Abstract

Modern appraisal theories inherited a problem from the Schachter theory: are emotions directed at intentional objects, and if so, why? On both theories the emotion is initiated by some sort of cognitive state, which according to Schachter produces a state of arousal, and according to appraisal theorists a cluster of emotion-specific states. If cognitions are components of the emotional state it may seem like we can explain why emotions inherit objects from those cognitions. In this article I focus on appraisal theories, and argue that appraisals are emotional components because they are synchronized with other emotion subsystems. However, emotions do not inherit their intentional objects from appraisals, because the appraisals that are emotional components are generic, rather than object-directed.

Keywords

appraisal, emotion, intentionality, mood

The relationship between appraisals and emotions is a fundamental unresolved issue within appraisal theory. Ellsworth and Scherer (2003, p. 575) describe two versions of modern appraisal theory. In one, appraisals merely cause emotions; in the other, they are constituents of emotions (see also Moors, 2013). Schachter and Singer's (1962) cognition–arousal theory raises the same question. Like modern appraisal theories, Schachter's theory posits a cognitive state that has emotional effects. Interpreters of Schachter's theory are divided about the precise relationship between cognition and emotion (see Reizenzein, 2017 and Shaked & Clore, 2017). Appraisal theorists have a much more elaborate theory about the cognitive elicitors of emotional responses than Schachter, and they are committed to more diverse and complex “downstream” effects of appraisals. However, their debate about the relationship between appraisal and emotion (is the appraisal merely the cause of the emotion, or is it part of the emotion?) is otherwise parallel to the debate that cognition–arousal theorists left unresolved.

This problem may remain unresolved because researchers lack urgency. Indeed, it is possible to carry out research within the appraisal theory paradigm while remaining neutral about whether appraisals cause or are constituents of emotions. However, as Deonna and Scherer (2010) have

emphasized, there is at least one issue that depends on the status of appraisals. Within the philosophy of emotions, it is almost universally accepted that emotions are about something—they have intentional objects. For example, when one is angry or afraid, one is at least normally *angry at* and *afraid of someone or something*. Psychologists, to the extent that they address the issue of intentionality at all, largely agree. According to Deonna and Scherer's (2010) reading of the Schachter theory, the cognition that causes bodily arousal is not part of the emotion—the emotion is just the resulting state of arousal (although perhaps arousal that has been caused in a particular way, i.e., by an appraisal of the eliciting event; see Gordon, 1978). Whereas the cognition has an intentional object, the feeling of arousal that it produces does not; and since this feeling *is* the emotion, it follows that the emotion lacks intentionality—counter to the received view. Deonna and Scherer (2010) take this to be a major flaw of the “causalist” version of Schachter's theory and argue that this flaw has been inherited by several other theories of emotions, including the causalist appraisal theories. To solve this problem within appraisal theory, it may therefore seem prudent to adopt the “constitutive” interpretation of Schachter's theory, according to which appraisals are components of the emotion,

or components of a fused mental state that results from the integration of appraisal and arousal (see Reisenzein, 2017).

In line with this reasoning, appraisals are regarded as constituents of the emotion in Scherer's (2009) own version of appraisal theory. This assumption seems to solve the problem of intentionality: Even if the emotion components caused by the appraisal lack intentional objects, including appraisals into the emotion seems to explain the intentionality of the whole, composite state. Because the part-whole theory seems to explain the intentionality of emotions whereas the causal theory does not, we should favor the part-whole theory.

In this article, I will argue that this move is too quick, for two reasons. First, the argument from intentionality to the part-whole theory (the theory that appraisals are components of emotions) presupposes that emotions are indeed object-directed in the same sense as the paradigm intentional states, beliefs, and desires. Despite its widespread acceptance in philosophy and psychology, this assumption has been disputed by some authors (e.g., Shargel, 2015 and Whiting, 2011, in philosophy; and Reisenzein, 2012, in psychology). Second, even if appraisals are components of emotions, we still need an argument for the claim that the emotion inherits its object from the appraisal.

I believe that to convincingly solve the cause/constituent problem, we need to address two antecedent issues. First, we need to show that there are strong independent reasons for considering appraisals as constituents of emotions. Second, we need to show that these independent reasons for considering appraisals as emotion constituents are consistent with the assumption that emotions inherit intentional objects from appraisals.

The primary objective of this article is to lay this necessary groundwork for resolving the cause/component issue. I will do so by discussing two possible independent reasons for considering appraisals to be constituents of emotions: (a) emotional appraisals are part of a distinctively emotional process; (b) (as Scherer [2009] argues) appraisals are synchronized with the cluster of emotional features that they initiate. I will argue that the first proposal is unconvincing, and that the second warrants at best the inference that generic appraisals (e.g., representing generic goal congruence), but not object-specific appraisals (e.g., representing that a specific object is goal congruent), are components of emotional states. Hence, neither proposal provides a convincing reason for believing that emotions contain *object-specific* appraisals as components.

To further support this conclusion, I will argue that it is consistent with what Scherer (2009) writes about bidirectional causal links between appraisals and other emotion components, as well as with analogous bidirectional influences between cognition and affect proposed in the affect-as-information theory (Schwarz & Clore, 1983, 2003) and related formulations (DeSteno, Petty, Wegener, & Rucker, 2000). If emotions do not contain object-specific appraisals as components (but only generic ones), then they cannot inherit the specific objects of appraisals. While Deonna and Scherer (2010) have raised an evolutionary argument that emotions must have specific objects, I will argue that this argument can be rebutted. If there is no satisfactory explanation for how emotions would get specific

objects, and also no reason to believe that emotions must have them, we ought to conclude that emotions do not have them.

The Distinctive Process View

The term "intentionality" is often glossed as aboutness, directedness, or representation. The difference between the desire to eat an apple and the desire to eat an orange is that the two desires are *about* or *for* different things: to eat the apple in one case, and to eat the orange in the other. These are the intentional objects of the desires. Jerry Fodor (1987) argues that our ordinary way of explaining and predicting behavior is reliant on attributing intentional states such as beliefs and desires with suitable intentional objects. If I am exploring a new neighborhood and I see two similar restaurants, but one has a long wait, I will infer that the latter restaurant is better. After all, people desire to eat good food, and most people do not desire to wait in lines, so the crowded restaurant is probably better enough to justify the wait. In providing this type of explanation, people are committed to the view that beliefs and desires have intentional objects.

Appraisal theory seems in principle well suited to explain the intentionality of emotions. Appraisals, on any ordinary conception, certainly do have intentional objects: If I run into a friend on the street and feel joy, the appraisals that initiate my joy are about my friend, or the fact that I met him. According to the standard view of emotions as object-directed, the resulting state of joy is also about my friend, or my meeting him. Generalizing from this case, it seems natural to say that an appraisal with intentional object *o* will cause an emotion that is also directed at *o*. I call this the *inheritance view*, since it claims that emotions inherit their objects from appraisals. Despite its intuitive appeal, we need to examine the inheritance view in more detail, to see whether it is consistent with our best-supported theories.

The most convincing way to justify the inheritance view is to assume that appraisals are part of emotions (the limiting case would be that appraisals are identical with the emotions). If the appraisal of an object is part of the emotion, then the emotion is simply directed at the object at which its appraisal component is directed. This raises the question: how do we decide whether appraisals really are part of emotions, as opposed to being merely their causes? One answer is that appraisals must be part of the emotions because otherwise we could not explain why emotions have intentional objects. However, this argument presupposes that emotions really do have intentional objects, and this, as mentioned, is not universally accepted. In fact, I will argue in the In Search of a Primary Effect section that appraisal theory is perfectly compatible with the view that emotions lack intentional objects.

Therefore, we should search for good arguments for considering appraisals to be part of emotions. I will examine two such arguments. The first argument claims that emotions are a distinct type of mental process, and that appraisals form the first stage of that process. I will call this the *distinctive process view*. The emotion process begins with an appraisal and continues with altered motivations, physiology, and other responses. Appraisals are part of the emotion because they are part of this

distinctively emotional process. The alternative view is that the emotion process does not begin until after the appraisal stage and therefore only the effects of appraisals are constituents of the emotion. In order to evaluate these two views, we need to know what (if anything) distinguishes emotional processes from their nonemotional counterparts.

To answer this question, let us compare two cases of mental and behavioral processes which are very similar, except that only one of them involves an emotional response. Two fathers, Aaron and Patrick, try to persuade their daughters, Natalie and Lily, to share toys with their younger siblings. After both children refuse, their fathers punish them by taking away the toys. But there is a difference: Natalie has made her father Aaron angry, whereas Lily's father, Patrick, remains calm throughout the whole episode. Patrick offers the same rebuke as Aaron, and he applies the same punishment, but he does so out of a calm calculation of what will teach his daughter the right lesson.

Looking at the two cases from a distance, both are in some respects characteristic of anger. Both Natalie and Lily willfully violate established norms, and both fathers respond in the same way to the perceived norm violation. However, anger is present only in Aaron's case. What, exactly, accounts for the difference between the two cases? Before trying to answer this question, note that although the example concerns anger, similar comparisons could be made for any other emotion. Sometimes we fearfully avoid danger, and sometimes we avoid danger without fear. Sometimes we are motivated by disgust to avoid spoiled food, and sometimes we avoid the rotten food with a calm stomach. A theory of emotion that does not allow us to make these distinctions fails to capture what we really mean by anger, fear, or disgust. How does the appraisal theorist explain the difference between the two cases?

It seems that appraisal theorists have two main strategies to deal with these cases. The first strategy is to argue that the appraisals that initiate emotions are different from the appraisals that figure in dispassionate decision-making. This strategy was adopted by Magda Arnold (1960), who pioneered appraisal theory in psychology (see Reisenzein, 2006), and her proposal fits well with the dual process approach in recent psychology (see e.g., Evans, 2003). On this view, conscious, slow, rational processes operate in parallel to unconscious, fast, emotional processes. In the example, Patrick's mental processing of his child's behavior was dominated by a rational appraisal process, whereas Aaron's was dominated by an emotional appraisal process. Similar proposals have also been made by philosophers. For example, analogous to my example of the two fathers, Tamar Gendler (2008) compares two airline passengers ready to board the plane, Barbara and Allison. Both have made the same considered judgment that flying is the safest way to travel, and that it is safer than many other things we do on a daily basis. However, whereas Allison is pierced through with fear and regrets her decision to travel by plane, Barbara is calm and relaxed. How can this difference between the two passengers be explained? By assumption, both have the belief (appraisal) that flying is safe; however, according to Gendler (2008), Allison has an additional "alief" that flying is

extremely dangerous. This alief is a nonconscious appraisal that has the power to initiate emotions. Thus, emotions are elicited by a special class of appraisals. This conclusion is consistent with the distinctive process view.

There are three problems with this strategy. First, it is hard to understand why an otherwise identical appraisal (e.g., the belief that one's child has committed a norm violation) should elicit an emotion if it is fast, unconscious, and automatic, but fail to elicit the emotion if it is slow, conscious, and nonautomatic. Second, everyday cases strongly suggest that slow, conscious appraisals can elicit emotions as well. Third, possibly to account for these cases, the distinctive process view seems to have been largely abandoned by contemporary appraisal theorists, according to whom emotion-evoking appraisals can be made on both a fast, unconscious and a slow, conscious level of processing (e.g., Grandjean, Sander, & Scherer, 2008). But this implies that the standard version of contemporary appraisal theory does not distinguish appraisals that elicit emotions from appraisals that do not; or put differently, it does not distinguish appraisals from other cognitive processes.

If there is no special class of cognitive states that initiate emotions, then appraisal theorists cannot appeal to *appraisals* to distinguish emotional responses from their nonemotional counterparts. It may still be possible, however, to distinguish emotional from nonemotional responses in terms of their own, specific features. This is indeed argued by Scherer (2009) in his component process model (CPM). For Scherer, an emotion is defined by a special kind of integration of several component processes. The first component of the emotion is the appraisal. Every distinct appraisal pattern results in a different pattern of motivational and physiological changes, and these in turn feed into systems which produce distinct subjective feelings and conceptual labels. Furthermore, all components of the emotion are assumed to be linked to each other by bidirectional feedback loops, so that physiological changes can also influence motivation and appraisals.

However, even if it is true that all of the mentioned processes occur during emotional episodes, why should we consider all of them to be components of one thing, and why should we call that thing an emotion? Scherer answers this question indirectly in his explanation of the temporal development of an emotion: "the beginning of an emotion episode is defined by the synchronization or coherence of organismic subsystems beyond a certain threshold and its end by the coherence dropping below threshold" (Scherer, 2009, p. 1316). Hence, the defining feature of an emotion is the synchronization of mental and behavioral subsystems. Each emotion type is a different coherent way that the subsystems can be synchronized, and emotions count as unified entities because of the synchronization of their components.

This theory seems to be able to distinguish the emotional from the nonemotional cases described earlier without appealing to a special class of appraisals. If I protect myself against a danger while in a state of fear, I not only appraise an event as dangerous, this appraisal becomes synchronized with a particular set of bodily and motivational reactions for some stretch of time. An episode of fear is defined by the synchronization of the

danger responses, not by the appraisal alone. If the same appraisal occurs without this synchronization, then I will simply not be in a state of fear. To return to our example, the two fathers, Aaron and Patrick, may have formed the very same appraisal of their children's action (i.e., it is a norm violation). The difference between the two cases is that Aaron's appraisal, unlike Patrick's, gets synchronized with a set of responses in a way that is distinctive of anger. Aaron's anger set in once the subsystems were synchronized in this particular way, and it ended when their synchronization dropped below the threshold level.

Since appraisals are responsible for initiating the synchronization of the emotion components, how can the same appraisal (e.g., the belief that the child violated a social norm) lead to synchronization in one case but not in the other? To answer this question, one needs to consider that although the synchronization of the different subsystems engaged in an emotion is initiated by the appraisal, each subsystem is also influenced by other factors, as a result of which the same appraisal can result in quite different levels of synchronization. According to Scherer's (2009) synchronization theory of emotion, an emotion requires synchronization beyond a certain threshold. In some cases, therefore, an anger appraisal does not produce enough synchronization to pass the threshold, so it does not result in an emotion.

Two particularly important factors that can influence the emotional subsystems in addition to appraisals, and therefore facilitate or inhibit the formation of emotions, are (a) the pre-existing emotional state of the person and (b) the preexisting state of her physiological subsystem. For example, if an anger appraisal has already synchronized the emotional subsystems into a state of anger, then a new anger appraisal with a different object need not alter any of the subsystems. By contrast, if the individual is in a calm mood when he or she appraises an event as a norm violation, this appraisal will need to alter the emotional subsystems quite a bit to produce the right synchronization for anger.

Regarding the preexisting physiological state of the person, note that autonomic and somatic states are also adapted in response to our behavior and in response to conditions that alter homeostatic balance such as temperature, illness, or drugs. These conditions may influence the physiological state that exists at the time when an appraisal is made, and may therefore make it easier or more difficult for the appraisal to produce synchronization. Again, this helps to explain why the same appraisal causes an emotion in one case, but fails to do so in the other case.

It may seem to be at odds with appraisal theory to claim that an individual could have the full set of anger appraisals without entering a state of anger. Perhaps an appraisal theorist would have to say that Patrick is lacking some appraisal, perhaps the appraisal of concern relevance.¹ However, according to the CPM, different types of appraisals can form incompatible response clusters. In order for Patrick to become angry he needs to no longer remain calm. Patrick may, throughout this episode, have a set of appraisals (which are directed at a different object than the anger appraisals are) that induce or reinforce the subsystem states characteristic of calmness, thereby preventing the anger appraisals from altering those states. He may

also have just woken up from a deeply satisfying nap, so he would begin with a physiological state compatible with calmness, and incompatible with anger. Aaron, on the other hand, may have just gotten home after a long, irritating commute. If, as the CPM claims, emotions require synchronization among a set of response systems, and all types of appraisals compete with each other and with purely physiological states to influence those systems, it is entirely possible that qualitatively identical appraisals can produce different outcomes.

To sum up the discussion so far, I began by noting that it may be possible to explain the object-directedness of emotions if emotions include (object-specific) appraisals as constituents. However, I argued that to be fully convincing, the part-whole conception of emotions should be motivated by separate arguments. A strong case for the part-whole theory would be present if emotions are distinctive processes that begin with appraisals. However, according to Scherer's (2009) CPM and other appraisal theories, the appraisals that initiate emotions seem to be the same as those involved in dispassionate reasoning; hence the distinctive process view is rejected. It follows that if appraisal theorists want to include appraisals into the emotion, they need another rationale. This rationale, I argued, is provided by the synchronization theory, according to which emotions are synchronized patterns of changes in several subsystems including appraisals. In the next section, I will analyze the implications of the synchronization theory for the inheritance view of emotional intentionality by connecting it with a philosophical theory of natural kinds proposed by Richard Boyd (1991).

Homeostatic Synchronization

The CPM considers appraisals to be emotional constituents if they are synchronized with the other emotional subsystems. This inference from synchronization to unity has a strong philosophical pedigree. Richard Boyd (1991) observed that many scientifically relevant kinds cannot be identified by the presence of a single (or a set of several) essential property. Instead, they are identified by a collection of properties which is homeostatically integrated. A cluster of properties is homeostatically integrated if the occurrence of any property in this cluster reinforces the occurrence of each of the others. Because of this reinforcement, when we observe individual properties in a homeostatic cluster, we are justified in inferring the occurrence of the other properties. Because homeostatic clusters license these kinds of inferences, they can be included as natural kinds in scientific theories.

We can make Boyd's (1991) theory more concrete by applying it to the case of emotions as conceptualized in the CPM. Each emotion type, on the CPM, is a different way for the emotional subsystems to be synchronized. A specific appraisal pattern produces specific motivational and physiological states, and these motivational and physiological states reinforce each other for some stretch of time. The emotion episode is identical to this episode of synchronization. It is thus simple to translate between Scherer's and Boyd's terms: synchronized subsystems are states that have homeostatically integrated properties. Since motivational states reinforce corresponding physiological

states, and vice versa, it is useful to think of these synchronized subsystems as forming one, unified system state.

These synchronized states, or homeostatic clusters, are of interest from both the first- and third-person perspective. From the third-person perspective, they are useful for predicting and explaining behavior, particularly because some features of the physiological and expressive subsystems are publicly observable. Observing a person's facial expression, posture, and vocal inflection allows us to infer (with some probability) her current motivations. Also, if one has come to the conclusion (e.g., on the basis of contextual cues) that an individual has appraised an event in a particular way, one can infer that the person will probably undergo certain motivational and physiological changes. From the first-person perspective, homeostatic emotion clusters are of interest because it is important to regulate the emotion subsystems, both for effectively pursuing one's goals and for one's peace of mind. It should therefore also not be surprising that we would have assigned names to some of the most typical, significant, and conspicuous ways that these subsystems are synchronized: names such as fear, joy, and sadness.

Note that Boyd's (1991) homeostatic clusters require bidirectional causal links between the cluster elements, just as assumed by Scherer (2009) for emotion components. One-directional causal connections between appraisals and the other emotion components would be insufficient to distinguish emotional from nonemotional processes: a set of states with one-directional causal synchrony is just a distinctive causal process. I have already rejected the distinctive process view for the reason that appraisals are not distinctively emotional. Initiating emotions is just one role that they play, and they cannot initiate emotions without help from other states. Scherer's CPM, interpreted through Boyd, acknowledges this fact but provides a different rationale for including appraisals as emotional constituents. Emotions are identical to certain states of homeostatically integrated subsystems. Appraisals do not count as constituents because they initiate emotional responses, but because they are subsequently part of a homeostatic cluster.

To elaborate the homeostatic cluster view of emotions, two questions in particular need to be answered: (a) what systems participate in the synchronization, and (b) what are the ways in which they can be synchronized? According to Boyd's (1991) theory, the properties that belong to a cluster are the properties that are homeostatically integrated. In the case of emotions, a property is a type of subsystem state. Hence, a subsystem participates in anger if it enters a type of state that is homeostatically integrated with all of the other anger-specific, synchronized states. We can determine which systems have states that are constituents of anger empirically by determining which systems have a state that is a component of the integrated anger cluster.

A core thesis of the CPM is that every component of an appraisal pattern determines some feature of the resulting synchronized emotion process. Each subsystem enters a different state depending on the outcome of the appraisal process, and then reinforces corresponding states of the other subsystems. This explains the differences between emotions such as anger and sadness. Anger and sadness result from different appraisal

patterns, and they are different types of synchronization because they each involve a different type of state for each (or at least many) of the subsystems. Accordingly, we can tell how many types of emotion there are by counting the number of distinct ways the subsystems involved in emotions can be synchronized. For example, if each subsystem has 12 (to choose an arbitrary number) different states, each of which can be synchronized with one of the 12 states from the other subsystems, then there are 12 different types of emotions. The subsystems may vary in more than 12 ways, but the only relevant states, when it comes to the classification of emotions, are those that are synchronized with unique states of the other subsystems.

Let us suppose that the CPM is right, and that each appraisal pattern generates a different type of emotion. We still need to address the difference between emotions of the same kind that are directed at different objects, such as anger at p versus anger at q . Does an anger appraisal (i.e., an appraisal that, under the right circumstances, will evoke a synchronized anger state) directed at p produce a different type of synchronization of the emotion subsystems than an equivalent appraisal directed at q ? I will discuss some relevant evidence in section Evidence for Synchronization, but it is useful first to consider what we should say in either case. If the answer is yes, then we should say that the anger appraisal directed at p and that directed at q generate different types of emotions. And since the appraisals are components of the emotions, we would then have a good reason to say that the emotions themselves are directed at p or q , respectively.

But what should we say if equivalent appraisals directed at p and q initiate the same synchronized emotion states? It may seem tempting to still say in this case that the emotions are directed at p or q , depending on the intentional object of the initiating appraisal. However, this conclusion does not follow from the view of emotions as episodes of synchronized states. Since, by hypothesis, anger appraisals directed at p and q initiate identical states in the other subsystems, those subsystem states will indiscriminately reinforce any anger appraisals, regardless of their specific intentional objects. Therefore, the other subsystems are not really synchronized with anger appraisals directed at p or directed at q . They are only synchronized with *generic, nontargeted*, anger appraisals. Regardless of the object of the appraisal, the type of synchronization is the same. Since the emotion is just the synchronized state, the emotion is the same too.²

Perhaps, however, there is some other explanation of intentionality that is compatible with the part-whole theory and gives a different answer? The most promising candidate for such an alternative theory seems to be the attributional view of emotional intentionality. On the attributional view, an emotion is about whatever the subject believes to be its cause. As Russell (2003) explains, "In an attributed affect, a change in core affect is linked to its perceived cause. Sometimes the cause is obvious; sometimes a search is required; sometimes mistakes are made. Whatever cause is identified becomes the object" (Russell, 2003, p. 149). Now, this may indeed be a plausible description of how subjects would come to see their emotions (core affect in Russell's theory) to be directed at objects.³ That is, the

attributional theory may well be plausible as an explanation of *the appearance* of intentionality. However, intentionality is not the same thing as the appearance of intentionality. There are plenty of cases where they diverge. This, at least, is suggested by considering the paradigm cases of intentional states, desires, and beliefs. For example, an upset child may think that he wants to be left alone, but he really wants some company. Many people are surprised by the results of implicit attitude tests (Greenwald, McGhee, & Schwartz, 1998), indicating that they are unaware of their racial- or gender-related prejudices presumably revealed by these tests. In both cases, furthermore, the person's self-attributions are psychologically significant: the belief that he wants to be left alone may cause the child to isolate himself, and the belief that they do not have a particular prejudice may prevent people from addressing it. However, despite these attributions, the actual intentional states that they misrepresent remain causally efficacious. The child still does want company, and will not be satisfied alone. Our implicit biases influence our behavior despite our disbelief and disavowal. The causal powers of our attributions are distinct from the causal powers of the states that they are about, and states with different intentional objects have different causal powers. Therefore, just because we attribute objects to our emotions does not mean that the emotions thereby acquire these objects. The attributional theory of object-directedness could be accepted only if one assumes that, different from beliefs and desires, emotions do not have objects in the strict sense, but only attributed objects (as Russell, 2003, indeed believes).

In summary, in Part 2, I have argued that the view that emotions are states that contain appraisals as components can be defended if emotions are homeostatic clusters in Boyd's (1991) sense. However, this version of the part-whole view does not warrant the inference that emotions inherit their objects from appraisals, unless we have additional evidence that appraisals with different intentional objects initiate different types of synchronization among the emotional subsystems.

Evidence for Synchronization

According to the Schachter theory, appraisals produce undifferentiated arousal, and participants interpret their feelings of arousal (produced by appraisals or by physiological manipulation) based on contextual factors. Partly influenced by Schachter and Singer's theory (1962), Schwarz and Clore (2003) proposed that people use their current affective feelings to interpret how they relate to the environment. For example, when we feel anger, we infer that we have been wronged; when we feel sad, we infer that we have suffered a loss. We can then use these inferences to inform our judgments about whatever the feelings seem to be about, for example, that this particular person has wronged us, or that that particular event is a personal loss. The problem we face in this task is that affective feelings do not, by themselves, tell us what they are about. In the case of moods, which are distinguished from emotions by having no salient, specific objects, this may leave us wondering: how was I wronged? What did I lose? To answer these questions, we need

to make inferences on the basis of contextual factors, which is an error-prone process.

Schwarz and Clore (2003) argue that we are in a better epistemic position with our emotions. They distinguish emotions from moods in the following way: "specific emotions are based on appraisals that carry their own source attribution . . . Hence, emotions inform us about the source entailed in the appraisal and are less likely to be misread as responses to other targets" (p. 300). Hence, the epistemic advantage we have in the case of emotions compared to moods is not based on an intrinsic difference in affective feelings; it derives solely from the continued presence of the appraisal that initiated the emotion. In emotions in contrast to moods, that appraisal is still present when the feeling occurs, and normally it is also conscious. This allows us to easily identify the appraisal as the cause of the affective feeling. Beyond that, however, emotions provide no epistemic advantage over moods.

The affect-as-information model has implications for the question of whether or not emotions inherit their objects from appraisals. To see this, it is helpful to redescribe this model in terms of the CPM. Although I have so far focused on the motivational and physiological components of emotions posited in the CPM, the theory also includes affective feelings as part of the synchronized emotion cluster and assumes that such feelings reciprocally influence appraisal. In this, the CPM agrees with the affect-as-information model, which, as said, assumes that *affective feelings* reciprocally influence appraisals. There is still a difference between the two theories: According to the affect-as-information model, affective feelings do not change appraisals automatically, rather, we can use our feeling in a controlled, deliberate manner to adjust our appraisals if we attribute them to matching objects. However, I believe that this difference is ultimately not decisive. Furthermore, DeSteno et al. (2000) have proposed a modified version of the affect-as-information theory that, just like the CPM, assumes that the influence of affective feelings on appraisals is automatic. According to this modified version of the model, which has been empirically supported (DeSteno et al., 2000), emotional feelings have an automatic biasing effect on judgments, but people sometimes use their attributions (their beliefs about the causes of their feelings) to correct these automatic judgments.

The critical point is that in both versions of the theory, the feeling does not by itself convey any information about the object of the appraisal that produced it. Indeed, there is no intrinsic difference between feelings produced by appraisals with different objects. If there was an intrinsic difference, we would not need to rely on conscious appraisals and situational factors to determine what our feelings are about.

In section Homeostatic Synchronization, I proposed that if otherwise identical appraisals with different objects produce the same emotional response cluster, then only generic appraisals, rather than appraisals with specific intentional objects, are part of the emotion. As I have said, according to the affect-as-information theory, appraisals with different objects produce intrinsically identical feelings. The only practical difference between anger at p and anger at q is that these two emotional states are caused by appraisals directed at p and q , respectively, which we

can use to form attributions about the objects of the emotions, and these attributions then guide subsequent appraisals. However, as argued before, attributions of intentional objects are at best responsible for the appearance of intentionality, not for the actual phenomenon. Therefore, if we use the affect-as-information model to inform our interpretation of affective feelings in the CPM, the conclusion is (again) that emotions do not inherit intentional objects from appraisals.

My interpretation of the affect-as-information theory and the related theory of DeSteno et al. (2000) raises, however, a serious objection. This objection is that, although affective feelings are assumed in these theories to have a generic influence on appraisals, this influence might only be a side effect. The affective feelings may also have a separate, primary influence on the appraisals of the object that caused them. If this primary effect exists, object-specific appraisals rather than just generic ones should be regarded as components of the emotion cluster; and in this case, the inheritance view of emotional objects would after all be vindicated.

Because the validity of this objection depends on the existence of the primary effect, it can only be answered by empirical data. The proposed primary effect was not measured in the DeSteno et al. (2000) experiment nor in other similar experiments I am aware of. Therefore, there seems to be, at present, no experimental evidence that could decide the issue. And although several everyday phenomena could be interpreted as evidence for a primary effect, I believe that other plausible interpretations of this evidence are available (see Shargel, 2015, and the next section). On my reading of the affect-as-information theory and its close theoretical neighbors, these theories assume that there is no additional, primary effect of affective feelings on appraisals. Since these theories have supported a long, productive research program, we should assume that there is no primary effect until we have evidence for its existence. Therefore, object-specific appraisals should not be regarded as components of emotions.

In Search of a Primary Effect

I have argued that a popular, well-established research program explains the manner in which emotions modulate appraisals without appealing to a primary effect of feelings on appraisals: According to the affect-as-information and related views, the direct effect of emotions on appraisals is purely generic, with all observed object-specific effects mediated by attributions. This argument, however, provides only initial credibility for my thesis. In this section I will try to reinforce my argument in two ways. First, I will argue that Scherer (2009), in his description of the causal relations between appraisals and other emotional constituents, does not assume a primary effect either. Second, I will present an interpretation of the CPM according to which the absence of a primary effect is an adaptive feature.

According to Scherer (2009), the CPM model of emotions:

[A]ssumes bidirectional influences between appraisal and various cognitive functions. For example, minimal attention needs to be given for appraisal to start, but a relevant outcome will immediately deploy

further attention to the stimulus. Stimulus features are compared with schemata in memory but strongly relevant stimulus features will, following appropriate appraisal, be stored as emotional schemata in memory. Event consequences are compared with current motivational states, but particular appraisal outcomes will change motivation and produce adaptive actional tendencies. (Scherer, 2009, p. 1314)

None of these examples of the interaction between appraisals and the other subsystems of the emotion suggests that object-specific appraisals are part of the emotion cluster. The first example refers to the interaction of attention and appraisal and is therefore not relevant to the current question. In the second example, appraisals influence emotional schemata in memory. For example, if Mia gets bitten by a dog, she would form an appraisal that would create an emotion schema, which would then influence her subsequent responses to that dog, or to dogs in general. This example is the most relevant of the three, since it is the only one that clearly posits an influence of what might be regarded as another emotion component on appraisals with a specific intentional object. However, on closer examination it is evident that these memory structures are “emotional” only in the sense that they influence subsequent appraisals. And as argued previously, appraisals are not inherently emotional themselves. The memory schemata will presumably also influence appraisals during paradigmatic cases of dispassionate reasoning.

In Scherer’s third example, appraisals change the person’s motivation and produce adaptive action tendencies. However, it appears again that this influence is generic, that is, common to different appraisals of the same type. For example, anger appraisals cause a tendency to aggress, and fear appraisals a tendency to flee; but the object-specific appraisals do not seem to have an effect beyond that.

Even if there is no experimental evidence for a direct effect of feelings on appraisals, and even if Scherer’s CPM does not support such an effect, one could argue that it should exist on adaptationist grounds. Indeed, Deonna and Scherer (2010) make this sort of argument against Lindquist and Barrett’s (2008) view that we are constantly interpreting our affect in light of current context. They say,

This adaptive function requires intentional objects and identifiable causes. Why, then, would evolution produce an architecture that condenses the rich information individuals can infer from what happens to them to a rather undifferentiated point in a valence by arousal space, which is then open to constructive interpretation by the individual, and subject to a host of accidental factors such as the movie one has happened to have seen or the newspaper article one has just read? (p. 48)

In response to this objection, it should first be noted that, unlike Lindquist and Barrett, I am not assuming that emotions comprise only feelings of valence and arousal; rather, I assume (following Scherer’s [2009] CPM), that emotions are much more specific clusters of feelings and cognitive, motivational, and physiological responses. But even if this is acknowledged, it may still seem counterproductive for emotions to have only generic effects, especially if they are typically initiated by appraisals with specific intentional objects. If emotions are

solutions to problems identified by appraisals, their effects should be directed at the objects of these appraisals.

Given the arguments I developed in section Homeostatic Synchronization, I would rephrase Deonna and Scherer's (2010) objection in the following way: Why would evolution include into the emotion cluster only generic appraisals, rather than appraisals with specific intentional objects? To answer this question, I will expand a proposal made in Shargel (2015) that physiological states constitute a kind of bottleneck. The physiological state that is best suited, in terms of both action preparation and social display, for one type of challenge or opportunity, is often incompatible with the state that is best suited for another. For example, we cannot simultaneously prepare to attack and to rest. Our physiology either needs to enter the state that is ideal for addressing one of these issues or to find a compromise that is not ideal for addressing either issue.

Whatever choice our peripheral nervous system makes in the production of the physiological state has consequences for our motivational and appraisals systems. Our current physiological states make different types of actions cheaper or more expensive in three respects: (a) they make action types more or less effective, (b) they alter the energy that action types require, and (c) because some physiological states also function as social displays, they determine whether action types will produce a gain or loss in our social credibility. For example, an appraisal might lead to the physiological changes characteristic of anger. As long as this physiological state lasts, aggressive behavior is more effective and efficient than normal, and this sort of behavior also enhances our credibility. It is temporarily discounted. This does not mean that we should always act aggressively when angry, but a moderate temporary bias towards aggression is useful given the frequently present, temporary benefits of aggressive actions. We should therefore expect physiological states to reinforce compatible, nontargeted motivational states and appraisals. The genericity of these effects is essential to their effectiveness.

Deonna and Scherer (2010) argue in the passage cited before that if emotions lack objects, then information will be lost—specifically, information about the source of the harm/offense/benefit. However, if the emotion was elicited by an appraisal with a particular intentional object, there is no reason why that appraisal cannot persist. After initiating the emotion, it is free to play other roles, like guiding the selection of instrumental behavior or influencing what Scherer (2009) refers to as “emotional schemas.” Hence, there is no need to worry that information is lost. The changes in our motivations and appraisals caused by emotions just provide a temporary, generic, opportunistic bias on top of our ordinary reasoning processes.

Conclusion

I have argued for a specific set of views about the constitution of emotions. Following Scherer (2009) and Boyd (1991), I argued that emotions are clusters of synchronized subsystem states. Appraisals determine the nature of these clusters, because each difference in the initiating appraisals results in different

states of each subsystem. However, otherwise identical appraisals with different intentional objects do not result in different sets of subsystem states. It follows that only generic appraisals, rather than appraisals with specific intentional objects, can be regarded as constituents of the clusters. From this, we can infer that the cluster, which is identical to the emotion, does not inherit the intentional object of the initiating appraisal. However, I argued that we are actually better off that way.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Notes

- 1 I would like to thank a reviewer for raising this objection.
- 2 My argument does not only apply to Scherer's (2009) CPM and other appraisal theories that assume that the objects of emotions are inherited from their appraisal component. It would also apply to theories of emotion that assume that the objects of emotion are inherited from emotion-related behavioral intentions. For example, the ITERA model proposed by Nerb and Spada (2001) posits bidirectional causal connections between emotions and targeted behavioral intentions (e.g., between anger and the intention to aggress against the norm violator). On Boyd's (1991) homeostatic cluster theory, this suggests that the behavioral intentions should be regarded as components of the emotion (the synchronized state). And this, in turn, opens the possibility that the object of emotion is inherited from behavioral intentions. However, if behavioral intentions of the same type (e.g., intentions to aggress) have equivalent causal connections to the emotion (e.g., anger), then the emotion comprises only a generic intention, not an object-specific one. And this, in turn, means that the emotion does not inherit the specific object of the intention.
- 3 Although in Shargel (2015) I argue that we attribute emotions to the intentional object of the appraisals, rather than the cause of the affect. This reformulation takes into account cases in which emotions seem to be directed at objects which cannot be their causes (e.g., an emotion apparently directed at a fictional object).

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