Rev.Phil.Psych. (2012) 3:369–382
DOI 10.1007/s13164-012-0109-0

Seeing Agents When we Need to, Attributing Experience When we Feel Like it

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Published online: 4 September 2012
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Abstract Mind attribution may be divided into the subcategories of attribution of agency, associated with moral agency, and attribution of experience and emotion, associated with moral concern and moral patiency (Gray et al. Science 315 (5812):619, 2007; Gray et al. Proceedings of the National Academy of Sciences of the United States of America 108(2):477–479, 2011b; Robbins and Jack Philosophical Studies 127(1):59–85, 2006). In this paper I attend to social context and the different psychological needs influencing the different types of mind attribution. A need for social connection drives the attribution of experiences and emotions. The individual's capacity to regulate emotional reactions is crucial for empathic concern. I further relate differences of mind attribution, attention, and emotional processing, to two different modes of functioning: In an interactive state of mind (comparable to the "second-person perspective" described by Schilbach et al. Behavioral and Brain Sciences, in press), social and emotional cues are attended to; In a detached task-oriented state of mind it may be beneficial to predict the behaviors of others but emotional information may not be attended to. The complexity and plasticity of mind attribution, including the possibility to train attentional mechanisms and regulation of emotions, is promising for the field of moral enhancement.

1 Introduction

The question about when we identify something as having a mind is relevant to the question of when we empathize and show moral concern. Attribution of mind falls into the categories of attribution of agency and attribution of experiences. Only the latter is related to moral concern. In one study subjects were asked which different characters, such as, children, adults, animals, robots, etc., were associated with different mind qualities (Gray, et al., 2007). Attributions of capacities associated with experience (such as hunger, fear, pleasure, pain, rage, desire, consciousness and joy)

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correlated with a desire to avoid doing harm. Attributions of capacities associated with agency (such as self-control, memory, planning, communication and thought), on the other hand, correlated with the idea that the characters could deserve punishment for wrongdoing. In this way, agency was linked to moral agency and responsibility, while perceived experience was associated with thoughts about moral patients. Other studies confirm a link between the sense of moral concern and the perception of someone else's capacity to suffer. (Gray et al. in press; Loughnan et al. 2010). No such link between moral concern and perceived capacity for thinking and planning has been found. Instead information about an agent's intentions plays an important role in assigning praise or blame to moral agents (Blair & Blair, 2009). The tendency to perceive characters as either moral patients or moral agents has been described as moral typecasting (K. Gray & Wegner, 2009). Those perceived as "moral patients" were seen as less capable of causing good or evil while those associated strongly with the category of "moral agent" were perceived as having less capacity for suffering.

Certain characters may be associated with certain types of minds, but what in the first place makes us attribute agency or experience to these perceived characters in any given moment? Different triggers for mind attribution have been proposed. Arico et al., (2011) suggest that we ascribe mentality in the presence of eyes, distinctive motions, and interactivity, and argue that these features automatically trigger the attribution of both agency and consciousness.

Moving from a focus on mind attribution closely linked to certain types of beings, (moral) characters, or to certain trigger features, I would like to turn to the broader picture of social context and the psychological functioning of the individual who is attributing minds to others. We know that people attribute mental states when doing so is likely to be in some way beneficial (Epley & Waytz, 2009), and some attention has been directed toward psychological needs that lay behind mind attribution (Gray & Wegner, 2010; Waytz et al. 2010). In this paper, I hope to deepen our understanding for the reasons why we tend to ascribe agency or experience to certain entities. Without aspiring to present a full account of mind attribution, I will highlight the complexity of the issues at stake using references to social context, differential psychological needs, and individual and situational responses to emotional information. In different situations different needs will drive the attribution of agency and experience respectively. Understanding the complex nature of experience attribution, in particular, is relevant if we want to know how to increase the likelihood for moral concern to arise when appropriate.

The following section presents evidence of the role of social context, providing a basic picture of mind attribution as a plastic mechanism. In Section 3 I will attend to psychological needs that influence morally relevant types of mind attribution, before discussing the role of the particular need for social connection more in depth in Section 4. In Section 5, we will consider the difference between an interactive mode, where we are socially connected and social cues are attended to, and a more narrowly focused doing-mode, where we act independently and are socially disengaged and more emotionally detached. Whether we operate with a socially interactive mindset or not impacts empathic responses in ways largely overlooked in the current field of mind attribution research.

Parts of the paper may seem to paint a rather dull picture of humans as highly influenced by contextual cues, as driven by current psychological needs, as perhaps

attributing morally relevant states primarily when influenced by a need for social connection, and as hardly even processing emotional cues from others in ways important for moral cognition unless operating in a socially connected mode of being. In Section 5 though, I consider evidence that empathic mechanisms can come under voluntary control. In Section 6, finally, I point to some ethical implications of this possibility and conclude that empirical researchers in this field need to be aware of different modes of information processing. Most importantly, we should contemplate the moral implications of the apparent complexity and plasticity of mind attribution and moral concern, and attend more to investigations of possibilities of moral enhancement.

2 Social Context Influences Mind Attribution

To think clearly about possibilities to enhance empathic functioning, it is important to first understand that mind attribution and empathic responses are highly variable mental capacities even in neurotypical individuals. In this section, I will summarize some of the relevant research.

Studies on in-group/out-group perception (Fiske, 2004) show that mind attribution and empathizing are highly plastic and context dependent. Social status is an influencing factor for mind attribution, and Kraus et al. (2010), point out how more interdependent relationships generate higher empathic accuracy. Members of higher social classes show less empathic accuracy, which Kraus et al. argue to be a result of lower orientation toward others related to a less significant need for interdependency. This tendency also appears in experimental settings (Galinsky et al. 2006; Kraus, et al., 2010). Individuals primed to take on a lower power perspective show less self-orientation and a higher tendency to adopt the visual perspective of another person, and are more likely to accurately determine what knowledge and emotional state another person has. For example, subjects primed in low power and asked to draw the capital letter E on their forehead are more likely to draw the E so that it reads as an E from other people's perspective, as compared to a person primed in high power. Galinsky et al., argue that the person in higher power will benefit from a lower degree of perspective taking allowing for more efficient goal pursuits. This tendency is also reported in studies on abusive relationships (Ickes, 2009). Abusive men show lower empathic accuracy to their own wives than to female strangers, which Ickes suggests shows a motivation to avoid empathizing in order to remain in control within the relationship. Further, a recent study shows more unethical tendencies among rich subjects as compared to participants from a lower social class (Piff et al. 2012). Thus, while low status is associated with higher empathic accuracy, high status is related to a lowered tendency to take into account the minds of others.

While some studies attend to general tendencies for mind attribution to particular characters, such as, children, animals, and robots, etc. (Gray, et al., 2007), other studies explore influences of social context on mind attribution; expecting to eat beef, indirectly affect the attribution of mental states associated with suffering, to cows (Bastian et al. 2012; Loughnan, et al., 2010). Subjects also withdraw moral concern for animals when expecting to eat meat as compared to subjects expecting to eat nuts.

Psychopathy involves feelings of superiority and individuals with psychopathic tendencies report less attribution of experience to humans and animals, as well as less

agency to adults (Gray et al. 2011a). One curious finding of this study though, was that those with higher psychopathy scores reported an increased attribution of mind to Superman. Adding the dimension of relative social status as influencing motivation for mind attribution to the picture, we are offered an explanation: psychopaths may be willing to ascribe mind to entities perceived as standing above them. In addition, the influence of relative status on empathic accuracy may very well help us understand the "Stockholm syndrome" where victims are reported to show increased loyalty and sympathy toward the criminals who keep them hostage (Graham et al. 1994). References to this type of phenomenon are not new in the literature. In A Treatise of Human Nature, Hume describes tendencies for increased sympathy for the rich, and he mentioned a tendency of women to show "kindness to criminals" (Hume 1978/1739, p. 388). These anecdotes and phenomena may not be properly understood without an explanation stemming from an attempt to track the functional need for mind attribution and empathy. According to social psychologist Roy Baumeister (1996), social distancing appears if the connection between leader and follower of a social group is broken. Baumeister refers to a sense of superiority in dehumanization, and quotes Napoleon saying, "soldiers are meant to be killed" (p. 315). The superior may have nothing, or little, to gain from engaging in the mental activity of mind attribution. Studies on objectification and dehumanization confirm these patterns and show, for example, how a lack of connection to a member of a distant out-group may result in cold mechanistic objectification (Haslam, 2006). Others may be objectified by either a denial of agency where humans are treated as animals, or a denial of experience where others are treated as robots.

The attribution of mental qualities relevant for the activation of moral concern, how and when we identify another being as worthy of moral concern and where we draw the line of our circle of compassion, are not automatically triggered mechanisms but are highly dependent on contextual factors such as relative social status. The general plasticity of empathy should by now be apparent. Unfortunately, reports on differences between agency attribution and attribution of experience are lacking in many of the studies referred to above, so questions remain. It is still to be determined, for example, if status influences both experience and agency attribution, while other contextual or individual factors may affect only one type of attribution. In the following two sections we will attend to different types of attribution and to different psychological needs that influence morally relevant types of mind attribution.

3 What's In it for the Individual Observer?

What psychological needs influence whether we identify someone as a moral patient, who may trigger moral concern and compassion, and when are we prone to point out agents who we may rather avoid or even punish? It has been suggested that empathy plays two roles: one of providing information about how other people will act, and a social role of providing motivation for pro-social and cooperative behavior (de Vignemont & Singer, 2006). In this section I will discuss the functional role of gaining information about others through inference, using the cognitive part of empathy, and on the other hand gaining emotional information that is of interest when identifying someone as a moral patient.

Philosophers Philip Robbins and Anthony I. Jack (2006) talk about agency attribution and attribution of phenomenal experience in terms of an intentional stance and a phenomenal stance. Robbins and Jack claim a double dissociation between these intentional and phenomenal stances based on the clinical cases of autism and psychopathy. Individuals with autism show impaired understanding of other social agents and a reduced capacity for mindreading skills that are dependent on an intentional stance. Psychopaths, on the other hand, lack the ability to adopt a phenomenal stance. The mindreading skills associated with the intentional stance have been referred to as "cold" empathy. What the psychopath is lacking is "hot" empathy (ibid.). Researchers on empathy distinguish a cognitive from an affective component of empathy (Goubert et al. 2009). It has also been suggested that the understanding of another's emotional states is orthogonal to the cognitive ability to understand certain behaviors, thoughts, and intentions (Lewis & Hodges, 2012). In line with this, as well as with the idea of moral typecasting, taking a phenomenal stance is thought to be linked to the recognition of moral patients (Robbins, 2008). The relevant distinction here though, the one related to moral patiency, is not necessarily one of phenomenal versus non-phenomenal states (Sytsma, 2010). It is not necessarily a "phenomenal" stance that we should be looking for: Sytsma points out that, in the 2007 study by Gray et al., no perceptual states like seeing red or hearing C# were tested for. Sytsma suggests a distinction between different states based on their associated valence, such as the distinction between the feeling of pain and the experience of seeing red. This is a distinction not between ascriptions of phenomenal and non-phenomenal qualities, which is popular among philosophers of mind, but instead a distinction between those states that have and do not have hedonic qualities. In opposition to Sytsma's account, Buckwalter and Phelan (unpublished manuscript) present evidence that the amount of experience attribution is driven by the associated function of a perceived robot, rather than the perceived valence of the experience. Either way, how do we reach these conclusions? Are some attributions "embodied" while others are based on "cold" cognition?

It appears to me that thoughts about other people's experiences of colors and sounds do not come to us automatically; we must make conclusions about them through inference. Automatic attribution of the experience of seeing red or hearing C# to others is not likely to play an important functional role.[1] It might not serve any purpose to automatically simulate another person's perceptual experiences, (although we may choose to think about them). The perceptual experiences are instead associated with events out there in the world. Not even the most intuitive improvisational musician would perceive the C# as a property of a fellow musician's mind. Some other basic attributions though, do not come to us through inference, but in a direct and automatic way (Nichols, forthcoming). In order to function well as moral social beings, attributing pains, likes, and dislikes to others, i.e., attributing states with hedonic qualities, plays an important role in navigating social space and deciding what to do and what not to do. The difference between automatic mapping of

[1] Here it is important to distinguish a discussion of the conceptualization of phenomenal experience, in which both the folk and the philosophers may be guided by their own subjective experience characterized by a sense of "what it is like for me to…", and the attribution of a phenomenal experience. The possible function(s) of phenomenal experiences is one to be dealt with in consciousness research. Here I am concerned only with the function of the attribution of phenomenal experiences to others.

emotions and attribution of mental states through inference seems to be a crucial one for the capacity for normal moral empathic concern. As Hume stated: "The sentiments of others can never affect us, but by becoming, in some measure, our own." (Hume 1978/1739, p. 593). A modern Hume could choose to speak of "embodied cognition".

Although attention to another person's experience and the sharing of emotions are normal responses, the automaticity of this type of mental event is not obvious (de Vignemont & Singer, 2006). Contextual cues influence the activation of pro-social behavior. Psychological needs and current motivations also influence when, and how much, experience or agency we tend to attribute. Increasing subjects' sense of social connection decreases mind attribution to out-group members (Waytz & Epley, 2012). For example, subjects who were primed by thinking about having dinner with family members on Thanksgiving scored higher on measures of dehumanization. Apparently, a reduced need for connection with others negatively impacts motivation for mind attribution.

If the perceiver is not in a position where understanding other minds offers any potentially important information, given the individual perceiver's current psychological needs, mind attribution may simply fail to occur. If the desire for community is fully absent, one should expect a total absence of sympathic response. This may, in fact, be exemplified by a reported difficulty (or unwillingness) to understand violent criminals. Sadler (2008) describes how "some offenses step outside our empathic realm".

While someone held hostage by a violent criminal is forced to belong to the same social group as this criminal, and therefore would be interested in the mental states of this powerful individual, what is of interest to someone viewing the criminal as an out-group member is not the emotional state of the criminal but perhaps the criminal's intentions. Intentions may be thought of as relevant for retributive actions toward those seen as blame-worthy. Individuals in an fMRI study who reported perceiving pain they viewed others experiencing, showed lower responses when the "suffering other" were out-group members seen as blameworthy (Echols & Correll, 2012).

Sharing another's affective state, and the "cold" inferences of mental states, are both usually involved in social interaction, but are mechanisms that can operate exclusively on their own (Zaki & Ochsner, 2012). Even if a perceiver finds no interest in mapping the emotional experience of another, there might still be useful information in the actions and intentions of another. Gray and Wegner (2010) describe a detector of agency that may be activated in the search for explanations for all sorts of events, even random ones. This holds true, in particular, for negative events.

We may easily picture situations where it is useful for a human being to map intentions of, for example, dangerous predators. But "cold", purely cognitive, perspective-taking does not seem crucial for moral concern, concludes Marsh (2012). Empathy, compassion, and pro-social behavior build on the representation of another's emotional state.

4 The Need for Social Connection

Consciously perceived, or not, our current activities, goals, and affects will influence basic ways of perceiving the world (Dijksterhuis & Aarts, 2010). Loneliness increases the tendency for mind attribution. In a study by Epley et al., (2008), subjects

were primed to experience one of the two negative emotions, fear and loneliness, by watching emotional video clips. As predicted, only loneliness increased mind attribution. Inducing loneliness even led subjects to over-attribute mentality and to anthropomorphize.

A need for social connection could be what is driving attribution of experience in studies by Gray et al. (2011b). Results show how an increased focus on physical characteristics and more exposure of skin result in more attribution of experience and less attribution of agency. Gray et al., suggest that exposure to bodily features lead us to think about attributes of mind associated with animals, such as fear, pleasure and pain, and less so, with distinctively human characteristics exemplified as reasoning, planning and self-control. In contrast, other studies show how animals seen as more threatening are perceived as having less mind[2] (Maurer, 2010). It may be the case that it is less beneficial to focus on the emotions of another, if threatened, while it may also still be beneficial to attempt to track the intended actions of that entity.

There are other important exceptions to the relationship (suggested by Gray et al. 2011b), between exposure to bodily features and attribution of experience; exceptions that point to the influence of social interaction, or the lack thereof. For example, very short exposure to an interactive computer program, such as the artificial therapist Eliza, causes human-to-human like reactions and perceptions (Copeland, 1993). Attribution of experience may happen in the absence of bodily features, toward a non-embodied computer program. Also, seeing bodies, may fail to trigger attribution of experience and emotions. The lack of moral concern shown by Nazi doctors monitoring a Jewish prisoner soaking in near-freezing water (Waytz & Epley, 2012); and equally stunning, the under-attribution of experience and lack of sense of moral concern shines through in the following quote from a nineteenth-century medical journal: “Negresses […] will bear cutting with nearly, if not quite, as much impunity as dogs and rabbits” (Rollin, 1981, p. 132). Even though human bodies may automatically trigger certain brain responses (Farah & Heberlein, 2007), attribution of experience does not seem to be one of these necessarily automatic responses.

Rather than any one-dimensional causal explanation where exposure of body or thoughts of something as having a body automatically is believed to trigger attribution of experience, a model including context-related psychological needs and activation of tendencies to seek interaction could offer a better way to understand attribution of experience. Such a model would be validated by studies showing that empathic accuracy generally declines in couples who have been married for more than one to two years (Ickes, 2009). Although this decline may correlate with a lesser exposure to bodily features, a more comprehensive approach should take into account psychological needs and motivations when establishing the relationship between body perception and attribution of experientiality.

Why is it that perception of body, like in the experiments by Gray et al. (2011b), may trigger more experience attribution? When do we want to know what a particular person is feeling? Perceiving someone dressed up in business clothing may trigger the agency-oriented question: what is s/he up to. Perceiving someone dressed in dirty ragged clothes walking down the street may not provoke any questions about

[2] This study on mind attribution to threatening animals though did not differentiate between attribution of experience and attribution of agency.

mentality at all as long as the person is not perceived as a threat. The relevant question here seems to be: when do we want social connection? When do we want to interact and what triggers pro-sociality?

One cue that has shown an influence on tendencies toward pro-social behavior is imitation (van Barren et al. 2009). Mirroring of the other person's gestures, behaviors, facial expressions, and manners through mirror neurons will influence the tendency for pro-social behavior in the person who has been mimicked. Imitation is suggested to be the bridge to empathy and the stepping-stone for intersubjectivity. For example, being mimicked causes the mimicked person to rate their feelings as more similar to the person who mimicked them. Mimicked research subjects give more money to charity, choose to sit closer to strangers, and are more prone to help a research assistant who happens to drop pens on the floor. To be, or not to be, oriented toward interactive social behavior appears to run deeply through our way of perceiving the world. There appears to be a difference between perceiving interacting characters and perceiving intentional acts. In one study on mind attributions triggered by movements of simple geometric figures, subjects turned out to differentiate between interactive behavior of, for example, perceived dancing, and other types of agency, such as, perceived chasing (Klein et al. 2009).

Arico et al. (2011), propose that eyes, distinctive motions, and interactive behavior, trigger both agency attribution and attribution of experience, where agency attribution is suggested to be more fundamental, but interdependency and social triggers, like interactive contingent behavior, may play a distinct role in attribution of phenomenal experience rather than for attribution of agency.

5 Acting Versus Interacting and Individual Differences in Emotional Processing

The collective field of social neuroscience has recently been targeted with criticism for having neglected what the authors describe as a fundamental difference between observing social situations from a detached point of view on the one hand, and participating in social interactions on the other (Schilbach et al., in press). To interact socially, is to be emotionally engaged in the situation, and involves a type of perception that integrates "the state of the other by way of experiencing one's own bodily responses to her." (Ibid.). Understanding social interactions this way is described as key to our "grasping of other minds".

> When we are personally addressed by others, the perception of their mimic behavior relies, in neurobiological terms, upon tight perception-action coupling with affective and body- based processing feeding into and promoting the preparation of motor responses as a way of picking up and responding to the possibilities for interaction (ibid.).

This group of researchers brings attention to the neglected field of emotionally engaged social interactions, and proposes a new second-person perspective in neuroscience. But still, these researchers need to account for the question of when we do, and when we do not, respond to cues for such emotionally engaged social interaction.

Individuals differ in what type of information they attended to, adopting different types of information processing strategies, referred to as different cognitive styles (Ford et al. 2002). Individuals using an "analytic" or "serial" processing style are more narrowly focusing on one thing at a time. Individuals adopting a "global" or "holistic" approach begin by building a broad conceptual overview and perceive complex stimuli as a gestalt. These general cognitive styles are most commonly termed field-independency vs. field-dependency. When using a field-independent cognitive style we are more detail-oriented and less aware of the contextual field and what is going on around us (Sternberg & Grigorenko, 1997). Field-independent children tend to be more task-oriented as compared to field-dependent children who are more sensitive to social cues. Mimicking, one trigger of pro-social behavior, has been linked to this shift between field-independency and field-dependency (van Barren, et al., 2009). Imitated subjects show increased field dependency; a more context-dependent information processing style could be inferred from better scores on location of viewed objects in memory tests. That is, whether or not we are intersubjectively oriented profoundly alters the way we perceive and interact with the world.

Echols and Correll (2012) suggest that compassion has evolved as a response toward in-group members. Responses of empathic concern are greater toward in-group members and perceptions of in-group members are faster and rely on different processes than those involved with recognizing out-group members; faces of out-group members rely more heavily on feature-based processing of faces. In order to take further steps in understanding mind-perception, connections should be made between the experimental field of folk psychology and research on information processing and basic regulative mechanisms of attention and emotions. Emotion regulation plays an important role in empathy, and better ability to shift or focus attention is also hypothesized to correlate with responses of sympathy (Eisenberg & Eggum, 2009).

It is worth investigating whether an orientation toward social cues, intersubjectivity, and a field-dependent cognitive style, as compared to field-independent processing, may be related to what has been referred to as a "being-mode", versus a "doing-mode" (Segal et al. 2002). When in "doing mode", and focusing on a goal, attention is narrowed to the issues at stake and our concepts around our goals (Williams et al. 2007). Highly stressful situations are associated with an attentional narrowing, sometimes referred to as "tunnel vision" (Dirkin, 1983). To shift from doing-mode to being-mode seems to involve the shift from a narrow to a broad focus, as suggested by Segal et al. (2002). In *Evil: Inside Human Violence and Cruelty*, Baumeister (1996), describes a certain kind of mental state marked by a narrow, concrete and rigid way of thinking. In such a state, which he exemplifies by someone working with tools or playing a video-game, focus lays on the details of what one is doing. Baumeister relates this state of mind to an avoidance of uncomfortable emotions that may be related to moral transgressions.

If our access to bodily states and emotional cues is lowered in a narrow doing-mode, access to the emotions of others, too, would be unavailable to us. The action-based theory of cognitive dissonance explains how and why we tend to block out any task-irrelevant information that may interfere with current behaviors and attitudes (Harmon-Jones & Harmon-Jones, 2002, 2007). This could add to explanations in research on helping behavior so that we may, for example,

better understand what was going on in the famous study about theology students under time pressure who failed to stop and assist a person in need (Darley & Batson, 1973). It may be that in a stressful or fight-or-flight induced state it is still beneficial to know and track what others think and plan, but perhaps not how they feel. At least we see that both social cues and emotional information may be blocked out in a narrower, field-dependent, task-oriented, doing-mode.

The two types of mind attribution, experience and agency, point to a deeper difference between the two ways of processing, or not processing, of emotional information. Some evidence suggests that actions that are perceived as threatening are also perceived to be more intentional (Epley & Waytz, 2009). Future studies may clarify whether subjects attribute less experience in a state of fight-or-flight. When under stress we may block out information about the experiential states of others in order to efficiently carry out our individual currently planned action. In this state of mind we might not be motivated by any need to feel their emotions.

Empathic responses may be regulated implicitly or via voluntary control (de Vignemont & Singer, 2006). Faced with statistics, or groups of suffering individuals, research subjects may experience a "collapse of compassion", but this will not be as likely to happen when subjects are asked to experience, rather than, regulate emotions (Cameron & Payne, 2011). Individual differences in capacity for regulation of emotions has been linked to attachment style (Cassidy, 1994), and patterns of attachment-related emotion regulation plays a role in, for example, different types of detachment and marital violence (Babcock et al. 2000).

The capacity for regulation of emotion is important for empathy, because it is key to whether a person responds to the distress of another with personal distress and withdrawal, or with empathic concern, compassion and approaching (Gleichgerrcht & Decety, 2012). The processing of negative emotions competes for limited resources and may take away attentional resources from task performance. The capacity to regulate emotions is not a static trait though, but a plastic skill. Health professionals show greater activation of cortical areas associated with executive functions, self-regulation, and executive attention. Bottom-up affective responses to perceived pain may be down-regulated by the use of top-down attentional skills. Differences among care givers show that it is possible to learn how to avoid compassion fatigue, but also that it is possible to learn how to down-regulate empathic responses to a point where the patient is objectified and empathic concern is not triggered. Such complete emotional detachment can have detrimental impacts on the relationship between patient and physician (ibid.), and point to the need for continued discussions on the role of experience attribution and empathic concern in moral behavior in different real life situations.

When a person identifies with the role of being an agent, or a victim, this also appears to influence mind attribution (Baumeister, 1996; Gray & Wegner, 2010). For example, sexual abusers, who themselves have been victims of abuse, may fail to recognize themselves as moral agents with the capacity to harm others. In the moment of mind perception, do the person perceiving another mind feel like an agent in control, or rather like someone things are done to, perhaps, overwhelmed by emotions? Taking theories on identity information into account, the map of social and intra-psychic influences on mind attribution turns out to be even more complex.

6 Conclusions and Implications

To accurately determine when we should care for some being as a moral patient, where we should draw the circle of compassion, and who is to be treated as a responsible moral agent, we will need an accurate theory on moral status and to be aware of how mechanisms of moral cognition may lead to over- or underattribution of experience and agency. Research on the effect of social context on mind attribution holds great importance for normative and applied ethics, not in the least, by pointing out situations when we are more likely to make mistakes; for example, we may be more likely to misrepresent moral patients in situations characterized by status inequalities.[3]

In the field of folk psychology, awareness needs to be raised about how different experimental settings may influence mind attribution. A stressful task-oriented setting may increase attribution of agency while a compassionate experiment leader, who mirrors the subject's behavior, may activate a cognitive shift toward pro-sociality and attribution of emotions. Arico et al. (2011), suggest that triggers of agency are fundamental to all types of mind attribution. But, subjects primed for an intersubjective mindset may perceive minds in a different way than a detached and socially independent individual, who is asked to judge the level of agency of moving objects. Future studies need to investigate whether cues for interaction cause a shift towards greater attribution of emotion and phenomenal experience to perceived entities.

Schilbach et al. (in press), point out a need for a whole new second-person perspective in neuroscience, which they argue would differ from investigations of the detached observer typical for the game theory experimental paradigm. Hence, the developments of new interactive games for research on compassion and pro-social behavior (Leiberg et al. 2011) could be one path worth following. Having recognized how emotional processing may vary with attachment styles, cognitive styles, and possibly identity and personality, future studies should take into account individual differences among neurotypical subjects. Evidence suggests that compassion may play different roles in moral behavior for different people: induced compassion seems to play a greater role in pro-social behavior for less religious individuals (Saslow et al., 2012).

Clearly, empathic concern plays a role in helping behavior, and empathy and compassion are plastic skills. Recent empirical work that investigates the possibilities for compassion training shows promising results (Klimecki et al. 2012; Leiberg, et al., 2011), suggesting that the plasticity of tendencies for empathic and moral concern may allow for both increased pro-sociality, and be beneficial for the person practicing compassion training. Meditation techniques may be conceptualized as a variety of different techniques for regulation of attention and emotion (Lutz et al. 2008). Individual differences are important to bear in mind also in the future scientific explorations of traditional compassion inducing meditation techniques, since some meditation techniques "can precipitate psychosis or release a debilitating flood of painful affect in seriously disturbed individuals" (McGee, 2008). Inducing heightened affect is not always beneficial, certainly not if the individual senses an involuntary shift from narrow focused attention to an opening up to emotions causing flooding and heightened anxiety. If a person is already experiencing acute anxiety, to

[3] For varieties of under- and overattribution of agency, see Gray and Wegner (2010).

practice attention- and emotion regulating meditation techniques may cause overwhelming emotional material to appear (Shapiro & Giber, 1978).

Emotional activation does not necessarily lead to empathic concern; sometimes, and for some people, personal distress and avoidance becomes the result of shared emotions. In other cases, compassion and pro-sociality is triggered. Currently activated psychological needs, and current affective states, as well as the individual's capacity to regulate affect, will influence responses to contextual cues and, therefore, the field of research on mind attribution and empathy should seek to be informed by research on attention mechanisms and emotion regulation.

If we judge someone as a moral agent, if we have a need to figure out what someone will do next, or if we are in a pressured stressful state of mind where too much information is presented to us, then we may block out information perceived as irrelevant and focus narrowly on the most important goal-related information. This may exclude emotional information, but still involve thoughts of the intentions or plans of other agents. We perceive and interpret agents when it may be beneficial and there is a currently activated need for us to do so. Social cues, like mimicking, may suggest to us the possibility of beneficial social connections. When we, consciously or unconsciously, wish for and seek a connection, or respond to social cues like mimicking, or when perceiving someone as a moral patient, then we may take a second-person perspective where social and emotional cues, and the emotional phenomenal experience of the other, becomes important. When we are, and when we are not, prone to emotionally engage in social interaction, to feel, process, and respond to emotions attributed to others, depends on complex social and intra-psychic processes. When humans do not want to identify with the other they will, for conscious or unconscious reasons, not be prepared to respond with a pro-social attitude and the other person's emotional experience will not be considered as important information. That is, as humans it seems, we tend to feel with the other when we feel like it.

Descriptive approaches to mind attribution raise questions about when we should see others as agents or experiencing subjects, and how we could, and perhaps should, increase our psychological motivations to feel with others. Continued attention to the complexity and plasticity of experience attribution will be beneficial to a promising new field of investigations on altruism and enhanced moral behavior. Moral enhancement is an area that may stretch far beyond the research field of automaticed responses, or lack of responses, to low level triggers for mind attribution. In order to understand how emotionally engaged social and moral behavior could be improved, we must seek to understand what enables a moral agent to want to recognize a subject who is experiencing suffering, and what it takes to be psychologically capable of responding to suffering with compassion rather than detachment.

References

Arico, A.J., B. Fiala, R. Goldberg, and S. Nichols. 2011. The folk psychology of consciousness. *Mind and Language* 26(3): 327–352.

Babcock, J.C., N.S. Jacobson, J.M. Gottman, and T.P. Yerington. 2000. Attachment, emotional regulation, and the function of marital violence: Differences between secure, preoccupied, and dismissing violent and nonviolent husbands. *Journal of Family Violence* 15(4): 391–409.

Bastian, B., S. Loughnan, N. Haslam, and H.R. Radke. 2012. Don't mind meat? The denial of mind to animals used for human consumption. *Personality & Social Psychology Bulletin* 38(2): 247–256.

Baumeister, R.F. 1996. *Evil: Inside human cruelty and violence*. New York: W. H. Freeman.

Blair, R.J.R., and K.S. Blair. 2009. Empathy, morality, and social convention: Evidence from the study of psychopathy and other psychiatric disorders. In *The social neuroscience of empathy*, ed. J. Decety and W. Ickes. Cambridge, Mass: MIT Press.

Buckwalter, W. & Phelan, M. (unpublished manuscript). Function and feeling machines: A defense of the philosophical conception of subjective experience.

Cameron, C.D., and B.K. Payne. 2011. Escaping affect: how motivated emotion regulation creates insensitivity to mass suffering. *Journal of Personality and Social Psychology* 100(1): 1–15.

Cassidy, J. 1994. Emotion regulation: influences of attachment relationships. *Monographs of the Society for Research in Child Development* 59(2–3): 228–249.

Copeland, J. 1993. *Artificial intelligence: A philosophical introduction*. Oxford: Blackwell Publishers Ltd.

Darley, J.M., and C.D. Batson. 1973. "From Jerusalem to Jericho": a study of situational and dispositional variables in helping behavior. *Journal of Personality and Social Psychology* 27(1): 100–108.

de Vignemont, F., and T. Singer. 2006. The empathic brain: how, when and why? *Trends in Cognitive Sciences* 10(10): 435–441.

Dijksterhuis, A., and H. Aarts. 2010. Goals, attention, and (un)consciousness. *Annual Review of Psychology* 61: 467–490.

Dirkin, G.R. 1983. Cognitive tunneling: use of visual information under stress. *Perceptual and Motor Skills* 56(1): 191–198.

Echols, S., and J. Correll. 2012. It's more than skin deep: Empathy and helping behavior across social groups. In *Empathy: From bench to bedside*, ed. J. Decety, 55–71. Cambridge: MIT Press.

Eisenberg, N., and N.D. Eggum. 2009. Empathic responding: Sympathy and personal distress. In *The social neuroscience of empathy*, ed. J. Decety and W. Ickes, 71–83. Cambridge, Mass: MIT Press.

Epley, N., & Waytz, A. (2009). Mind perception. In S. T. Fiske, D. T. Gilbert & G. Lindzey (Eds.), *Handbook of social psychology* (Vol. 5th ed., pp. 498–541). New York: Wiley.

Epley, N., S. Akalis, A. Waytz, and J.T. Cacioppo. 2008. Creating social connection through inferential reproduction: loneliness and perceived agency in gadgets, gods, and greyhounds. *Psychological Science* 19(2): 114–120.

Farah, M.J., and A.S. Heberlein. 2007. Personhood and neuroscience: naturalizing or nihilating? *The American Journal of Bioethics: AJOB* 7(1): 37–48.

Fiske, S.T. 2004. *Social beings: A core motives approach to social psychology.* Hoboken, NJ: J. Wiley.

Ford, N., T.D. Wilson, A. Foster, D. Ellis, and A. Spink. 2002. Information seeking and mediated searching. Part 4. Cognitive styles in information seeking. *Journal of the American Society for Information Science and Technology* 53(9): 728–735.

Galinsky, A.D., J.C. Magee, M.E. Inesi, and D.H. Gruenfeld. 2006. Power and perspectives not taken. *Psychological Science* 17(12): 1068–1074.

Gleichgerrcht, E., and J. Decety. 2012. The cost of empathy among health professionals. In *Empathy: From bench to bedside*, ed. J. Decety, 245–261. Cambridge: MIT Press.

Goubert, L., K.D. Craig, and A. Buysse. 2009. Perceiving others in pain: Experimental and clinical evidence on the role of empathy. In *The social neuroscience of empathy*, ed. J. Decety and W. Ickes, 153–165. Cambridge, Mass: MIT Press.

Graham, D.L.R., E.I. Rawlings, and R.K. Rigsby. 1994. *Loving to survive: Sexual terror, men's violence and women's lives*. New York: New York U. P.

Gray, K., and D.M. Wegner. 2009. Moral typecasting: divergent perceptions of moral agents and moral patients. *Journal of Personality and Social Psychology* 96(3): 505–520.

Gray, K., and D.M. Wegner. 2010. Blaming God for our pain: Human suffering and the divine mind. *Personality and social psychology review: an official journal of the Society for Personality and Social Psychology, Inc* 14(1): 7–16.

Gray, H.M., K. Gray, and D.M. Wegner. 2007. Dimensions of mind perception. *Science* 315(5812): 619.

Gray, K., A.C. Jenkins, A.S. Heberlein, and D.M. Wegner. 2011a. Distortions of mind perception in psychopathology. *Proceedings of the National Academy of Sciences of the United States of America* 108(2): 477–479.

Gray, K., J. Knobe, M. Sheskin, P. Bloom, and L.F. Barrett. 2011b. More than a body: mind perception and the nature of objectification. *Journal of Personality and Social Psychology* 101(6): 1207–1220.

Gray, K., Young, L., & Waytz, A. (in press). Mind perception is the essence of morality. *Psychological Inquiry.*

Harmon-Jones, E., and C. Harmon-Jones. 2002. Testing the action-based model of cognitive dissonance. The effect of action orientation on postdecisional attitudes. *Personality and Social Psychology Bulletin* 28: 711–723.

Harmon-Jones, E., and C. Harmon-Jones. 2007. Cognitive dissonance theory after 50 years of development. *Zeitschrift für Socialpsychologie* 38: 7–16.

Haslam, N. 2006. Dehumanization: an integrative review. *Personality and Social Psychology Review: An official journal of the Society for Personality and Social Psychology, Inc* 10(3): 252–264.
Hume, D. (1978(1739)). *A treatise of human nature* (ed. L. A. Selby-Bigge, 2nd edition rev. P. H. Nidditch.). Oxford: Clarendon Press.
Ickes, W. 2009. Empathic accuracy: It's link to clinical, cognitive, developmental, social, and physiological psychology. In *The social neuroscience of empathy*, ed. J. Decety and W. Ickes, 57–70. Cambridge, Mass: MIT Press.
Klein, A.M., J. Zwickel, W. Prinz, and U. Frith. 2009. Animated triangles: an eye tracking investigation. *Quarterly Journal of Experimental Psychology* 62(6): 1189–1197.
Klimecki, O. M., Leiberg, S., Lamm, C., & Singer, T. 2012. Functional neural plasticity and associated changes in positive affect after compassion training. *Cerebral Cortex*.
Kraus, M.W., S. Cote, and D. Keltner. 2010. Social class, contextualism, and empathic accuracy. *Psychological Science* 21(11): 1716–1723.
Leiberg, S., O. Klimecki, and T. Singer. 2011. Short-term compassion training increases prosocial behavior in a newly developed prosocial game. *PloS One* 6(3): e17798.
Lewis, K.L., and S.D. Hodges. 2012. Empathy is not always as personal as you may think: The use of stereotypes in empathic accuracy. In *Empathy: From bench to bedside*, ed. J. Decety, 73–84. Cambridge: MIT Press.
Loughnan, S., N. Haslam, and B. Bastian. 2010. The role of meat consumption in the denial of moral status and mind to meat animals. *Appetite* 55(1): 156–159.
Lutz, A., H.A. Slagter, J.D. Dunne, and R.J. Davidson. 2008. Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences* 12(4): 163–169.
Marsh, A.A. 2012. Empathy and compassion: A cognitive neuroscience perspective. In *Empathy: From bench to bedside*, ed. J. Decety, 191–205. Cambridge: MIT Press.
Maurer, L.N. 2010. *Perceptions of animal minds*. Boca Raton: Master of Arts, Florida Atlantic University.
McGee, M. 2008. Meditation and psychiatry. *Psychiatry* 5(1): 28–41.
Nichols, S. (forthcoming). Mindreading and the philosophy of mind. In J. Prinz (Ed.), *The Handbook of Philosophy of Psychology*. Oxford: Oxford University Press.
Piff, P.K., D.M. Stancato, S. Cote, R. Mendoza-Denton, and D. Keltner. 2012. Higher social class predicts increased unethical behavior. *Proceedings of the National Academy of Sciences of the United States of America* 109(11): 4086–4091.
Robbins, P. 2008. Consciousness and the social mind. *Cognitive Systems Research* 9: 15–23.
Robbins, P., and A.I. Jack. 2006. The phenomenal stance. *Philosophical Studies* 127(1): 59–85.
Rollin, B.E. 1981. *Animal rights and human morality*. Buffalo: Prometheus.
Sadler, J.Z. 2008. Cause, fault, norm. *Philosophy, Psychiatry, & Psychology* 15(1): 52–55.
Saslow, L. R., Willer, R., Feinberg, M., Piff, P. K., Clark, K., Keltner, D., & Saturn, S. R. 2012. My brother's keeper? Compassion predicts generosity more among less religious individuals. *Social Psychological and Personality Science*.
Schilbach, L., Timmermans, B., Reddy, V., Costall, A., Bente, G., Schlicht, T., & Vogeley, K. (in press). Toward a second-person neuroscience. *Behavioral and Brain Sciences*.
Segal, Z.V., J.M.G. Williams, and J.D. Teasdale. 2002. *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.
Shapiro Jr., D.H., and D. Giber. 1978. Meditation and psychotherapeutic effects. Self-regulation strategy and altered state of consciousness. *Archives of General Psychiatry* 35(3): 294–302.
Sternberg, R.J., and E.L. Grigorenko. 1997. Are cognitive styles still in style? *American Psychologist* 7 (700.712): 700.
Sytsma, J. 2010. Folk intuitions and phenomenal consciousness. *Philosophy Compass* 5(8): 700–711.
van Barren, R.B., J. Decety, A. Dijksterhuis, A. van der Leij, and M.L. van Leeuwen. 2009. Being imitated: consequences of nonconsciously showing empathy. In *The social neuroscience of empathy*, ed. J. Decety and W. Ickes, 31–41. Cambridge, Mass: MIT Press.
Waytz, A., and N. Epley. 2012. Social connection enables dehumanization. *Journal of Experimental Social Psychology* 48: 70–76.
Waytz, A., K. Gray, N. Epley, and D.M. Wegner. 2010. Causes and consequences of mind perception. *Trends in Cognitive Sciences* 14(8): 383–388.
Williams, M., J. Teasdale, Z. Segal, and J. Kabat-Zinn. 2007. The mindful way through depression. New York: The Guilford Press
Zaki, J., and K. Ochsner. 2012. The cognitive neuroscience of sharing and understanding other's emotions. In *Empathy: From bench to bedside*, ed. J. Decety, 207–226. Cambridge: MIT Press.