

Delusions and Empiricism

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People develop delusions in association with a number of different conditions, including schizophrenia, dementia, multiple sclerosis, and traumatic injury to the brain (Coltheart et al. 2011). Yet none of these conditions is by itself sufficient for someone to become delusional. So why exactly do only certain people develop delusions, while others do not? Following standard diagnostic criteria, we'll assume that a significant part of what it is to be delusional is to hold a highly unusual belief, a belief that is poorly supported by any evidence, and is also retained even when its subject is vividly presented with counterevidence. On this assumption, different theories of delusion are aiming to understand what exactly leads people to hold delusional beliefs.

Since there is an enormous amount of theoretical work that addresses this topic, it has become common practice to group theories into categories based on general features they have in common. Perhaps the most influential classificatory scheme was introduced by John Campbell, who presented a distinction between what he labelled 'rationalist' and 'empiricist' approaches to explaining delusions (Campbell 2001). Campbell's scheme has been widely accepted, and a brief survey of the contemporary literature would suggest that the empiricist paradigm is now well-established as the dominant theoretical approach to explaining delusional beliefs (for further discussion, see Noordhof and Sullivan-Bissett 2021).

In the broadest sense, 'empiricism' can be understood as the view that sensory experience causally generates delusions. Yet, even though the majority of contemporary

theorists would tend to identify themselves as ‘empiricists’, it is not clear that they share the same general theoretical commitments or methodological principles. We therefore believe that it is useful to distinguish different senses of ‘empiricism’. This will be our task in the first three sections of this chapter, in which we shall lay out different ways in which someone might pursue an empiricist approach to understanding delusion formation.

Once we have the different types of empiricism in view, we shall turn to Campbell’s defence of rationalism (for detailed discussion of rationalism, see Ohlhorst, Ch. 28, this volume). As we will see, Campbell’s rationalism rejects the central empiricist idea that sensory experiences causally generate delusional beliefs. This may be part of the reason that few contemporary theorists identify as rationalists. Since there is experimental evidence confirming the occurrence of anomalous sensory experiences in at least certain cases of delusion (e.g., Brighetti et al 2007; Prakash et al 2012), rationalism may strike many as an unpromising research paradigm.

Some empiricists think that sensory experiences not only causally generate delusional beliefs but that they do so in virtue of lending some sort of (minimal) rational support to them. In this sense, they think of delusional beliefs as broadly rational responses to experience, or as based on, reasons. Campbell’s rationalism also rejects this idea. Yet, once we distinguish different kinds of empiricism, we will see that there are non-empiricist ways to develop the normative thesis that delusions are based on reasons, two of which we shall present in section 4.

Contemporary discussions of delusion often tacitly assume that Campbell’s disjunction of empiricism and rationalism is both exclusive and exhaustive. We think there is little to be said for this assumption. Thus, in section 5, we briefly present two theoretical frameworks that cannot easily be categorised as either empiricist or rationalist, and one

that incorporates elements of both. This does not mean that the categories of empiricism and rationalism are mistaken, or unhelpful, only that they do not exhaust the full range of possibilities for answering questions about why people develop delusions.

1) Normative Empiricism

When Campbell introduces the idea that many theoretical approaches to understanding delusion formation are 'empiricist', he emphasises the normative or reason-giving role of sensory experience. Indeed, Campbell explicitly defines empiricism in terms of its commitment to the idea that a delusion is 'a rational response to highly unusual experiences that the subject has, perhaps as a result of organic damage.' (Campbell 2001: 89; Bayne and Pacherie 2004). Thus, empiricism, for Campbell, is not simply the claim that some strange or unusual experiences figures somehow in the onset of delusional thinking, or in the establishing of a delusional belief. It is the stronger claim that certain kinds of sensory experiences, no matter how seemingly bizarre or unusual, provide warrant, or justification, or give a subject reasons for accepting a delusional belief. It is in this sense that a delusional belief is a 'rational response' to a sensory experience. On the normative conception of empiricism, delusion formation is a matter of an individual adopting a belief for broadly epistemic reasons (Bayne 2017).

This is the sort of picture of delusion formation that one finds articulated in the work of Brendan Maher. Maher insists that someone adopts a delusional belief 'because of evidence powerful enough to support it,' (1974: 99) and that delusional beliefs are 'rational, given the intensity of the experiences that they are adopted to explain.' (1974: 105; cf. Maher 1999). In this respect, Maher thinks delusional beliefs are formed in the same way as

non-delusional beliefs. In both cases, an agent undergoes a particular sensory experience that functions as evidence for the truth of some proposition P , and the individual believes that P on the basis of that evidence. For Maher, the only difference in cases of delusion is that the agent's sensory experiences are highly unusual and also felt to be extremely significant.

The normative empiricist approach can also be found in an extremely influential neuropsychiatric model of delusions of misidentification (Ellis and Young 1990). We can illustrate the model by considering how it explains Capgras delusion, which is the delusional belief that a familiar person or object in one's life has been replaced by an imposter (Coltheart and Davies 2022). The central idea of this neuropsychiatric model is that face recognition is supported by two distinct neurocognitive pathways, one of which processes affect, and the other of which processes semantic information concerning identity (Ellis and Young 1990; Stone and Young 1997). According to this model, the Capgras delusion is caused by damage to the affective processing pathway, which results in a person maintaining the ability to visually recognise familiar faces, but lacking the feeling of familiarity which normally accompanies visual experiences of close friends or family members. As a result of this damage, a person will have 'an experience of seeing a face that looks just like their relative, but without experiencing the affective response that would normally be part and parcel of that experience.' (Stone and Young 1997: 337).¹ This experience is then treated by the subject as a reason to adopt the delusional belief that

¹ As has been widely discussed, responses in one's autonomic nervous system do not register consciously. Yet it is plausible to think that abnormal autonomic activity could generate an unusual conscious experience, perhaps a generic sense of something being amiss with the familiar looking face. This experience would likely be odd and would prompt one to go searching for a way to explain. For further discussion, see Coltheart et al. 2010.

their relative has been replaced by an imposter. As with Maher, this is a theory according to which the occurrence of an anomalous sensory experience is taken to warrant or justify the imposter belief.

Over the last twenty-five years or so, normative empiricism has developed along two different avenues. According to a framework that has come to be known as ‘explanationism’, a person forms a delusional belief in order to ‘explain’ her anomalous sensory experience. Explanationism is a natural extension of the idea that people frequently form novel beliefs in order to explain away or make sense of surprising evidence (Coltheart and Davies 2021). For instance, in the case of Capgras delusion, an explanationist might claim that an individual who has an anomalous experience of their mother will adopt the delusional belief that the person is an imposter because it ‘provides an explanation of this unusual phenomenon.’ (Coltheart et al. 2011: 284; Coltheart et al. 2010). This language of ‘explanation’ clarifies the reason-giving relation between sensory experience and belief. It highlights how, for the explanationist, the logical structure of the relation is that of an abductive inference (rather than, for instance, some type of enumerative induction).²

The second direction in which normative empiricism has developed is a framework known as ‘endorsement theory’. Rather than thinking that delusional beliefs are adopted in order to explain experiences, the endorsement theorist claims that they are simply the natural result of taking the content of a perceptual experience ‘at face value’. (Bayne and Pacherie 2004; Pacherie 2009). In contrast to the explanationist, the endorsement theorist will typically claim that the anomalous sensory experiences found in cases of delusion have the exact same contents, or perhaps very similar contents, to the contents of delusional

² For other explanationists, the logical structure takes the form of Bayesian inference (for discussion of Bayesianism, see Davies and Egan 2013; McKay 2012; Parrott 2016, and Colombo and Laukaityte, Ch. 32, this volume).

beliefs. An endorsement account of Capgras delusion might claim, for instance, that patients have experiences with the content <that is an imposter> (Pacherie 2009: 110; cf. Bongiorno 2019) or perhaps <that looks like mum, but is not really her> (Davies et al, 2001: 50). It is natural to think of beliefs as encoding or somehow taking up the content of visual experiences. But notice that the notion of ‘endorsement’ is a normative concept; it is a concept that suggests that one is standing behind, or approving of the content that one believes. To ‘endorse’ a content is not simply to happen to believe it, but to recognize it as something that one has reason to believe. It is in this sense that the endorsement theorist is a type of normative empiricist. They think a person is *prima facie* warranted or justified in believing the contents of any vivid sensory experience, even a highly unusual one.³

Someone might object to the coherence of the normative empiricist approach on the grounds that delusional beliefs are manifestly irrational, and so they simply could not be warranted or justified. How, one might wonder, could a strange or anomalous experience provide any sort of reason for a delusional belief? Indeed, the sorts of experiences that one encounters in delusional subjects might seem to be too strange to justify anything at all. Similarly, one might think that some beliefs, like the belief that one’s mother is a qualitatively identical imposter, are so outlandish that no type of experience could possibly justify accepting it.⁴ The worry for normative empiricism is that transitions from highly anomalous sensory experiences to delusional beliefs, even ones where we assume the two share the exact same content, could not be reason-giving (Campbell 2001).

³ An epistemological theory that would seem to support the endorsement theory would be dogmatism (Pryor 1990).

⁴ To take an example of this, David Lewis thought that certain beliefs, like the belief that unexamined emeralds are grue, were ‘unreasonable in a strong sense’ and so simply could not be justified (1986: 38-39)

However, a normative empiricist is not committed to the view that delusional beliefs are formed in response to *objectively* good epistemic reasons. Rather, they need only hold the weaker thesis that delusional subjects treat their experiences as reasons or justification for their beliefs, even if, from a more objective perspective, we might very well understand that this is a mistake (Pollock 1979: 109-10; compare Grice, 2001, Ch. 2).

As an analogy, suppose certain people formed beliefs in empirical generalisations in accordance with an inference rule of counter-induction. Whenever these individuals faced an enumerative series of F's that are G, rather than believing that all F's are G, or that the next F will be G, they form the belief that most F's are not-G (Van Cleve 1984). Can we really regard a subject who makes an inference to a counter-inductive conclusion as someone who is making a rational transition? Perhaps not. But even if we don't think counter-induction is a good rule of inference, it remains the case that a subject who treats evidence this way is treating it as a reason or as justification for believing that most F's are not-G. From a more objective point of view, we may have doubts as to whether an enumerative series could really give a reason for believing a counter-inductive conclusion, but that conclusion is nevertheless plausibly a 'rational response' from the subject's own point of view. Similarly, the normative empiricist is only committed to thinking that anomalous sensory experiences are treated by delusional subjects as reasons, or justification, or warrant for their delusional beliefs, even if, from a more objective perspective, things seem different.

2. Causal Empiricism

The normative conception of empiricism seems natural when we think of sensory experience in normative terms, as something that grounds or justifies beliefs.⁵ But the normative conception of sensory experience is not mandatory. We might think of sensory experiences not as reasons or justification, but as nothing more than causal stimuli. Indeed, Donald Davidson famously argued that sensory experiences could not be reasons for belief. He claimed that ‘sensations cause some beliefs and in *this* sense are the basis or grounds of those beliefs. But a causal explanation of a belief does not show how or why the belief is justified.’ (1986a: 143). Davidson’s conception of sensory experience recommends a *merely* causal conception of empiricism.

According to a (merely) causal empiricism, undergoing an anomalous sensory experience is causally sufficient, or causally necessary, for forming a delusional belief. This, of course, means that normative empiricism is itself a type of causal empiricism, it is just that the normative theorist insists that experiences cause beliefs in virtue of their standing in some type of reason-giving relation. But there are ways to develop causal empiricism in a non-normative direction. On these sorts of views, the relation between an anomalous sensory experience and a belief is brute causation.

For instance, causal empiricism is the theoretical paradigm accepted by theorists attracted to a so-called ‘Spinozan’ view of perceptual belief. The central idea of the Spinozan theory is that the contents of (some) sensory experiences are automatically believed, without critical assessment or reflective scrutiny. Simply apprehending the perceptual presentation of *P* generates the belief that *P*. In this sense, forming a belief is a completely automatic response to a presented content (Mandelbaum 2014).

⁵ For a detailed explication of this conception of sensory experience, see McDowell 1994.

To give a basic sense of this view, consider how it gives a clear prediction in cases of known visual illusion. Suppose that someone knows they are looking at a Ponzo illusion, an illusion in which two lines of equal length appear to be different in length. On many theories, this background knowledge would inhibit the agent's inclination to believe that the lines are different lengths, and it would normally do so by undermining the justificatory status of the visual experience. After all, the agent *knows* they are looking at an illusion. The Spinozan view recommends a different picture. It claims that when the agent is perceptually presented with an appearance of two equal lines, this immediately causes them to believe the lines are equal. The agent may be able to reflectively evaluate or reject this belief after it has been adopted, but, for the Spinozan, the experience of the lines is sufficient to cause the agent to acquire the belief.

The Spinozan conception can easily be applied to delusions (Davies and Egan 2013; Bongiorno 2022). For instance, a Spinozan theory could maintain that a person who has an anomalous experience of their mother's face would automatically believe that their mother is an imposter. For the Spinozan, simply entertaining the imposter proposition would be causally sufficient for believing it, regardless of whatever else the person might believe.⁶

The Spinozan view has some odd consequences, but it is not the only way to develop a merely causal version of empiricism. We might think, for instance, that delusional beliefs are formed on the basis of non-rational associative transitions. The basic idea would be that the psychology of a delusional subject includes stored associative structures that link together the occurrence of an anomalous experience with the content of a delusional belief. Because of these structures, the occurrence, or perhaps the repeated occurrence of, for

⁶ A full-blown Spinozan account of delusion formation would need to explain why the delusional belief isn't immediately defeated or rejected on the basis of the available evidence. For some ideas in this direction, see Bongiorno 2022.

instance, an irregular experience of their mother's face, causes the individual to think that their mother has been replaced by an imposter. In cases where the associative links are sufficiently strong, the result would be a delusional belief. This sort of account would maintain that delusional beliefs are causally generated by anomalous sensory experiences, but because associative transitions are insensitive to reasons, it would be a non-normative type of empiricism (Mandelbaum and Quilty-Dunn, 2019).

As these examples illustrate, the basic paradigm of causal empiricism offers us a broader conception of the relationship between sensory experience and belief than we find in normative empiricist views. One could therefore commit to a causal empiricist framework, even if one were worried about the rationality of transitions between anomalous sensory experiences and delusional beliefs.

3. Content Empiricism

Both normative empiricism and (merely) causal empiricism are views primarily about the nature of the relation between sensory experience and belief. But, in the history of philosophy, empiricism is often thought of as a doctrine about meaning or reference. Hume and Locke are primarily concerned with how the content of ideas is fixed by sensory experience. Similarly, many empiricists in the early twentieth century were concerned with how sensory experiences conferred meaning on some privileged class of sentences, for instance the sentences of a sense-data language (e.g., Ayer 1936; Schlick 1932). Following on from this tradition, we could interpret 'empiricism' primarily as a thesis about the meaning or content of delusional beliefs.

The primary theoretical commitment of content empiricism is the idea that delusional beliefs are meaningful, or have content, only insofar as they can be traced back

to sensory experience.⁷ This need not be understood in an atomic way, such that every meaningful term figuring in the content of a delusional belief must itself be grounded in some aspect of sensory experience. The content empiricist could think that something like whole propositions are the most basic unit of meaning, and therefore hold that the content of a delusional belief is meaningful if and only if the proposition that one believes is appropriately grounded in sensory experience. Content empiricism would stand in opposition to any framework according to which delusional beliefs could have meaningful contents in some way that is independent of sensory experience.

One reason to adopt the content empiricist paradigm is that it offers very clear criteria for distinguishing meaningful expressions from nonsense. This can be especially useful when we consider the verbal expression of delusional beliefs, because these have struck some theorists as nonsensical. Perhaps most prominently, Karl Jaspers is well-known for holding the view that verbal expressions of what he called 'primary delusions' are not meaningful. According to Jaspers, when we encounter a person trying to articulate a delusional experience, their experience 'remain[s] largely incomprehensible, unreal and beyond our understanding.' (1903/1997: 98; Berrios 1991). Although Jaspers does concede that delusional beliefs are often meaningful to their subjects, he thinks this subjective sense of meaning undergoes what he calls a 'radical transformation', making it completely incomprehensible to others.

Many have found it difficult to accept Jaspers's conclusion in full generality. Doing so would mean that every person who tried to express a delusional belief would be speaking

⁷ Because it is concerned with meaning or content, content empiricism is compatible with either of the previous versions of empiricism.

nonsense.⁸ Content empiricism can help us to resist this conclusion. As we have seen, according to content empiricism, certain expressions may seem *prima facie* puzzling, or nonsensical, for instance utterances like ‘there’s been someone like my son’s double’ or ‘I am dead’, but these can nevertheless be meaningful if they are ultimately derived from sensory experience. So, in contrast to Jaspers, the content of a delusional belief can be meaningful (and thus its verbal expression can be meaningful), if it is some proposition, perhaps not the one typically associated with the utterance, that is appropriately grounded in experience.

To quickly see how this might work, consider Cotard Syndrome. If we hear someone sincerely report ‘I am dead’, we might be inclined to think the person has lost their grip on the meaning of ‘being dead’. But content empiricism lays the ground for a different response. It suggests that we might *translate* the initial expression into some other expression like ‘I don’t feel like I have a body’ (Billon 2017; Young and Leafhead 1996). This is plausibly meaningful because its central terms all have contents determined by sensory experience, and so, if we take the translation to properly express the content of the delusional belief, then it turns out to be meaningful after all (for more on delusion and meaning see Ritunnano and Littlemore, Ch. 3, this volume).

4. Rationalism and Reasons

There are various reasons that one might be suspicious of empiricism. One might worry about whether each and every delusion can really be traced back to some type of sensory experience. Or, one might have more general worries about the epistemology presupposed

⁸ Indeed, it is not clear that Jaspers himself thinks expressions of delusional beliefs are *impossible* to understand in every single case (Eilan 2000).

by empiricist theories. The alternative paradigm which Campbell presents he labels rationalism (for detailed discussion of rationalism, see Ohlhorst, Ch. 28, this volume). Campbell's rationalism departs from empiricism on two key points. First, Campbell rejects the normative claim that delusional beliefs are 'broadly rational' responses to sensory experiences. Second, Campbell rejects the causal claim that delusional beliefs are causally generated by sensory experiences. Instead, he suggests that the direction of causal explanation works in the opposite direction. Rather than thinking, as the empiricist does, that an unusual experience occurs first, which causally explains why an individual develops a delusional belief, Campbell is committed to the idea that one or more delusional beliefs occur first, and these causally explain why subjects have unusual sensory experiences.⁹

Campbell attempts to further explicate the connection between a delusional belief and sensory experience using Wittgenstein's notion of a 'framework proposition' (2001: 97). For Wittgenstein, a framework proposition is a type of proposition that is completely immune from empirical or rational scrutiny because it is 'treated' as a fundamental background assumption, one which grounds the entire practice of empirical confirmation and disconfirmation. In other words, our acceptance of framework propositions functions to establish epistemic standards, and thus underlies the reason-giving or justificatory relations which hold between the empirical beliefs we hold (for discussion of framework propositions, see Ohlhorst, Ch. 28, this volume and Eilan 2001).

But if delusional beliefs function like framework propositions and are not caused by sensory experience, as the empiricist thinks, then where do they come from? What is it exactly that leads a person to start thinking their mother is an imposter, if not a strange

⁹ Rather often this distinction between directions of explanation is put in terms of empiricism being a 'bottom-up' framework and rationalism being a 'top-down' framework (Bortolotti 2022; Bayne and Pacherie 2004).

experience of her face? Campbell suggests that delusional beliefs arise from what he calls an 'organic malfunction' to the brain. The thought seems to be that some kind of brain damage directly causes a person to believe, for instance, that their mother is an imposter. Then, once that belief is established as a 'framework', it has downstream causal consequences, including the attenuation of affective responses when one looks at one's mother. As Campbell says, the rationalist 'would expect there to be differences in the affective aspects of the patients perceptions of other people.' (2001: 97)

Campbell presents his version rationalism very briefly, and several philosophers have raised objections to it, which we shall not rehearse here (for discussion of these objections, see Ohlhorst, Ch. 28, this volume, and Bayne and Pacherie 2004). The one point we would like to make here is that Campbell's view is not the only theoretical alternative to empiricism. There are ways to develop alternative views which, like Campbell, reject the central doctrines of empiricism, but which do not rely so heavily on analogies with Wittgensteinian themes. In order to bring them into view, we need to keep in mind that the two theoretical commitments of Campbell's rationalism are distinct. Campbell is primarily concerned with the direction of causal explanation between anomalous sensory experiences and delusional beliefs. However, it is possible to develop a view which focuses primarily on the normative grounds of delusional beliefs, or on the reasons for which delusional beliefs are established. Indeed, one might wish to remain fairly neutral about the causal relation between experience and belief, while nevertheless holding onto the idea that delusional beliefs are 'broadly rational' responses. Campbell himself does not consider this possibility because he thinks of delusions as 'framework propositions' that lie outside the realm of normativity. But it is possible to deny the normative empiricist thesis that sensory

experiences constitute reasons, or justification or warrant for delusional beliefs, while nevertheless accepting that delusions are formed for epistemic reasons.

For instance, one might adopt a view according to which the reason a person accepts a delusional belief is not because of an experience, but because of other things the person believes. That is, one might think that delusional beliefs are 'broadly rational' responses to other beliefs. This would be a sort of 'coherentist' view of rational support that Davidson thought was true of beliefs generally (Davidson 1986a). On a Davidsonian view, the reason that someone would believe, for instance, that their mother is an imposter, would need to be traced back to other things they believed, such as, for instance, the belief that one's father had colluded with the imposter to murder their mother (Brighetti et al. 2007).

One might worry that this sort of coherentist view would have the consequence that everything a delusional subject believes comes out as irrational, or as delusional, because, on this picture, there is a sense in which the entire network of a person's beliefs gives rational support to the delusional belief. But someone attracted to this sort of view can resist this worry. Given the immense complexity of the system of overlapping reason-giving relations, it seems perfectly possible that a delusional belief could be partially supported by many ordinary empirical beliefs, even if it also partially supported by some delusional or quasi-delusional ones.

A different way to avoid this concern would be to appeal to the notion of psychological fragmentation.¹⁰ To say that a person's psychology is fragmented is just to say that it is partitioned into somewhat autonomous or independent psychological structures (Davidson 1982). Within each partition there would be a set of beliefs that stood in

¹⁰ Davidson himself appeals to fragmentation to explain self-deception (Davidson 1982; 1986b).

mutually supportive reason-giving relations, yet there would be no reason-giving relations that held across distinct partitions. Several theorists working on delusional beliefs have appealed to some conception of psychological fragmentation (e.g., Bortolotti 2009; Davies and Egan 2013). On such view, since a delusional belief would be embedded within a somewhat autonomous fragment, we would not be forced to think that everything the person thinks is irrational or delusional.

Another worry that one might have about this type of coherentist view is that it is not clear how a bizarre delusional belief could ever arise. If a person's psychological life is a rationally coherent system of beliefs prior to the onset of delusion, then what sort of thing would cause a delusional belief that fails to cohere with that body of beliefs?

This is a good question, which we unfortunately cannot pursue in this chapter. But it is worth noting that in response Davidson himself would have sided with the causal empiricist. Davidson thought that empirical beliefs were caused by sensory experiences, even though those did not constitute evidence or reasons for them (Davidson 1986a). However, it is possible to develop a view that does not follow him on this point. To do so, one would need to conceive of the causal origins of a delusional belief as something other than sensory experience, but we have already seen one way to do this, namely Campbell's suggestion that some type of organic brain damage directly causes the formation of a delusional belief, after which it becomes embedded in a system of rationally supporting beliefs.

Someone attracted to the idea that delusional beliefs are, in some sense, responses to reasons is not forced to think that those reasons are other beliefs. Instead, one could think they are something like intuitions, or intellectual presentations. According to certain non-reductive views, intuitions are *sui generis* attitudes which present contents as true. For

instance, John Bengson argues that ‘in having an intuition...it is presented to one as being the case that things are a certain way.’ (2015: 726) That is to say that having an intuition that P makes it seem to you that P is true, and so therefore plausibly gives you a good reason to believe that P (which may be defeated).¹¹ This sort of transition from intuition to belief may be how certain delusions arise. For example, one schizophrenic individual describes how it just seemed to him that the shadow of Satan was on his living room floor (Emmons et al. 1997). Similarly, John Nash, who suffered from schizophrenia, once said, ‘the ideas I had about supernatural beings came to me the same way that my mathematical ideas did. So I took them seriously.’ (Nasar 1998: 11). We naturally think mathematical beliefs are based on intuition, and so, if we take Nash at his word, it would seem that his delusional beliefs may be as well.

5. Exhaustiveness and Exclusivity

In philosophy, disjunctions are often presumed to be both exhaustive and exclusive. However, the disjunction of rationalist and empiricist accounts of delusional belief is neither of these. There are contemporary accounts of delusional beliefs that seem to include elements from both categories, and there are other accounts that do not fit neatly into either one. In this final section, we will briefly give examples of each in order to demonstrate that there are actually many more options for explaining delusion formation than the rationalism/empiricism disjunction might initially suggest.

¹¹ How one feels about the intuitionist view depends upon how liberal one is about what counts as ‘sensory experience’. Intellectual seemings, as Bengson thinks of them, obviously do not involve sensory organs, like eyes, or ears. But in other respects, they seem very similar to paradigmatic sensory experiences. Thus, if one adopts a liberal enough conception of sensory experience, or something like what Shoemaker (1994) calls the ‘broad perceptual model’, then the intuitionist view could plausibly be regarded as an empiricist view.

Let's start with exclusivity. As we have characterised it, empiricism, in both its normative and causal forms, is committed to the direction of explanation of a delusional belief proceeding from the occurrence of an unusual experience to the formation of a delusional belief. By contrast, Campbell's rationalism is committed to the converse direction. It holds that agents first form delusional beliefs, which then cause them to develop anomalous experiences. Explanation is asymmetric and so it would be natural to think that only one of these could be correct.

Nevertheless, many computational psychiatrists are now attracted to predictive processing accounts of delusional beliefs. According to predictive processing models, delusional beliefs are formed through complex, multi-level, dynamic processes. Very briefly, the central idea of the predictive processing approach is that the brain is constantly trying to 'predict' incoming sensory stimulation by virtue of constructing probabilistic models of the immediate environment (Friston 2010; Hohwy 2013). When those models are accurate, nothing happens. Yet, when they are inaccurate a sequence of 'error signals' is propagated through the brain so that it is able to make adjustments to its predictive model. Predictive processing theorists think that, in every domain, the brain aims to solve just one computational problem – how to best minimise error. Thus a predictive processing explanation of delusional belief (or indeed of anything else) will consist of some kind of dynamic interaction between predictive models and the incoming sensory stimulus.¹² Although neither of these theoretical constructs are quite what rationalists or empiricists have in mind, the predictive processing approach seems to accept aspects of each of these

¹² To see different ways in which a predictive processing account of delusion could be developed, see Parrott 2020.

paradigms (for more on predictive processing accounts, see Corlett, Ch. 31, this volume; Hohwy 2004).

Now for exhaustiveness. In the previous section, we looked at two different possible ways in which one could develop reasons-based theories of delusion formation, neither of which can be classified as either rationalist or empiricist. But, there are also existing theoretical accounts of delusion formation that do not fit into either of these categories. So the rationalism/empiricism disjunction does not even exhaust the range of actual theories.

For example, some researchers working on delusions have been impressed by the way beliefs function to organise social structures. These theorists claim that social processes and mechanisms are able to directly cause beliefs, including delusional ones. Thus, Bell and colleagues write that ‘social influence can form and maintain beliefs that are as epistemically irrational, affectively loaded, and strongly held as delusional beliefs’ (2021: 4; Williams 2021). It isn’t clear how exactly ‘social influence’ forms beliefs or maintains beliefs, nor is it clear exactly what a social process or mechanism is. But, on one way of understanding these claims, social factors causally influence the ways individuals process empirical evidence (Williams 2020). That seems obviously true. But it is compatible with empiricism. However, another way to understand the claim that ‘social influence’ forms beliefs is to hypothesize that social processes or mechanisms directly cause beliefs in ways that are insensitive to reasons or evidence. For instance, it may be that the best explanation for why someone believes that senior members of the Democratic Party are involved in sex trafficking is that everyone in their community believes it. The fact that everyone believes it is not, on this view, evidence that the belief is true or an epistemic reason in its favour. Rather, the idea is that the person forms the belief as a result of sensitivity to ‘social influence’.

The social influence hypothesis might seem like a nonstarter when it comes to delusional beliefs. Even though the content of delusional beliefs often involves a person's social environment, individuals with delusions tend to be relatively isolated and detached from social groups. What group of people would be exerting influence on someone who thinks their mother is an imposter, or that they are infested with parasites? Unlike people who hold conspiratorial beliefs, or who accept bizarre ideologies, delusional individuals are not usually members of social groups of likeminded thinkers. So it is difficult to see how holding a delusional belief could possibly be the result of some kind of direct 'social influence'.

Nonetheless, the social influence hypothesis may not be a complete dead end. If, as the view suggests, there really are social processes or mechanisms that generate beliefs, then it should be possible for those to become impaired. Thus, we might hypothesise that dysfunctional or impaired social processes or mechanisms generate delusional beliefs. Although there would need to be much more discussion of how exactly a social process becomes impaired, this would be a picture according to which social factors explained the formation of delusional beliefs without lending them rational support, which would distinguish it from both rationalism and empiricism (for more on the social turn in delusions research, see Williams, Ch. 35, this volume).¹³

To briefly take just one more example, consider theorists who adopt a 'phenomenological approach' to understanding delusions. Many of those attracted to this framework insist that delusions involve fundamental disturbances to 'the most basic

¹³ To be clear, just saying that social factors cause the formation of delusional beliefs is logically compatible with the coherentist view that we considered in section 4. For the social approach to be wholly distinct, one would need to deny that delusional beliefs were rationally supported by other beliefs. We suspect that most theorists attracted to 'social influence' views would deny this.

structure of experience', which includes such things as lived time, space, causality, felt reality status, and self-experience (Sass and Pienkos 2013:633). Although phenomenologists do sometimes refer to 'delusional experiences', they think of these as a symptom of some crucial alteration in the framework of experience. For instance, Matthew Ratcliffe argues that certain delusions are expressions of 'existential orientations', understood here as the 'backgrounds' within which any token experience can be had. The phenomenological approach to explaining delusional beliefs therefore does not seem to be either rationalist or empiricist.

6. Conclusion

Despite receiving a fair amount of attention in recent years, delusional beliefs remain poorly understood. Even in cases where there appears to be relevant experimental evidence, such as the case of Capgras delusion, there is little agreement among theorists as to the aetiology. This sort of explanatory impasse could reasonably be taken to suggest that the field is in need of a novel theoretical approach. However, there is a risk that theoretical innovation might be hindered by presupposing too rigid a picture of the logical space of theoretical options.

The primary aim of this chapter has been to highlight different ways of understanding empiricism. Since it was first articulated by Campbell, empiricism has come to dominate research programmes in cognitive neuropsychology and computational psychiatry, even in cases where researchers depart from some of its central principles. Nevertheless, it seems worthwhile to get a clear sense of different avenues along which an explanatory account of delusion could be developed. Empiricism is bound to seem like the only plausible research paradigm if we restrict our attention to monothematic delusions,

like the Capgras delusion, for which there is strong experimental evidence implicating anomalous sensory experience. Yet it is not obvious that what we learn from these sorts of cases can generalise to all cases of delusion, particularly to the sorts of delusional systems found in case of schizophrenia. To fully explain these more perplexing phenomena, theorists may need to appeal to some other approach. Indeed, given the tremendous variety among cases of delusion, we think it is best to have as many options available as possible.

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