Chapter Three

3 The Role of Irrationality in the Production of Delusion

3.1 Cognitive Deficit / Bias

In Chapter One we considered Jaspers' (1959) thesis that primary delusions are not able to be explained from the psychological level. Campbell (2001) similarly concluded that delusions were intractable from the psychological level. His line of reasoning was that the rationality constraints on the role of belief rule out our being able to attribute a consistent content to delusional utterances. One of the concerns seems to be that if delusions are irrational phenomena then it is hard to see how we can offer a (rational) explanation of them.

In Chapter Two we considered how a breakdown in sub-personal mechanisms and a resultant abnormal SGR might produce an anomalous experience for the delusional subject. Maher's response to Jaspers' thesis that primary delusions cannot be explained from the psychological level was to counter that anyone would develop a delusion in response to the intense and recurrent anomalous experiences that are encountered by delusional subjects. He thus considered that delusional subjects exhibit rationality that is comparable to the rationality exhibited by non-delusional subjects. Maher believed that all delusions could be explained from the psychological level by appealing to a prior person-level state of an anomalous experience.

Near the end of Chapter Two we considered that an anomalous experience (of the kind that Maher considered) would not seem to be sufficient for the development of delusion. Why doesn't the subject simply accept the explanation that they have suffered cerebral trauma which has meant that something is going wrong with their brain / affective responses? Two-factor theorists countered Maher's suggestion by

saying that delusions would not seem to be normal or 'rational' responses despite the nature of their anomalous experience.

Before I turn to some of the accounts that have been offered of the nature of the delusional subject's irrationality I want to reiterate that in attempting to specify the nature of the delusional subjects breach in rationality we have to say something more than that they do not live up to the ideal of rationality. This is for the simple reason that we all fall short of the ideal of rationality. People without delusions are prone to a variety of cognitive biases, heuristics, and logical errors. We have also considered that non-delusional subjects may discover contradictory beliefs when they follow through logical entailments of pre-existing beliefs for the first time. What we seem to need is an account of how people with delusions reason differently from non-delusional people in order to explain why some people are led to delusion in the face of certain kinds of anomalous experiences while others are not.

While this would seem to be the case, on the other hand it would also seem to be the case that it is inadequate to posit a complete and global break in rationality. Some subjects exhibit monothematic and circumscribed delusions and thus they seem to exhibit rationality that is comparable to normal subjects outside the limited context of their delusion. We cannot maintain that they have forsaken reason completely as if this were the case we would expect them to have more pervasive and global abnormalities in their other utterances and in their behavior. The challenge for two-factor accounts of delusion is to offer an account of the nature of the second factor that is pervasive enough to result in a person endorsing a delusional belief in the face of an anomalous experience, yet specific enough to allow that they exhibit rationality comparably to non-delusional subjects outside the context of their delusion.

Stone and Young (1997) consider that it may be profitable to distinguish between a deficit in rationality, and a bias in rationality. They consider that a deficit in

rationality would result in a complete breakdown, and as this is observed not to be the case they concur with Maher that the delusional subject does not have a deficit in rationality. They then go on to consider the notion of a cognitive bias. They maintain that while a deficit would seem to imply a complete breakdown, a bias may result in reasoning processes that are more along the lines of a variation or distortion on the reasoning processes of non-delusional subjects. The notion is that if we can specify the nature of a bias in rationality, then we may be able to explain delusions as an inevitable (hence predictable and understandable) result of the subject having such a bias.

The bias / deficit distinction might not entail that delusions are understandable on the one hand and not understandable on the other. In Chapter One we considered how from the psychological level there would seem to be a structure to rationality in the sense that rationality is a tripartite notion. There would seem to be rationality constraints operating on the process of belief formation, the process of inferential relations between beliefs, and the process of beliefs and desires producing understandable (predictable) behavior. It would seem possible in principle that there could be a complete break (a deficit) in one of these aspects to rationality while the others could remain intact. Positing a complete break in any of these aspects of rationality would still seem to be too much of a deficit, however. People with monothematic and circumscribed delusions seem to exhibit belief formation, inferential relations, and practical rationality that is comparable to non-delusional subjects in other contexts, and thus it would be inadequate to posit a complete break or deficit in any of these aspects.

It would seem that if the delusional subject does in fact have problems with rationality at any (or all) of the above mentioned places that the problem would seem to be more appropriately thought of as a bias from the psychological level. In Chapter One we considered three different levels of explanation, however. It might be plausible to consider that a bias on one level of explanation (psychological) might be explained by recourse to a deficit (or complete break) in a cognitive

mechanism (on the cognitive / design level) and even more plausibly by the positing of a deficit on the neurological (physical) level when people have delusions that arise in response to localized cerebral injury. Whether the breakdown in rationality is considered to be a bias or a deficit would seem to have little consequence so long as we can specify the nature of the break in a way that is specific enough to produce a single delusional belief without entailing that they will endorse many others as well. If we can specify the nature of the deficit / bias then it would seem that delusions would be understandable (or inevitable) responses *given* the precise nature of the deficit / bias in rationality. I shall now turn to considering some of the cognitive biases that have been suggested by two factor theorists.

3.2 Attribution Bias

If there is a step of inference between the content of the anomalous experience and the content of the delusional belief then it might be the case that the delusional error could be a result of faulty inference. While Maher considers the step of inference to be comparable to the inferences of non-delusional subjects, other theorists have attempted to describe a bias which makes it more likely that the delusional hypothesis occur to them over non-delusional alternatives. An attribution bias has been appealed to in the attempt to explain why it is that the delusional hypothesis occurs to the delusional subject in the first place. It thus seems to be a bias operating on the process of belief formation. Subjects with the Cotard delusion have been found to have a loss of the normal SGR to familiar faces that is comparable to subjects with the Capgras delusion. Instead of maintaining that someone has been replaced by an impostor, however, subjects with the Cotard delusion typically maintain that they are dead. Young (1988 Ch. 10) and Stone and Young (1997) consider that an attribution bias may account for why some subjects are led to consider the hypothesis 'I am dead' as opposed to the hypothesis 'the person in front of me has been replaced by an impostor'.

Normal subjects have been found to attribute the cause of positive events to internal factors, and to attribute the cause of negative events to external factors. One explanation for this is that it is 'ego-preserving' in the sense that *they* are responsible for positive events while factors external to themselves are responsible for negative events. Normal subjects also show a mixed attributional style with respect to explaining events which are perceived as neutral. Subjects with paranoid delusions showed a certain kind of externalizing bias, where an external *agency* is responsible for negative events. Subjects with depression tend to attribute the cause of negative events to internal factors and they are also more likely to describe the causes as stable traits within themselves that are enduring and are unlikely to change over time.

Stone and Young (1997) suggest that some people may be more inclined to develop the Cotard as opposed to Capgras delusion depending on whether they have an internalizing as opposed to externalizing bias in their attributional style. The thought here is that the Cotard delusion is a kind of internal attribution as the person attributes the cause of the anomalous experience to something within themselves having changed. In this case, the thought is that they have died. In the Capgras delusion the person may be more inclined to externalizing attributions. The person with the Capgras delusion locates the cause of the anomalous experience in the external world when they conclude that the person in front of them has been replaced by an impostor.

This account would seem to run up against a few problems, however. Firstly, Butler (2000) has reported a case of co-present Cotard and Capgras delusions in the same person. If the only difference between people who develop the Cotard as opposed to Capgras delusions is the attributional bias that the person is prone to then the finding of co-present Cotard and Capgras delusions in the same person would seem to create a problem for the account considered thus far. The problem would seem to be that if we want to say that the presence of attributional bias explains the presence of the delusion then there needs to be more involved in the

notion of attributional bias than the mere fact that the person has a certain sort of delusion. If there wasn't anything more involved then attributional bias would merely be a re-description of the phenomena rather than an explanation for the phenomenon.

The measure of whether someone is indeed inclined to an internalizing or externalizing bias would seem to be how often the person makes those kinds of attributions. To consider a person to have both an internalizing and externalizing bias at the same time would seem to undermine the notion of an internalizing as opposed to externalizing bias in the first place. To exhibit a mixed attributional style is simply what normal subjects have been found to do. Although the finding of co-present Cotard and Capgras delusions has been considered to be a fairly significant problem for the attributional bias account of the second factor, it may not be such a significant problem after all. On closer examination the individual with 'co-present' Cotard and Capgras delusions was inclined to one of these delusions in the morning and the other delusion in the evening so it may be plausible to hypothesize that their attribution style underwent a corresponding shift through the course of the day. Stone and Young (1997, p. 346) consider a similar case of KH, 'who was depressed when he claimed to have died, and experiencing persecutory delusions when he said people were impostors'.

A different concern that we may have with the account thus far is that an attribution bias would still seem to underdetermine the belief that the person comes to in two respects. Firstly, why is it that one person maintains that the impostor is an alien, while another may maintain the impostor is a robot, and yet another may maintain that the impostor is a clone? It is hard to know what to say about this. One suggestion has been that we may need to appeal to whatever interests or pre-occupations the person had before their delusion developed. If they had an interest in aliens, for example, or had watched a few alien movies then this might be enough to have the hypothesis occur to them over the alternative hypotheses as to the identity of the 'impostor'. It is hard to know what more to say about this.

Secondly, another more serious problem with the attributional bias account is that it would not seem to be enough to determine that the person adopt the belief 'I am dead' over other alternative beliefs that also involve internal attributions. One alternative attribution that has been considered is the hypothesis 'something has gone wrong with my brain'. Why is it that the person comes to believe the first hypothesis, and yet not the second? At this point I think it is worth noting that the person with delusions seems to be attempting to arrive at a psychological explanation for their anomalous experience. Appealing to brain injury would seem to be a neuro-physiological explanation, however, and thus would not seem to constitute a genuine alternative to their hypothesis in the sense that it is not a hypothesis that is at the appropriate level of explanation. Also, appealing to some unspecified cerebral injury is not a very satisfactory form of explanation. If it was satisfactory, then we would have explained delusions already! There would still seem to be alternative things that the delusional subject could say in the face of their anomalous experience, however, such as saying that they feel strange, or that it is *as if* they had died. Why don't these, more plausible, hypotheses occur to them as well?

3.3 Jumping to Conclusions

While an attributional bias may have prospects for explaining why it is that certain kinds of hypotheses (internal or external) are more likely to occur to the delusional subject in their attempt to explain their anomalous experience, it would not seem to be enough to determine that they will actually adopt as a belief the hypothesis that has occurred to them. Bentall et al. (1991); Bentall and Kinderman (1998); and Garety and Hemsley (1994) found that on probabilistic reasoning tasks people with schizophrenia were found to make judgments of certainty on the basis of less evidence than normal controls, who tend to leave making a judgment of certainty until the probability is higher. It is thought that the tendency to jump to conclusions may explain why it is that a person adopts as a belief the hypothesis that has occurred to them.

In fact, compared to Bayesian norms of probabilistic reasoning people with schizophrenia actually outperformed the normal subjects (who tend to be too conservative in their judgments of certainty). While the finding that people with delusions may perform closer to the ideals of Bayesian probabilistic reasoning may be described as their being found to be 'more rational' than non-delusional subjects, this would seem to be more indicative of a problem with taking Bayesian norms to describe normal rationality. As we considered before it is pointless to attempt to show that delusional subjects fall short of the ideal of rationality for the simple fact that non-delusional subjects have also been found to be lacking. It would seem that the performance of people with delusions is significantly different from the performance of non-delusional subjects, however. While Maher is inclined to minimize the differences saying that they are a matter of degree and not of kind and that in any case the people with delusions were found to perform closer to the ideal than non-delusional subjects, the differences between delusional and non-delusional subjects reasoning would seem to be statistically significant.

So, according to the 'jumping to conclusions' hypothesis, people with delusions may be more inclined to 'jump to the conclusion' that a particular hypothesis is correct rather than waiting until more evidence comes in. This is not an attempt at explaining why it is that the delusional hypothesis occurs to subjects in the first place. It is thought, however that when people attempt to explain certain kinds of anomalous experience an attribution bias may explain why it is that certain kinds of hypotheses occur to them. The tendency to jump to conclusions can then explain why it is that the delusional subject adopts as a belief the hypothesis that has occurred to them. It may be that they simply jump to the conclusion that the first hypothesis that occurs to them is correct. Thus an attribution bias together with a tendency to jump to conclusions is thought to explain the delusional subjects bias / deficit in the process of normal belief formation. The bias / deficit is thought to provide something of an account as to how the subject comes to adopt a delusional belief in the attempt to explain their anomalous experience.

A problem with the story thus far is the experimental finding that the delusional subjects who were found to jump to the conclusion that a certain hypothesis was correct were also found to be inclined to jump out of the delusional hypothesis and change their mind as future evidence came in. This indicates that while the jumping to conclusions hypothesis may go some of the way towards explaining why it is that they jump to the conclusion that a certain hypothesis that has occurred to them is correct, it shows no prospects for explaining why it is that they retain the delusional hypothesis as a belief despite what the APA describes as 'incontrovertible and obvious proof or evidence to the contrary'. It does not explain why they retain their delusional hypothesis in the face of others attempting to argue them out of their delusion. The problem of the nature of the delusional error in rationality thus seems to be shifted to how they retain their delusional belief as certain in the face of evidence to the contrary.

3.4 Observational Adequacy and Conservatism

We have already seen how Stone and Young (1997) consider that a breakdown in their model of face recognition may produce an abnormal SGR which may in turn be associated with an anomalous experience for the subject. Stone and Young go on to offer a two-factor account of delusion in the sense that contrary to Maher, they do not consider delusion to be the inevitable result of the person having such an anomalous experience. They go on to offer an account of the second factor by considering that the nature of the delusional subject's error in rationality is to show a bias for preferring observational adequacy over conservatism.

They describe two principles that they consider to be involved in the normal process of belief formation. The first principle is the 'bottom up' principle of observational adequacy. Here the idea is that if we perceive something then it is observationally adequate to form beliefs on the basis of the observational data. The second principle involved in the normal process of belief formation is the 'top down' principle of conservatism. They consider that this top down constraint means that it

is rational for a person to adopt beliefs that involve the minimum of doxastic disruption in the sense of maintaining consistency with their pre-existing beliefs. This is because people are thought to be motivated to avoid contradiction if possible. Stone and Young consider that a certain amount of observational adequacy is required in order for us to update our belief network in the face of new information. If we did not employ the principle of observational adequacy at all then we would not be able to learn anything new. Sometimes these principles may come into conflict, however. Stone and Young (1997 p. 349-350) think that

> if the belief formation mechanism is to be adaptive then a balance needs to be maintained between these two imperatives. In a person experiencing a delusion this balance goes too far toward observational adequacy as against conservatism.

Davies and Coltheart (2000 p. 28-29) consider that people with delusions are aware that their delusional belief will be considered implausible by others, and that this suggests that they appreciate that their beliefs are inconsistent with many deeply entrenched beliefs of other people, and, indeed, with many belief to which they are strongly committed as well. They seem to be aware that their beliefs are not appropriately conservative but they retain them nevertheless.

Davies and Coltheart elaborate on why this might be so

> For a Capgras patient, the belief revisions that would be required to maintain overall consistency given the hypothesis that loved ones have been replaced by impostors would surely be disruptive and uncomfortable. In the case of some other delusions, aiming for overall consistency and embracing the resulting doxastic disruption might even lead to madness (Davies and Coltheart p. 28)

Here the thought seems to be that the delusional belief has been accepted because it is an observationally adequate explanation for their anomalous experience. If they were to aim for consistency once the delusional belief has been formed, however, then this would require radical revisions across the rest of the person's web of belief and thus the person is motivated to isolate their delusional belief from their other beliefs (the principle of conservatism). They thus do not draw the appropriate inferences or perform the appropriate behavior. If they did not do this then they may well exhibit the more elaborate delusional systems exhibited by some psychotic subjects rather than having a circumscribed and mono-thematic delusional belief and they may also be more inclined to act on their delusion. Stone and Young say that they are suggesting a motivational explanation for the circumscription, rather than elaboration, of a delusion and that the circumscription of a delusion is a matter of a motivated limitation of inferential *performance* rather than a lack of knowledge or *competence* concerning inferential relations as is suggested by their awareness that others will consider the delusional belief implausible. The problem we seem to be left with is why people with delusions are unable to reject the delusional belief in the face of its inconsistency with their other beliefs. Stone and Young may have described something of the delusional error but with regards to explanation we still seem to be left with a puzzle.

3.5 Two Interpretations of Observational Adequacy

Davies and Coltheart (2000 p. 18) consider that there are two different ways in which we can interpret Stone and Young's principle of observational adequacy that was considered in the last section.

> On the first construal, the observational data to which belief revision should be adequate concern the external world… rather than my experiences. On the second construal, the data to which belief revision should be adequate are data about my experiences.

In order to illustrate this distinction Davies and Coltheart (2000 p. 16) describe a situation where 'sitting in my office I seem to see in the corner several little green men playing blackjack with a pink elephant dealing the cards'. On the first interpretation it would be observationally adequate to form the belief 'there are several little green men playing blackjack with a pink elephant dealing the cards'. The trouble with adopting and retaining this belief, however, it that one is likely to have compelling reasons for other beliefs that are inconsistent with this hypothesis, such as beliefs that there aren't any little green men, that pink elephants are unlikely to get into the building, and that at any rate elephants are unable to deal cards. Forming the belief that 'there are several little green men playing blackjack with a pink elephant dealing the cards' thus goes against the principle of conservatism.

On the second interpretation of observational adequacy the person should adopt beliefs that are observationally adequate to the experience they are having. In this case the person might come to the belief that 'it seems to me as though there are several little green men playing blackjack with a pink elephant dealing the cards'. They consider that while it might be natural to take Stone and Young's observational adequacy requirement to be that one should adopt beliefs that are adequate to their experiences

> It does not seem right, however, to say that the Capgras patient goes wrong by attaching too much weight to data about the nature of his experience. That anomalous experience does demand explanation. The Capgras patient's mistake is to be too ready to adopt a particular explanation of his experience, an explanation involving the delusional hypothesis rather than a more conservative alternative (Davies and Coltheart, 2000 p. 19).

They thus consider that the delusional error is not so much that they accept observational adequacy regarding their *experiences* over conservatism, but rather that they 'arise from a bias in favor of accepting experiences as veridical' (Davies

and Coltheart, 2000 p. 20). They go on to consider the delusional error in more depth.

3.6 Accepting Perception as Veridical Despite Rational Grounds to Doubt

Davies et al. consider that 'attempts to say in more detail what this loss of ability amounts to face many problems' (2002 p. 149). They offer an account of the normal process of belief formation that is broadly similar to that offered by Stone and Young though they are more explicit in offering an account of how the person forms false beliefs about the state of the external world on the basis of accepting their experiences as veridical. Davies et al. consider that normally people do come to believe what they perceive, and they call this tendency a pre-potent doxastic response. Non delusional subjects are thought to be able to inhibit this response when what they perceive diverges too radically from prior perceptions or beliefs. Delusional subjects, on the other hand, are thought to develop delusions because they are unable to inhibit this response in the face of an erroneous perceptual experience (Davies et al. 2002 p.153).

It would seem that it is not a normal, rational, or typical response to always believe what we perceive. Sometimes what we perceive diverges too radically from what we previously knew to be true in the sense that it diverges too much from our prior beliefs and perceptions. When we experience visual illusion, for example, then it may well be a typical initial response to judge the lines to be of different length when viewing the Muller-Lyer illusion. Once we come to understand something of how the illusion is produced, however, or once we see the arrows removed and reinserted then we no longer believe what we perceive. We judge the lines to be of equal length despite the way that they appear to us to be. In this case conservatism has us reject the belief that the lines are of equal length.

Another difference in Davies et al's, and Davies and Coltheart's line is that they explore the idea that delusions might not be attempts to *explain* anomalous

experiences, rather they suggest that delusions might simply be adopted as the result of the ordinary operation of belief formation. They consider that normally we do accept our perceptual experiences as veridical and if the delusional subject is doing this then there is no step of inference between the experience and the adoption of the delusional belief.

Davies et al. (2002 pp. 150-151) consider different ways in which the anomalous experience has been specified. Maher gave a very general account of the relevant anomalous experience as a '*vague general feeling*' and thus there would need to be a step of inference between the anomalous experience and the delusional belief. It would seem that the person needs to come to some sort of explanation in order to identify the changed element. If the anomalous experiences of people with the Capgras and Cotard delusions is the same when looking at a face of their loved one then it would seem that a step of inference or explanation is required between the anomalous experience and the delusional belief that the person arrives at in order to explain their anomalous experience. Davies et al. instead consider that the content of the delusion might be given directly by the anomalous experience.

> Suppose, on the other hand, that the patient's unusual experience represents the situation as follows: "This is someone who looks just like my close relative *but is not really her/him."* If the delusional hypothesis is already part of the *representational content* of the patient's perception, then the route to a delusional belief involves nothing more than accepting the perception as veridical.

Davies et al. (2002 p. 149) maintain that the second factor may be described as 'a loss of the ability to reject a candidate for belief on the grounds of its implausibility and its inconsistency with everything else that the patient knows'. The thought seems to be that people with monothematic and circumscribed delusions are able to isolate their belief off from the other beliefs in order to minimize doxastic disruption, but they didn't seem to be able to reject the belief in the face of

inconsistency with their other beliefs in the first place. This seems similar to Stone and Young's suggestion that the person with monothematic and circumscribed delusions retains conservatism enough to not follow inferential relations and perform appropriate actions given their belief, but they accept their experience as representing the state of the external world adequately with respect to their adopting the delusional belief in the first place.

So Davies et al. characterize delusional beliefs in regards to two steps. The first is that they come to a candidate for belief (a hypothesis) the same way that normal subjects do: on the basis of accepting their perceptual experience to be veridical. They consider that this is how people normally do form beliefs and thus this does not consist in a breakdown / bias in rationality. The delusional error, however, is that they adopt the candidate for belief in spite of rational grounds to doubt the belief. This seems to amount to the first interpretation of Stone and Young's suggestion that the delusional error is the inability to reject the candidate for belief on the grounds of its inconsistency with everything they previously knew to be true. They do not reject it even though adopting it results either in a significant breakdown in inferential relations (in relatively circumscribed delusions), or pervasive ramifications right through the subjects belief network (in the more elaborate delusions of some psychotic subjects).

Davies and Coltheart (2000 p. 29-30) summarize their account as a four stage model of delusions (EHBC). They consider that 'The four steps in this schematic account are an anomalous Experience, a prioritized Hypothesis, the adoption of this hypothesis as a Belief, and then finally the Circumscription of the delusion within the subject's web of beliefs'. With respect to the Capgras delusion they outline an explanation as follows:

> E – In response to cerebral trauma the subject has a disorder of face processing which results in an anomalous experience when the person sees a familiar face.

H – The delusional hypothesis is generated. This might be an explanatory hypothesis prioritized by an attributional bias (Stone and Young's line); or it might be the result of the person simply accepting an anomalous experience as veridical. (Davies et al. adopt the latter line)

B – This hypothesis is adopted and maintained as a belief as the result of a deficit in belief revision that Stone and Young characterize as a bias in favor of observational adequacy.

C – On the basis of motivational factors, the delusion remains relationally unelaborated or circumscribed.

With respect to the motivational factors for circumscription they agree with Stone and Young in considering 'the circumscription of the delusion may be intelligibly motivated to the extent that following through the consequences of the delusion would lead to substantial doxastic disruption and perhaps, in the limit, to the fracturing of the patient's conception of the world and his place in it'. Thus the person with circumscribed delusions does not forsake conservatism completely though this might be the case for people with more elaborated delusional systems.

Davies et al, (2002 p. 152) consider that a difficulty with their account of the nature of the second factor - and this is a difficulty that would seem to apply to Stone and Young's account also - is that they run up against what Davies et al. refer to as an 'unwanted' prediction. A visual illusion (such as the Muller-Lyer illusion, or the Ames room) would provide an erroneous visual perception for the delusional subject. On Davies et al.'s account of the nature of the second factor the delusional subject would be expected to accept this erroneous percept despite any rational evidence to the contrary (such as after measuring the lines, or coming to understand how the illusion is produced). On Stone and Young's account of the nature of the second factor the delusional subject would be expected to come to the same belief on the basis of accepting an observationally adequate hypothesis (regarding the external world) as a belief over a hypothesis that is appropriately conservative.

Davies et al. would seem to be correct in considering this prediction to be implausible, although it should be said that it has not been empirically tested.

In the next Chapter I want to consider whether we may be able to avoid the unwanted prediction currently implied by Davies et al's account by reconsidering the nature of the anomalous experience that is thought to be relevant to the production of delusion. Davies et al. consider the relevant anomalous experience to be a *perceptual* experience, and hence on their specification of the delusional error we would expect subjects to similarly come to accept their other *perceptual* experiences to be veridical despite rational grounds to doubt. If the relevant experience is not strictly perceptual, however, then we may not expect delusional subjects to accept their erroneous perceptual experiences as veridical despite rational grounds to doubt. It would also seem worthwhile to consider the mechanisms that may be involved in the production of anomalous experience in more detail. It would seem that if it is indeed the case that the person has a rich content anomalous experience which leads to a delusional belief (when accepted as veridical) without a step of inference then we would need more of an account of how such a rich content anomalous experience may be produced.