CHAPTER 2

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What Makes a Belief Delusional?[1]

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Introduction

In philosophy, psychiatry, and cognitive science, definitions of clinical delusions are not based on the mechanisms responsible for the formation of delusions, since there is no consensus yet on what causes delusions. Some of the defining features of delusions are *epistemic* and focus on whether delusions are true, justified, or rational, as in the definition of delusions as fixed beliefs that are badly supported by evidence. Other defining features of delusions are *psychological* and focus on whether delusions are harmful, as in the definition of delusions as beliefs that disrupt good functioning. Even if the epistemic features go some way towards capturing what otherwise different instances of clinical delusions have in common, they do not succeed in distinguishing delusions as a clinical phenomenon from everyday irrational beliefs. Focusing on the psychological features is a more promising way to mark the difference between clinical and non-clinical irrational beliefs, but there is wide variability in the extent to which delusions are psychologically harmful, and some everyday irrational beliefs can affect functioning in similarly negative ways. In this chapter we consider three types of belief that share similar epistemic features and exhibit variation with respect to how psychologically harmful they are: (1) delusions of thought insertion, (2) alien abduction beliefs, and (3) self-enhancing beliefs. In the light of the similarities and differences among these cases, we highlight the difficulty in providing an answer to what makes an irrational belief *delusional*.

1. Definitions and Examples of Clinical Delusions

In psychiatry some disorders of cognition are distinguished from instances of 'normal' cognitive functioning and from other disorders in virtue of their *surface features* rather than in virtue of the underlying mechanisms responsible for their occurrence. Aetiological considerations about psychiatric disorders are the object of study and debate, but they often cannot play a significant classificatory and diagnostic role, because there is not sufficient knowledge or consensus about the causal history of those disorders. Moreover, it is not always possible to identify a pathological behaviour as the symptom of a certain disorder, as disorders that are likely to differ both in their causal histories and in their overall manifestations may give rise to very similar patterns of behaviour.

Delusions are a good example of how symptoms of psychiatric disorders are defined in terms of their surface features.[2] Such features are largely *epistemic*. Key terms include 'belief', 'proof', 'evidence', 'judgement', 'warrant', 'falsehood', and 'incorrectness'.

> Delusion. A false belief based on incorrect inference about external reality that is firmly held despite what almost everyone else believes and despite what constitutes incontrovertible and obvious proof or evidence to the contrary. The belief is not ordinarily accepted by other members of the person's culture or subculture (i.e. it is not an article of religious faith). When a false belief involves a value judgment, it is regarded as a delusion only when the judgment is so extreme as to defy credibility. Delusional conviction can sometimes be inferred from an overvalued idea (in which case the individual has an unreasonable belief or idea but does not hold it as firmly as is the case with a delusion).[3]

> A person is deluded when they have come to hold a particular belief with a degree of firmness that is both utterly unwarranted by the evidence at hand, and that jeopardises their day-to-day functioning.[4]

Consider the following examples of delusions. A man comes to believe that his parents were replaced by impostors when he was a baby (*Capgras delusion*). Family members and healthcare professionals attempt to persuade him that his parents have not been substituted, but they fail. The man becomes hostile and aggressive towards his parents, trying to choke his mother on one occasion.[5]

A woman comes to believe that she is surrounded by alien forces controlling her actions and slowly taking over people's bodies (*delusion of persecution*). She has a number of different delusional beliefs that are interrelated and affect her interpretation of most events occurring in her life. To protect herself and her loved ones, she breaks contact with her family and moves to a different city.[6]

A young woman is convinced that a fellow student is in love with her although the two have never spoken to each other (*erotomania*). She takes TV messages, the colour of dresses, licence plates on cars, and other sources as evidence that the young man is planning to marry her.[7]

Definitions of delusions that are largely epistemic are successful in highlighting what is common among the three cases we have briefly described above. People who report delusions seem genuinely to believe what they are saying. Reports are endorsed with conviction even if they are not plausible given the person's other beliefs. Delusions are tenaciously maintained in the face of challenges. The epistemic features of delusions exemplified by the three cases we have described are found in other clinical delusions, but also in a variety of everyday irrational beliefs.

Some of the definitions of delusions helpfully include some reference to the psychological features of delusions, that is, their effect on wellbeing or good functioning (see the definition above by McKay and colleagues). Delusions such as Capgras, delusions of persecution, and erotomania are often acted upon; they can become very disruptive and distressing, with pervasive and lasting negative effects on people's lives.

Our goal here is to show how the similarities across the clinical/non-clinical spectrum make it difficult to demarcate delusions sharply. Beliefs epistemically

similar to clinical delusions include prejudiced beliefs, such as racist beliefs about black waiters offering a worse service and being less worthy of tipping;[8] superstitious beliefs, such as beliefs about nights with a full moon causing accidents;[9] and self-enhancing beliefs, such as excessively positive beliefs about one's own qualities.[10] Such beliefs are akin to delusional beliefs with respect to their epistemic features: their contents seem to be genuinely believed and held with conviction; moreover, beliefs are not only implausible, but also held in the face of apparent counter-evidence or counter-argument. Differently from delusional beliefs found in the clinical population, prejudiced, superstitious, or self-enhancing beliefs are not associated with a psychiatric diagnosis and are not generally accompanied by psychological distress.

In the rest of the chapter, we want to illustrate the continuity between clinically and non-clinically significant beliefs by reference to a delusion associated with a diagnosis of schizophrenia, *the belief that a thought has been inserted in one's head* (section two); a belief that is common in certain sub-cultures, but is not mainstream, the *belief that one has been abducted by aliens* (section three); and a set of beliefs that are very widespread in the non-clinical population, *self-enhancing beliefs* (section four). Our goal is to show that similar deviations from norms of truth, justification, and rationality can be found across the clinical/non-clinical spectrum, and that there is also variability in the psychological effects of such beliefs. In the light of this, identifying what makes a belief delusional poses a major challenge, a challenge we return to in section five.

2. The Delusion of Thought Insertion

In this section, we consider the case of thought insertion. Thought insertion is a symptom regularly associated with a diagnosis of schizophrenia. A thought is inserted when it has the quality of not being one's own and is ascribed to an external agency.[11]

In thought insertion, people (1) experience a thought as alien or foreign (*experience of an alien thought*), and (2) offer an explanation for this experience, that is, that some third party is inserting thoughts into their head (*the delusional explanation of the experience in terms of literal, non-metaphorical insertion*). We are going to offer some examples of thought insertion that have been taken from various threads about thought insertion on mental health forums on different websites.[12]

> Often, in a quiet place, and all the time at night when I am alone, I experience thoughts that do not 'feel' like my own. It's like they come out of a part of my brain that is not the part that controls my 'normal' thoughts and into my awareness from there. It is hard to describe. These 'false thoughts' are usually about random subject matter and usually make little sense, but are extremely distracting. Back when I first experienced them, I thought I was psychic and that I was picking up other people's thoughts (telepathy?). However, now I know that they are a part of psychosis because I experience them around the times I hallucinate.[13]

> Yes, I get thought insertion all the time. Mine is pretty bizarre though and I have enough insight to realize this. I get thoughts directly from the government

> and sometimes even alien beings from another world. There were times that it was very severe. Sometimes it is scary because they tell me things and what to do. I haven't been getting thought insertion that recently since I have been doing better though. I get these thoughts because of a chip in my head[;] even though this technology is being used against me, I am still fascinated by technology all around me good and bad. People see technology around them but they don't realize that the gov has technology that is 200 years more advanced than our own and the aliens are even further along than that. I have psychic powers as well, but not picking up thoughts from others around me (except this has happened a few times) but my psychic powers are mainly telling the future and influencing events around the world. I am not proud of this power.[14]

> i truly do have unwanted thoughts that are forced into my head from somewhere... I mean I will have a thought saying my grandmother is a bitch. I would never ever think of my grandmother as a bitch. She is one of the greatest women I know and I adore her. So how is that a delusion? It is an intrusive thought! I sure didnt imagine it!.... i really do not think my grandmother is a bitch. i think these thoughts are evil and came from an evil being. Some thoughts however that pop into my head all of a sudden are my own thoughts and i can recognize that even though they are unwanted, but some are just plain ridiculous and mean and i know must be from an outside force. That's just what i believe. probably has nothing to do with my illness.[15]

The first two examples above (from Alienonite and Firebird) highlight that there is a real phenomenon with perplexing features. The person believes that some thoughts have been 'inserted' and have an alien quality to them. The thoughts are described as 'different from my usual thoughts' or 'false'. Alienonite previously believed that she must be psychic. Firebird claims he has the insight to realise that his experiences are bizarre, yet he still believes that thoughts entering his stream of consciousness are coming from aliens and from the government via a chip in his head. Both Alienonite and Firebird lack a sense of ownership and agency regarding these thoughts. Alienonite says that the thoughts 'do not feel like her own', and Firebird is certain the thoughts come from others. They also have other anomalous experiences and beliefs: Alienonite has hallucinations, and Firebird believes he has special powers. The third example (from Star-28) is of a thought that the person *does not like* and *does not want to have*. Star-28 insists that she would not think about her grandmother in the way the alien thought suggests, and says that the thought 'must be from an outside force'.

Ordinarily one does not question ownership of one's experiences — if one picks up a pen to write something, one does not have to ask *who* picked up the pen; if one feels happy about eating an ice-cream in the sun, one does not have to ask *who* is feeling happy. Arguably, it is self-evident that the physical and mental actions involved in doing things, feeling emotions, and having thoughts are one's own. Those actions could not be but *one's own*. That is why it is so hard to grasp what people mean when they say that they 'experience' and access by introspection thoughts that are not their own.[16]

There are some obvious features that make the belief that a thought has been inserted into one's head a delusion. The belief is usually firmly held, resistant to challenges, and accompanied by other unusual experiences that could be associated

with a diagnosis of schizophrenia. But what is commonly called 'thought insertion' is a complex and heterogeneous phenomenon and there are multiple ways in which it might manifest itself. The experience of a thought being alien does not itself count as a delusional belief. For instance, the experience of a thought which is not owned can be one which is relatively neutral. Consider a person experiencing thoughts that seem alien but have a content she might well think anyway. The content of the thought is not threatening or problematic, and it does not contain distressing or unwanted ideas. Whilst the experience of having a thought that feels alien may be distressing, the content of the thought itself might not have a detrimental effect on the person. A person experiencing thought insertion with extremely distressing or unpleasant content might find it difficult to ignore her experience, and live with it. The nature or strength of the threat to the self (or threat to the ego) and the way a person responds to it determines whether the alien thought becomes problematic or detrimental.

This kind of experience is not yet a delusion (even if the person is certain that the thoughts are not hers). If the phenomenon persists and no explanation is found, then the person may search for relief from the strange experience, and come to a personally salient explanation, for example, that another is contacting her *telepathically*. A belief about how the thought is inserted qualifies as a delusion in some of the definitions we considered earlier if it seems to be a genuine belief, is held with high conviction, has an implausible content, and is resistant to counterevidence. Prior to the development of the belief about having been telepathically contacted, the phenomenon might have been described as a mere perceptual anomaly.

The phenomenon of thought insertion has differing degrees of intrusion or influence, from little or no influence to a compulsion to think (and perhaps do) what the voice or thought commands. The level of intrusion, distress, and influence might be regarded as a secondary phenomenon. In psychiatry (as in the rest of medicine) a value judgment which relates to the harm or potential harm that the experience of thought insertion has for the person is made by the clinician to determine diagnosis and therapeutic intervention.[17]

3. Alien Abduction Belief

In this section we will consider claims made by some people that they have been abducted by aliens, and reflect on the similarities and differences between their beliefs and clinical delusions. As is the convention in the literature, we will refer to people who believe that they have been abducted by aliens as 'abductees'. Consider three representative reports from Richard McNally and Susan Clancy's studies of abductees' experiences:

> A female abductee was lying on her back when she woke up from a sound sleep. Her body was completely paralyzed and she experienced the sensation of levitating above her bed. Her heart was pounding, her breathing was shallow, she felt tense all over. She was terrified. She was able to open her eyes, and when she did so, she saw three beings standing at the foot of her bed in the glowing light.

> [A] female abductee was lying on her back when she woke up in the middle of the night. She was completely paralyzed, and felt electrical vibrations throughout her body. She was sweating, struggling to breathe, and felt her heart pounding in terror. When she opened her eyes, she saw an insect-like alien being on top of her bed.
>
> A male abductee awoke in the middle of the night seized with panic. He was entirely paralyzed, and felt electricity shooting throughout his body. He felt his energy draining away from him. He could see several alien beings standing around his bed.[18]

An initial reaction to these reports is to question whether people actually believe their bizarre claims. Aside from the sheer implausibility of abductees' claims, there are no reasons for thinking that they disbelieve them or are lying with respect to them. Additionally, McNally and Clancy found that the physiological responses of abductees when listening to recordings of themselves reporting their abduction experience were larger than the responses that subjects with Post Traumatic Stress Disorder (PTSD) exhibited when listening to scripts of their experiences.[19] They take this finding to 'underscore the power of emotional belief', and though abductees may not qualify for a diagnosis of PTSD, their psychophysiologic profiles will 'resemble that of PTSD patients'.[20] These experimental results might be indicative of abductees *believing* the reports in the scripts they listen to, and their doing so would explain their reactions to them which are in line with reactions people with PTSD have to hearing scripts of their traumatic experiences.

How do abductees come to hold these bizarre beliefs? A typical case is described by McNally as involving the following: a person has the kind of experience given in the reports above; she wonders what happened, starts reading about the kind of experience she had, sees a therapist who endorses the abduction explanation for such an experience, and enters into memory recovery sessions via hypnosis. That person may then start generating more details under hypnosis about the experience and what happened thereafter, such as being 'whisked through walls up into the sky into the spaceships', being 'sexually probed by aliens', and 'involved in hybrid breeding experimentation' before being 'brought back down to the bedroom, before the break of dawn'.[21]

Some theorists working on abduction beliefs explain why abductees have the experiences that they do by appeal to awareness during sleep paralysis (ASP) and hypnopompic hallucinations. During Rapid Eye Movement (REM) sleep, the sleeper is immobilized, insofar as motoric output is blocked. Sometimes a sleeper can wake up before the paralysis has disappeared, and they can become aware that they are unable to move.[22] ASP can be accompanied by an increase in heart rate, difficulty breathing, and feelings of dread.[23]

Sleep paralysis can be accompanied by hypnopompic hallucinations, so the sleeper is unable to move and is also hallucinating sights and sounds in this state. Visual hallucinations might include 'lights, animals, strange figures, and demons', and auditory hallucinations might include 'heavy footsteps, humming or buzzing noises, and sounds of heavy objects being moved'.[24]

> Imagine opening your eyes shortly before dawn, attempting to roll over in

> your bed, and suddenly realizing that you are entirely paralyzed. While lying helplessly on your back and unable to cry out for help, you become aware of sinister figures lurking in your bedroom. As they move closer to your bed, your heart begins to pound violently and you feel as if you are suffocating. You hear buzzing sounds, and feel electrical sensations shooting throughout your body. Within moments, the visions vanish and you can move again. Terrified, you wonder what has just happened.[25]

Having an experience of this kind leads some people to search for an explanation. Some people may know the real cause of the experience and so search no longer. However, though awareness during sleep paralysis and hallucination is relatively high among the general population, knowledge of these states is not common. For this reason, it is unlikely for the experience to be explained by appeal to such states.[26]

We now turn to the epistemic surface features which typically characterize abduction beliefs, in order to show similarities between abduction beliefs and delusions with respect to their deviation from ideal epistemic standards. We saw earlier that delusional beliefs are firmly held despite contrary evidence. In her book *Abducted*, Clancy notes that

> Once the seed of belief was planted, once alien abduction was even suspected, the abductees began to search for confirmatory evidence. And once the search had begun, the evidence almost always showed up. [...] Once we've adopted the initial premises ('I think I've been abducted by aliens'), we find it very difficult to disabuse ourselves of them; they become resilient, immune to external argument.[27]

We might also think that the evidence abductees have does not strongly support the content of a belief, since oftentimes there are alternative explanations available to them. Even when abductees are aware of the naturalistic explanations for their experiences, they do not adopt these explanations. This also suggests that alien abduction beliefs are similar to delusional beliefs with respect to their epistemic features.

It might be thought that alien abduction beliefs are different from delusional beliefs since beliefs with alien abduction content are shared within a culture, and rather culture-specific (most abductees are to be found in the US). As we saw earlier, the *DSM*-5 definition of delusion suggests that a belief cannot be a delusion, or at least cannot be a bizarre delusion, if it is shared within a culture: 'Delusions are deemed bizarre if they are clearly implausible and not understandable to same-culture peers and do not derive from ordinary life experiences. [...].' Alien abduction beliefs are 'clearly implausible', but they are held by many people; indeed there are mini-cultures of abductees. Typically, alien abduction beliefs are not *collective* beliefs (comparable to *folie à deux* cases). Rather, they are *individualized*, but held by many individuals.

Here we do not take a stand on whether alien abduction beliefs *are* delusional beliefs. We just observe that the stipulation in the *DSM* which rules out that alien abduction beliefs are delusions because they are widely held does not speak against the epistemic similarities we have drawn between cases of alien abduction belief and cases of delusion.

4. Self-enhancing Beliefs

In this section, we want to focus on self-enhancing beliefs. So-called 'positive illusions' are defined as 'enduring patterns of beliefs' about self, world, and future, and are prevalent in the non-clinical population. There are at least three types of positive illusions.[28]

Some beliefs are about the capacity that the person has to control external events (*illusion of control*). Subject to such illusory perceptions, the person tends to believe that her thoughts affect the external world more than they actually do and that it is in her power to bring about positive events. Further, positive illusions affect self-perception, self-evaluation, and autobiographical memory. The person interprets her past performance as better than it actually was, and sees herself as more attractive, skilful, talented, and virtuous than average (*self-enhancement*). Interestingly, the biases affecting self-perception seem to apply to the person's romantic partner as well. What psychologists call 'the love-is-blind bias' is the tendency to see romantic partners as more attractive, intelligent, and talented than they actually are. This is generally thought to contribute to satisfying and lasting relationships. Finally, the person believes that her future will bring progress, and that it will not feature negative events that are statistically very common, such as a serious illness or a break-up (*unrealistic optimism*).

Although positive illusions are a robust phenomenon in people of different sex, age, economic status, and culture, they can manifest differently across individuals, and some illusions seem to be culture-dependent. In Japanese culture, for instance, evidence for illusions of control has been found, but there is little evidence for positive self-regard or enhanced self-esteem, and more evidence for self-criticism in comparison with Western samples.[29] Some psychologists argue that positive illusions are biologically adaptive and improve people's chances to survive, reproduce, and have lasting relationships that ensure protection for their offspring.[30] One of the most discussed findings is that positive illusions promote *mental health*, helping people find meaning in their lives, be caring, motivated, creative, productive, and develop resilience, that is, the capacity to 'bounce back' after adversities.[31]

Unrealistic optimism about health prospects can have immediate psychological benefits, as people are less worried about their future if they think that they are unlikely to suffer from a disease. But there are also significantly bad consequences when people underestimate risks and fail to adopt preventive measures that would improve their prospects. For instance, the belief that one is at low risk of negative outcomes may lead to the decision to continue smoking due to the belief that one is unlikely to suffer from lung cancer, or the decision not to use contraception due to the belief that one is unlikely to contract sexually transmitted diseases.[32]

Originally, Taylor distinguished positive illusions from delusions on the basis of positive illusions being more flexible and more sensitive to evidence, but it has been shown that not only are positive illusions implausible given the available evidence, they also are resistant to negative feedback. Here is a telling example. In one interesting study, medical students' assessment of their own ability at the end of medical school correlates with their initial assessment of their ability in their first

year, irrespective of supervisors' ratings or exam results.[33] One interpretation of how students manage to maintain positive self-evaluations is that they redefine the criteria for medical ability to match the criteria they can comfortably satisfy, and thus preserve a sense that they are medically able.[34]

Recently, further evidence has suggested that there are several strategies for maintaining positive illusions in the light of challenges or negative feedback (Hepper and Sedikides 2012): (1) regarding positive evaluations as more reliable than negative ones; (2) interpreting ambiguous or neutral feedback as positive; (3) when failure is expected, behaving in a way that could be used to justify future negative feedback (for instance, drinking too much before an important exam); (4) when failure is experienced and negative feedback received, focusing on different aspects of one's performance that are positive. Such strategies make positive illusions resistant to a variety of potential challenges.

This suggests that the difference between delusional beliefs and self-enhancing beliefs is not epistemically significant.

5. What Makes a Belief Delusional?

As we said, clinical delusions are characterized by surface features of two kinds, epistemic (fixity, implausibility) and psychological (negative impact on functioning). As it has already been observed,[35] epistemic features alone are not sufficient to demarcate delusions from other irrational beliefs. We have looked at three cases of irrational belief which share these epistemic features. In this section, we want to consider whether the psychological criterion is more promising for distinguishing delusions.

People working on the diagnostic manuals used in psychiatry rely on levels of distress to establish what a disorder is:

> In the absence of clear biological markers or clinically useful measurements of severity for many mental disorders, it has not been possible to completely separate normal and pathological symptom expressions contained in diagnostic criteria.... a generic diagnostic criterion requiring distress or disability has been used to establish disorder thresholds, usually worded 'the disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning'.[36]

Here we would like to suggest that it is not straightforward to base the distinction between delusional and non-delusional beliefs on psychological effects. This is because not all the phenomena classified as delusional impair good functioning, and alien abduction beliefs and self-enhancing beliefs that are not delusional can compromise good functioning.

In the psychological and psychiatric literature it has been suggested that some delusions enhance the sense that one's life is meaningful,[37] and that there are 'successful psychotics'.[38] In some cases, people are able to find additional meaning in life thanks to the formation of a delusion, and their functioning is not seriously impaired as a result. One such case is Simon, a lawyer with a happy family life and a good career:

> [...] Out of the blue, he was threatened by a malpractice legal action from a group of his colleagues. Although he claimed to be innocent, mounting a defence

> would be expensive and hazardous. He responded to this crisis by praying in front of an open bible placed on a small altar that he set up in his front room. After an emotional evening's 'outpouring' he found that wax from two large candles on the altar had run down onto the bible marking out various words and phrases (he called these wax marks 'seals' or 'suns'). [...] From this time on, Simon received a complex series of 'revelations' largely conveyed through the images left in melted candle wax. They meant nothing to anyone else including Simon's Baptist friends and family. But for Simon they were clearly representations of biblical symbols particularly from the book of Revelations signifying that 'I am the living son of David... and I'm also a relative of Ishmael and... of Joseph'. [...] His special status had the effect of 'increasing my own inward sense, wisdom, understanding, and endurance' which would 'allow me to do whatever is required in terms of bringing whatever message it is that God wants me to bring'.[39]

The description above stresses the role of delusions in giving the agent a sense of purpose and meaning, and downplays the negative effects on wellbeing that delusions are often characterized as having. This is probably due to the self-enhancing content of the delusions reported (e.g. Simon thinks of himself as gifted and invested with special responsibilities) and the support provided by the person's immediate social circle.

In the context of thought insertion, there are some relevant sub-clinical cases. An example is that of people who run or attend spiritualist churches where it is a special skill to have access to the thoughts of the dead in one's stream of consciousness. To experience alien thoughts is not only culturally *normal* (within the sub-culture of the spiritualist church) but culturally *desirable*. The belief that one can access the thoughts of the dead is implausible and badly supported by evidence, but it does not have an adverse impact on the person's functioning and well-being. The fact that no adverse impact is observed may be due to intrapersonal or interpersonal factors.[40]

Intrapersonally, the person may not have any other experience or belief that would count as bizarre outside her sub-culture, and her belonging to the church may serve as an explanation of her having inserted thoughts. The psychological history of the person developing the delusion is important when we are interested in the difference between clinical and non-clinical irrational beliefs. Interpersonally, the *local acceptability* of the belief and the fact that it does not lead to social isolation but potentially to better integration may be a powerful antidote against psychological harm. A person who believes that she is receiving the thoughts of the dead but (a) does not belong to a spiritualist church, (b) has no desire to experience these thoughts, and (c) has no background that might explain why this seems to be happening is likely to be more distressed by these experiences than the spiritualist church-goer.

Let us look back to alien abduction belief. Alien abduction belief can be characterized by distress and preoccupation. Although formal psychiatric interviews with abductees uncover little pathology (for example see McNally and Clancy, 'Sleep Paralysis, Sexual Abuse, and Space Alien Abduction'), some abductees display acute distress: three of ten abductees in McNally and Clancy's study nearly met the criteria for a diagnosis of PTSD following their abduction experience. Mean scores

on questionnaires relating to depression and anxiety, though, put abductees within normal limits, such that they were indistinguishable from control groups.[41]

As we saw, McNally and Clancy's abductees displayed a similar physiological profile when listening to scripts of their experiences to that of subjects suffering from PTSD. Abductees were also found to report 'heightened ratings of arousal, fear, surprise, and imagery vividness during exposure to scripts featuring their most traumatic abduction memories'.[42] Reporting on this work, Clancy notes that '[n]ot only were the physiological reactions of abductees similar to those of documented trauma victims, such as combat vets and rape victims; in some cases, they were even more extreme'. And the 'alien abduction memories that emerge under hypnosis generate intense emotions — pain, terror, helplessness, awe'.[43]

Interestingly though, just like successful psychotics, some abductees do rather well out of having their beliefs. As McNally reports:

> when I ask these subjects if you could do it all over again would you rather not have been abducted and they said well, when it first happened I was terrified, I had ontological shock, some of them would say, the whole fabric of my sense of the world was torn asunder. But then I realized that there are beings out there who care for us, for the fate of the earth, so on balance, yeah I think it's a good thing.[44]

Finally, as suggested in section four, positive illusions have been considered as psychologically beneficial, and even adaptive, as they enable people to develop coping strategies and maintain motivation in the face of challenges. Could this be the telling difference between positive illusions and delusions? Focusing on functioning is definitely helpful to map out the differences between clinical and non-clinical irrational beliefs, as we saw, but it is important to notice that self-enhancing beliefs have been exposed as potentially (physically and psychologically) harmful in some circumstances.[45]

More to the point, positive illusions that are especially resistant to negative feedback can give rise to excessively high expectations, and then disappointment, when the expected targets are not achieved. This may lead to agents being unprepared for set-backs.[46] In the light of this, the recent psychological literature has suggested that psychological wellbeing and success (measured in terms of an agent's capacity to pursue and achieve one's goals) are not the default effects of positive illusions, but come from other characteristics (which may be, but do not need to be, positively correlated with self-enhancing beliefs), such as 'sense of coherence' and 'hardiness'.

> Sense of coherence has three components: '*Comprehensibility*, the extent to which an individual can make sense of adversity; *Manageability*, the extent to which an individual perceives that resources are at her or his disposal to meet the challenges of inordinate demands; and *Meaningfulness*, the extent to which an individual feels that the challenges faced are worth engagement with.'[47]

> Hardiness has been defined as 'a pattern of attitudes and strategies that together facilitate turning stressful circumstances from potential disasters into growth opportunities'.[48] It supports personal growth and a sense of control: events are seen as stressful when the agent does not get a sense that she can control them,

> while people who are curious and engaged see challenges as opportunities to grow and improve. Hardiness has been described as including (1) a commitment to oneself and work, (2) a sense of personal control over one's experiences and outcomes, and (3) the perception that change represents a challenge and should be treated as an opportunity for growth rather than a threat.[49]

This is especially interesting as some people with elaborated delusions in the context of schizophrenia are found to have an increased *sense of meaningfulness* and *sense of coherence* with respect to non-clinical controls, when they find themselves in the acute stage of psychosis.[50] Enhanced sense of meaningfulness and sense of coherence are due to the person feeling empowered by the delusion as a potential explanation of a puzzling experience, and are correlated with high levels of wellbeing. The sense of meaningfulness and the sense of coherence drop, for instance, in remission, because the delusion is no longer thought to provide a satisfactory explanation of the person's experience. Levels of wellbeing also drop, and depression is likely to ensue, because the person realizes that the meaning she had ascribed to her experience was delusory.

Conclusions

Based on epistemic and psychological considerations, the prospect of arriving at a principled way to distinguish delusional from non-delusional beliefs is not promising. Delusions are a paradigmatic instance of irrationality and are generally harmful, impairing good functioning and causing anxiety and distress. But delusions are not *always* harmful and distressing. Also, other irrational beliefs (such as alien abduction beliefs and self-enhancing beliefs) share some epistemic features with delusions, and can have psychologically adverse effects in at least some contexts.

This suggests caution in the project of demarcating delusions, and supports the view that there is more continuity than is commonly thought between experiences and beliefs that are classified as clinically significant, and those that characterize the non-clinical population.

Notes to Chapter 2

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18. Richard J. McNally and Susan A. Clancy, 'Sleep Paralysis, Sexual Abuse, and Space Alien Abduction', *Transcultural Psychiatry*, 42. 1 (2005), p. 116.
19. McNally and Clancy, 'Sleep Paralysis, Sexual Abuse, and Space Alien Abduction', p. 117.
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21. Richard J. McNally, 'Aliens', *The Forum*, BBC World Service, 29 September 2014 <http://www.bbc.co.uk/programmes/p0270hy2>. See Thibaut Maus de Rolley's chapter in this volume for descriptions of analogous experiences, e.g., '[w]itches believed they were flying to and attending the sabbath, when they were actually watching independently, immobile in their beds' (p. 78). One interesting question is whether so-called 'witches' in the early modern period are comparable — or even equivalent — to abductees now.
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27. Susan A. Clancy, *Abducted: How People Come to Believe They Were Kidnapped by Aliens*, new edn (Cambridge, Mass.: Harvard University Press, 2007), p. 51.
28. See Maus de Rolley and Olivia Smith, this volume, for a discussion of different kinds of illusion from those we are interested in here.
29. See, for example, Steven J. Heine and others, 'Is There a Universal Need for Positive Self-Regard?', *Psychological Review*, 106 (1999), 766–94; and Miki Toyama, 'Benefits and Costs of Positive Illusions: Changing Children's Stress Responses and Aggressive Behavior', *Japanese Journal of Educational Psychology*, 54 (2006), 361–70.
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2011); Ryan T. McKay and Daniel C. Dennett, 'The Evolution of Misbelief', *Behavioral and Brain Sciences*, 32 (2009), 493–510.

31. Taylor, *Positive Illusions*.
32. See for instance: Kate Sweeny, Patrick J. Carroll and James A. Shepperd, 'Is Optimism Always Best? Future Outlooks and Preparedness', *Current Directions in Psychological Science*, 15 (2006), 302–06; and James A. Shepperd, William M. P. Klein, Erika A. Waters and Neil D. Weinstein, 'Taking Stock of Unrealistic Optimism', *Perspectives on Psychological Science*, 8.4 (2013), 395–411.
33. Louise Arnold, Lee Willoughby, and Virginia Calkins, 'Self-Evaluation in Undergraduate Medical Education: A Longitudinal Perspective', *Journal of Medical Education*, 60.1 (1985), 21–28.
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35. See for instance Bortolotti, 'Psychiatric Classification and Diagnosis: Delusions and Confabulations'.
36. American Psychiatric Association, *DSM-5*, p. 21.
37. Glenn Roberts, 'Delusional Belief Systems and Meaning in Life: A Preferred Reality?', *The British Journal of Psychiatry*, 159 Suppl. 14 (1991), 19–28.
38. Gary Hosty, 'Beneficial Delusions?', *Psychiatric Bulletin*, 16.6 (1992), 373. A number of essays in this volume deal with cases where delusions are seen to have long or short-term benefits. See Ita Mac Carthy, for example, for an early modern case of erotomania (more specifically, 'reverse Othello syndrome'), where the delusion protects its sufferer from otherwise unbearable realizations about his personal circumstances (pp. 15–18). Reverse Othello syndrome has also been discussed in some detail in Lisa Bortolotti, 'The Epistemic Innocence of Motivated Delusions', *Consciousness and Cognition*, 33 (2015), 490–99.
39. Mike Jackson and K. W. Fulford, 'Spiritual Experience and Psychopathology', *Philosophy, Psychiatry, & Psychology*, 4 (1997), pp. 44–45.
40. Compare this case with the phenomenon of dream divination described by Giglioni in the present volume. In certain early modern contexts, Giglioni reports, the ability to tell the future and influence events (which contemporary philosophers might liken to the kind of thought insertion reported by Firebird above) is not negative but God-given, an instance of divine intervention in the minds and lives of ordinary individuals. There is much to be said about the social anthropology of thought insertion and cognitive impairment in general and the ways in which they present and are interpreted differently (or similarly) across different social contexts and time. This, however, falls beyond the scope of this chapter.
41. McNally and Clancy, 'Sleep Paralysis, Sexual Abuse, and Space Alien Abduction', p. 116.
42. Richard J. McNally et al., 'Psychophysiological Responding During Script-Driven Imagery in People Reporting Abduction by Space Aliens', *Psychological Science*, 15. 7 (2004), 493–97, p. 495.
43. Clancy, *Abducted: How People Come to Believe They Were Kidnapped by Aliens,* p. 77.
44. McNally, 'Aliens'.
45. For a brief review of the recent literature, see Lisa Bortolotti, and Magdalena Antrobus, 'Costs and Benefits of Realism and Optimism', *Current Opinion in Psychiatry*, 28.2 (2014), 194–98.
46. See James A. Shepperd and Javad H. Kashani, 'The Relationship of Hardiness, Gender, and Stress to Health Outcomes in Adolescents', *Journal of Personality*, 59.4 (1990), 747–68; and Daniel L. Schacter, and Donna Rose Addis, 'On the Constructive Episodic Simulation of Past and Future Events', *Behavioral and Brain Sciences*, 30.3 (2007), 331–32.
47. Astier M. Almedom, 'Resilience, hardiness, sense of coherence, and post-traumatic growth: All paths leading to "light at the end of the tunnel"?', *Journal of Loss and Trauma*, 10.3 (2005), p. 259.
48. Salvatore R. Maddi, *Hardiness Turning Stressful Circumstances into Resilient Growth* (Dordrecht: Springer, 2013), p. 8.
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50. See Glenn Roberts, 'Delusional Belief Systems and Meaning in Life: A Preferred Reality?', *The British Journal of Psychiatry*, 159, Suppl. 14 (1991), 19–28; and Moshe Bergstein, Abraham Weizman, and Zehava Solomon, 'Sense of Coherence among Delusional Patients: Prediction of Remission and Risk of Relapse', *Comprehensive Psychiatry*, 49.3 (2008), 288–96.