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DOI:
10.1007/s44204-022-00033-3

Document Version
Publisher's PDF, also known as Version of record

Citation for published version (Harvard):
Bortolotti, L 2022, 'Are delusions pathological beliefs?', *Asian Journal of Philosophy*, vol. 1, no. 1, 31.
https://doi.org/10.1007/s44204-022-00033-3

Asian Journal of Philosophy (2022) 1: 31
https://doi.org/10.1007/s44204-022-00033-3

BOOK SYMPOSIUM

Are delusions pathological beliefs?

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Received: 4 April 2022 / Accepted: 29 June 2022 / Published online: 5 July 2022

Abstract
In chapter 3 of *Delusions and Beliefs*, Kengo Miyazono argues that, when delusions are pathological beliefs, they are so due to their being both harmful and malfunctional. In this brief commentary, I put pressure on Miyazono's account of delusions as harmful malfunctioning beliefs. No delusions might satisfy the malfunction criterion and some delusions might fail to satisfy the harmfulness criterion when such conditions are interpreted as criteria for pathological beliefs. In the end, I raise a general concern about attributing pathological status to single beliefs out of context, and gesture towards the idea of pathology as a failure of agency to which some beliefs can contribute but that can only be identified by considering the person as a whole.

Keywords Delusion · Disorder · Belief · Cognitive dysfunction · Harmfulness

1 Are delusions pathological beliefs?

When we describe a belief as delusional, we often imply that the belief is pathological. But what does it take for something to be a pathological belief? In chapter 3 of his excellent book, *Delusions and Beliefs*, Kengo Miyazono provides a two-part answer to this question. First, he convincingly argues that the pathological nature of delusions cannot be merely reduced to delusions being false, strange, or irrational beliefs. Second, he offers an original analysis of the pathological nature of delusions: delusions are beliefs because they have the same functions as beliefs; but they are pathological beliefs because they are harmful (harmfulness thesis) and they involve a malfunctioning process (malfunction thesis). Such a view of the pathological nature of delusions has not been defended before with the clarity and rigour of Miyazono's analysis, but is often implicitly assumed in the literature. For instance, McKay and Dennett (2009) talk about delusions as "doxastic dysfunctions" and "misbeliefs".

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Miyazono's account of the pathological nature of delusions is based on Jerome Wakefield's influential harmful dysfunction account (HDA) of disorder, according to which a condition is a disorder if it is harmful and is a biological dysfunction. But Miyazono's account differs in important ways from Wakefield's: the two criteria for pathology are significantly broadened. In the original HDA, a pathological condition is harmful to the person with the condition according to societal standards. Miyazono preserves Wakefield's idea that the judgement about a belief's being harmful is not up to the person with the belief, but extends the scope of the belief's harmfulness to include adverse effects on the person's immediate social circle. That means that even when a delusion does not harm the person with the delusion it can still be harmful in a way that satisfies a condition for pathology if it causes disruption to the person's family and friends. In the original HDA, a pathological condition is a biological dysfunction. Miyazono argues that, in order to qualify as malfunctional, beliefs only need to involve some malfunctioning mechanism, and do not need to be the direct output of malfunctioning processes of belief formation and maintenance.

In this brief commentary, I have two interrelated aims. One is to challenge the harmfulness and malfunction theses as criteria for pathological beliefs. The other is to challenge the harmfulness and malfunction theses as empirical claims that apply to delusions. Although Miyazono's explanation of the pathological nature of delusional beliefs is internally coherent and plausible overall, I am sceptical about the possibility of delivering a clear verdict on whether delusions are pathological beliefs on the basis of the harmfulness thesis and the malfunction thesis. In particular, when delusions are harmful and malfunctional, they may not be so in a way that guarantees their status as pathological beliefs. Why?

Take the claim that delusions are malfunctional. Explanations of delusion formation in terms of cognitive deficits compete with equally powerful and well-supported explanations in terms of reasoning biases, where the relevant bias might not count as a malfunction of the processes of belief formation and maintenance. Indeed, Miyazono's own explanation of how delusions are adopted—a hybrid theory combining insights from the two-factor theory and the prediction-error theory of delusion formation—does not feature a cognitive deficit, but a disruption of prediction-error signalling with a bias affecting hypothesis selection and evaluation.

Now take the claim that delusions are harmful. The judgement of delusions as harmful beliefs seems to depend on whether having the delusional belief harms the person who experiences the delusion (and their immediate social circle, if we accept the broadening of the harmfulness criterion). But in many cases we cannot tell whether the disruption that accompanies the person's delusion is caused by the person having the belief, by an adverse event to which the delusion is a response, or by stigmatising attitudes in the person's social group.

When we look closely at how delusions emerge, manifest, and fade, the initial intuition that we are faced with a case of pathological belief is undermined.

2 What does it take for a belief to be pathological?

As we associate pathology with the presence of a disorder, it is useful to base attributions of pathology on views of disorder. In the philosophy of medicine, we are faced with a multiplicity of views about what disorder is, which makes it difficult to approach the issue in a comprehensive and exhaustive manner. In what follows, I will confine my attention to three influential views to which Miyazono's account is indebted: naturalism, normativism, and the HDA (Lancellotta & Bortolotti, 2020).

According to naturalism about disorder, a pathology is a biological dysfunction. The presence of a pathology can be identified by relying on the resources of science, that is in a largely value-free way (Boorse, 1977). Something can be a pathological belief in a naturalist sense if it is the output of cognitive dysfunction in belief formation and maintenance processes, that is if it is the output of belief formation and maintenance processes that do not fulfil their functions. Thus, if we want to know whether delusions are pathological beliefs, we need to ask whether delusions are produced by dysfunctional belief formation and maintenance processes.

In the naturalist component of Miyazono's account, for a belief to be malfunctional, the belief merely needs to involve some malfunctioning mechanism, directly or indirectly. Given this broad sense of malfunctional, it is likely that delusions in schizophrenia will count as malfunctional, because they are developed to account for anomalous experience, and anomalous experience is caused by a malfunctioning neurobiological process. Other delusions, such as the Capgras delusion which is likely to develop due to a problem with the facial recognition system, may count as malfunctional as well. However, it is not clear why their being the indirect effect of a malfunctioning neurobiological process makes delusions pathological *beliefs*. For a belief to be pathological, the functions that fail to be fulfilled need to be doxastic functions, and thus the malfunction needs to concern the processes of belief formation and maintenance. Otherwise, if the only problem was with the anomalous experience, wouldn't we say that the belief formation and maintenance processes are performing their functions, but the perceptual system is compromised instead? In other words, wouldn't the *experience* be pathological instead of the belief?

According to normativism about disorder, a pathology is a condition judged to be harmful to the person, where the harm is usually attributed to processes occurring within the physical or mental boundaries of the individual (Cooper, 2002). A pathology cannot be identified independently of a judgement about its causing harm and such a judgement is value-laden and relative to human interests. Something can be a pathological belief in a normativist sense if it causes harm to the person as a belief, e.g. in virtue of how believing its content impacts the person's wellbeing. If we want to know whether delusions are pathological beliefs, what we need to ask then is whether believing the content of the delusion compromises the wellbeing of the person who experiences the delusion (or brings some other disadvantage to that person).

According to the HDA of disorder, a pathology is a harmful biological dysfunction (Wakefield, 1992). On this view, there are a value-free component and a value-laden component: we need to rely on science to determine whether the condition

is a biological dysfunction; and we need to take into account our interests to determine whether the condition is harmful. So, being a biological dysfunction and being judged as harmful are both necessary and jointly sufficient conditions for a pathology. Something can be a pathological belief in this HDA sense if it is the output of dysfunctional belief formation and maintenance processes and it causes harm to the person who has the belief. If we want to know whether delusions are pathological beliefs then, we need to ask whether delusions are the harmful outputs of dysfunctional belief formation and maintenance processes.

In Miyazono's account, harmfulness is intended more broadly than in normativism or the HDA. First, the harm may not be caused by the person believing the content of the delusion but by some other aspect of the delusion. And second, the harm need not affect the person with the delusion but may also affect the person's immediate social circle. It is overwhelmingly plausible that delusions are typically harmful in this broader sense, but it is not clear why the revised harmfulness thesis gives us a reason to consider delusions as pathological beliefs.

Let's consider the source of the harm problem first. If it is not the belief that causes the harm, shouldn't something else—the thing that causes the harm—be thought of as pathological? If the delusion is a response to overwhelming negative emotions triggered by a traumatic event, is the harm caused by having the delusion or by the previous traumatic event? If the delusion is an explanation for hypersalient experience generating uncertainty and unpredictability, is the harm caused by having the delusion or by experiencing events as hypersalient? Finally, if social isolation and withdrawal follow the person's reporting of the delusion, is the harm caused by the delusion or by the stigma associated with having psychotic symptoms?

Let's move to the scope of the harm problem next. When defining pathological conditions, both Cooper and Wakefield interpret the harmfulness criterion as applying to the affected person alone as illustrated by conditions that are more obviously pathological than delusions—including the heart failure case that Miyazono uses as an analogy throughout chapter 3. Harmfulness can be unpacked in different ways, as bad luck, pain, poor quality of life, disability, risk of death, but all concern only the person, without extending further to their immediate social circle.

3 Do delusions involve malfunctioning processes?

Miyazono tells us that for delusions to be pathological beliefs it is sufficient for delusions to be harmful and malfunctional. But are delusional malfunctional? It is very likely that malfunctioning processes are involved in the formation of delusions—but the bar for being malfunctional is so low on this account that no belief is safe. How can we rule out the involvement, direct or indirect, of a malfunctioning process in the formation of any of our beliefs? Even if we were to confine our attention to delusions as the outputs of a dysfunction affecting belief formation and maintenance processes, which would be a necessary condition for pathological beliefs in a Wakefield-style HDA, then the answer would depend on the theory of belief fixation that we would choose to account for the adoption of delusional beliefs.

Let me consider two influential approaches to delusion formation according to which a delusion can be understood as a belief: the one-factor theory, proposed by Maher (1974) and recently defended by Noordhof and Sullivan-Bissett (2021); and the two-factor theory exemplified by Coltheart (2007) and revised by Coltheart et al. (2010) and McKay (2012). Either account is best described as a family of views differing in several respects but sharing one key feature. According to the one-factor theory, the formation and maintenance of delusions can be explained without recurring to a fault in reasoning. According to the two-factor theory, the formation and the maintenance of delusions should be explained by a fault in reasoning, in addition to an experiential anomaly.

If you are a one-factor theorist, you believe that no cognitive dysfunction is needed for a delusion to emerge, and thus the delusion meets neither the necessary requirement for a pathological belief in the naturalist account nor one of the necessary requirements for a pathological belief in the HDA. Indeed, the father of the one-factor theory, Maher, is explicit that delusions only appear pathological to an observer because the observer does not have the same experience as the person with the delusions. Maher goes further and states that not only the cognitive mechanisms responsible for delusion formation are not abnormal, but they are the same mechanisms we depend on when we do science (Maher, 1974, page 98).

If you are a two-factor theorist, you assume that delusions are the product of the combination between anomalous experiential data which may be caused by a neurobiological deficit or an abnormal prediction error, and some other factor, which in some versions of the two-factor theory is a cognitive deficit (see Coltheart, 2007) and in alternative versions is a bias, such as a tendency towards explanatory adequacy or an overestimation of the precision of the prediction-error signal (see McKay, 2012; Miyazono & McKay, 2019). Whereas deficits cause permanent malfunctions, biases do not as their performance depends on the structure of the environment in which they operate. The same bias can give rise to rational beliefs in one context and to irrational beliefs in another. This feature of biases as opposed to deficits makes it difficult to argue that a biased process is a malfunctioning one.

Thus, in the bias version of the two-factor theory, delusions are unlikely to be successful candidates for pathological beliefs. For McKay (2012) and Miyazono and McKay (2019), the relevant bias can be described as a tendency to adopt a hypothesis that has a good fit with the phenomenon to be explained—the anomalous experiential data—even when the hypothesis is implausible and is not compatible with other things the person believes. This bias of explanatory adequacy can lead someone whose face recognition system is compromised to believe that their spouse is an impostor (the Capgras delusion), based on a feeling that the person does not look the same; but the same bias can also be responsible for a scientist overthrowing a well-accepted theory to account for some new recalcitrant data and thus starting a scientific revolution.

In the cognitive-deficit version of the two-factor theory, delusions meet the conditions for pathological beliefs offered by a naturalist account, and, if they are also harmful in the right way, may meet the conditions for pathological beliefs offered by the HDA. In addition to a deficit responsible for anomalous experiential data, there is also a deficit that can be described as an inability to inhibit implausible hypotheses in the

process of adopting a belief (Coltheart, 2007). So, the idea is that faced with disconcerting data, people with the deficit may end up endorsing an unusual belief to explain the data, because they lack the capacity to reject a hypothesis on the basis of its implausibility. Although this may sound similar to the bias of explanatory adequacy, it is not described as a bias but as a genuine dysfunction that permanently affects the belief formation processing. This explanation of the adoption of delusional beliefs has faced a number of serious objections: for instance, it is not clear why people with this deficit do not endorse more unusual beliefs.

The two-factor theory was updated to meet this and other objections, and in a more recent version the deficit is no longer described as a problem with the evaluation of hypotheses (Coltheart et al., 2010). In an interesting twist, the adopted hypothesis is considered to be the best explanation available to the person given the anomalous data, so no cognitive deficit affects the endorsement of the delusional hypothesis. But a new cognitive deficit is identified in the inability to reject the adopted belief when it encounters strong external challenges. It is no longer problematic that the person adopts an unusual hypothesis as a belief, as the hypothesis explains the anomalous data as well as it can. But it is problematic that the person maintains the endorsed belief, not abandoning it even when counterevidence becomes available. There are some problems with the latter way of identifying the second factor as well, and concerns with the account have inspired the most influential bias accounts (such as McKay, 2012).

Here is my worry. The cognitive deficit is postulated to explain how the delusion resists counterevidence, and this resistance is identified as the pathological feature of the belief. But resistance to counterevidence is certainly not a feature unique to delusions, and more economical explanations of it can be offered than to postulate a cognitive deficit dedicated to it. It is not uncommon to refrain from giving up beliefs that are important to how we see the world and ourselves, especially if there are significant costs in adopting alternative beliefs—and at least a salient alternative to the delusional belief has evident psychological costs because it requires accepting the idea that we have a serious mental illness. What the theory describes as a deficit seems to be a regular feature of garden-variety beliefs, characterising forms of cognition that are not usually described as either delusional or pathological—such as prejudiced beliefs, motivated beliefs, core beliefs, and instances of self-deception and confabulation.

In sum, delusions may involve malfunctioning processes in some way, but it is not clear why this would contribute to their being pathological beliefs. What would count as a reason for their being pathological beliefs is their being the output of a belief formation and maintenance process involving a cognitive dysfunction. But the only account suggesting a role for a reasoning deficit, as opposed to a reasoning bias, is an account that is unable to explain why a common feature of beliefs, resistance to counterevidence, is evidence of a dysfunction in delusions but not elsewhere.

4 Are delusions harmful?

Miyazono tells us that for delusions to be pathological beliefs it is sufficient for delusions to be harmful and malfunctional. We saw that the jury is very much open about delusions being malfunctional in a sense that would contribute to their

pathological status as beliefs. But are delusions harmful? Miyazono deploys a broad sense of harmfulness, where the disadvantage may affect anybody in the immediate social circle of the person experiencing delusions. There is no doubt that delusions are typically associated with harm and disruption, but it is not clear why the harm caused to others should be a reason to believe that the delusion is a pathological belief. If the delusion is like a malfunctioning heart, an analogy Miyazono relies on to motivate his revised HDA, then it is a pathology of the person who experiences the delusion, just like heart failure is a pathology for the person with a malfunctioning heart. We already saw that in most accounts including harmfulness as a criterion for pathology, normativism and HDA, the dysfunction is detected within the person's physical and mental boundaries and brings harm to that person.

For normativists and defenders of the HDA, delusions cannot be pathological beliefs unless they are beliefs that bring harm to the person who experiences the delusions. Harm may encompass loss of agency, negative emotions, impaired social functioning, and other effects on a person's life that are judged to be a disadvantage. For a belief to count as pathological, the belief itself should be the cause of the harm. Although it is undeniable that delusions have negative effects and that is why they are considered symptoms of mental disorders in the first place, it is not clear whether they cause a mental health crisis or are an imperfect response to a crisis that is already under way; and whether the identified harms for the person derive from the person believing the content of the delusion or from the effects of the person reporting the delusion in an environment where unusual beliefs are stigmatised.

In the former case, there is something that precedes the delusion and gives rise both to the harm and to the delusion. Let's call this something a crisis. The delusion emerges as a response to the crisis and is accompanied by the harmful effects of the crisis when it cannot neutralise them all or neutralise them effectively. In this case, the delusion is a poor response to the crisis, and thus it does not successfully extinguish the harm, but it is not the origin of the harm. In the latter case, we distinguish the harm of having the delusion, believing that the world fits the delusional hypothesis, from the harm of reporting the delusion in a potentially hostile environment. The harm caused by stigmatisation is not to be attributed to the delusion itself, or at least not exclusively, but to the stigmatising attitudes of our society towards nonconformity and mental illness.

At least for some delusions, such as delusions in schizophrenia and delusions that can be interpreted as playing a defensive function, the role of the delusion seems that of addressing an existing problem (Bortolotti, 2015, 2016). In delusions in schizophrenia, delusions relieve the uncertainty caused by puzzling anomalous experience by providing an explanation for it (as in Jaspers, 1963). In motivated delusions, delusions enable the person to manage overwhelming negative emotions that are due to a previous physical or psychological trauma with which the person cannot satisfactorily cope. In such cases, delusions are described as defence mechanisms (McKay et al., 2005) or as doxastic shear-pins (McKay & Dennett, 2009). Miyazono is well aware of this literature highlighting the alleged functions of delusions, and discusses it at length in relation to the potential biological adaptiveness of delusions. He is right in concluding that the case for delusions being biologically adaptive is not a powerful one. However, the same literature suggests convincingly that at least some

delusions are psychologically adaptive, and this claim is relevant to the assessment of delusions as harmful.

I won't rehearse the arguments pointing to delusions relieving anxiety or distress here. Rather, I will offer one additional reason to revisit blanket claims about the harmfulness of delusions. We know from the phenomenon of the insight paradox (Belvederi Murri et al., 2016) that many people with a history of psychotic symptoms who gradually realise the delusional nature of their beliefs may be affected by severe post-psychotic depression. Although they are considered to be on their way to recovery because they regain insight, they may become suicidal due to their approaching reality without the filter of their delusional beliefs. Psychological interventions, such as narrative therapy, can help them address these issues. The insight paradox suggests that, for some people at least, life without the delusion may be difficult in a different way, not always less difficult, than life with the delusion. The delusion may have enabled them to keep at bay some negative feelings that are ready to reemerge when the delusion fades if adequate support is not offered.

We need to acknowledge that some delusions have such upsetting content that having those delusions leads directly to concrete and severe forms of harm: obvious examples would be a person inflicting self-injuries due to delusions of guilt or a person feeling scared and anxious as a result of having persecutory delusions. Other delusions have contents that the person finds empowering and that give some sense of meaningfulness to the person's life (Ritunnano & Bortolotti, 2021): believing that God has chosen them for an important mission may be a source of pride for people with delusions of reference; and believing that a celebrity is in love with them may boost self-esteem in people with erotomania. Arguably, the illusory nature of the alleged privilege can cause further harms down the line, including creating a rift between the person with the delusion and their immediate social circle. Moreover, the empowering nature of the delusion may be short-lived and in tension with disturbing features of the person's delusional worldview—as is apparent in some case studies, the delusion is at the same time a boost for self-esteem and a significant psychological burden (Gunn & Bortolotti, 2018).

When it comes to delusions, judgements of harmfulness may vary from case to case, which makes it harder for us to establish whether delusions as a whole fulfil the conditions for pathological beliefs.

5 Pathology as a failure of agency

In this commentary I argued that we do not have a clear verdict as to whether delusions are pathological beliefs. Combining our current knowledge of how delusions are formed and maintained and what effects they have on wellbeing with views of disorder in the philosophy of medicine does not help.

There may be some neurobiological dysfunction contributing to the formation of those delusions that are adopted as explanations of unusual experience, but this does not speak in favour of the pathological nature of delusions as beliefs. For the delusion to be a pathological belief we need the dysfunction to affect belief

formation and maintenance, and yet it is not clear that any cognitive deficit can play that role satisfactorily.

Delusions are typically associated with harm affecting the person who experiences delusions; however, it is not easy to establish whether the harm is caused by the delusion itself or by a crisis to which the delusion is an imperfect response. Moreover, it is not clear whether in all cases the person would be better off without the delusional belief. Although the content of some delusions is upsetting and disruptive, the content of other delusions can be temporarily uplifting and empowering, making it hard to come to a general conclusion about the status of delusional beliefs as pathological, and highlighting the need for more nuanced evaluations.

Miyazono is aware of the weight of differences between types of delusions, and of individual differences in particular cases. That is why his account of delusions as harmful and malfunctional beliefs is sophisticated, addressing in some detail most of the concerns I raised here, in addition to other concerns I have not included in the discussion. There is very little about which Miyazono and I actually disagree, but our conclusions about the pathological nature of delusions diverge, and I suspect this is not due to differences in our understanding of delusions but to differences in our understanding of what counts as a pathological belief.

Ultimately, I don't think beliefs can be meaningfully described as pathological in their own right. That's because beliefs are not the right kind of thing to attract judgements about dysfunction and harmfulness out of context (Bortolotti, 2020). I am attracted to a view of disorder as an obstacle to effective agency to which different factors (biological, psychological, cultural, and social) contribute to a varying extent (as in Bolton & Gillett, 2019). In such a framework, pathology cannot be found within a single instance of behaviour, a biological process, or a bodily organ, but is a failure of agency that affects the whole person. In such a framework, it would not be a surprise that a belief with the same content can support a person's agency and hinder another person's agency; or can support a person's agency in one context and hinder it in another context. Thus, for pragmatic and multifactorial models of health it makes no sense to ask whether delusions are pathological beliefs. However, a failure of agency in a person with delusions could be a reason to believe that there is a pathology. The delusion could contribute to a pathological state that is identifiable by considering how the person is doing as a whole.

Acknowledgements I would like to thank an anonymous reviewer and Ema Sullivan-Bissett for extensive comments on a previous version of this paper.

Data availability n/a.

Code availability n/a.

Declarations

Conflict of interest The author declares no competing interests.

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