

Delusional possibilities

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According to standard diagnostic criteria, delusions are defined as “fixed beliefs” that a person forms on the basis of little or no evidence and are “not amenable to change” in the face of counterevidence.¹ From a philosophical perspective, this conception of delusions raises several interesting questions about the nature of belief, and about how our psychological processes function.

In this essay, I shall focus on briefly addressing the following two questions. First, since delusional beliefs lack evidential support, what exactly causes certain individuals to adopt them? Second, is delusional thinking fully characterized in terms of what a person believes, or might there be other ways in which a person can manifest delusional thinking? In the remainder of this essay, I shall discuss the standard theoretical framework used by cognitive neuropsychiatry to attempt to explain why certain people adopt delusional beliefs. Then, based on that discussion, I shall suggest that delusional thinking is not merely a matter of what someone believes. It is also a matter of how someone thinks about what is possible.

In contemporary scientific psychiatry, standard ways to explain the formation of delusional beliefs maintain that they are broadly rational responses to extremely unusual experiences. More precisely, leading scientific theories claim that an individual adopts a delusional belief to explain or make sense of the occurrence of some very strange experience.²

To illustrate this framework, consider the Capgras delusion. This delusion occurs most frequently in cases of paranoid schizophrenia, but it is also associated with other conditions, ranging from acute brain injury to Lewy body dementia.



Someone with Capgras delusion believes that one of her close relatives or friends is really a look-alike imposter. Since no evidence supports this, why would someone believe it? What could lead someone to believe that, for instance, her own mother is some kind of alien imposter? According to the standard neuropsychiatric framework, a person starts to believe that her own mother is an imposter because she has a very strange experience of her mother's face, and believing that one's

mother is an imposter is a kind of intelligible response to having that kind of bizarre experience.²

This proposal garners support from several scientific studies that have shown that Capgras delusion is associated with a deficit in a person's autonomic nervous system. Visual presentations of familiar faces normally elicit arousal in the autonomic nervous system, such that the faces of our family members and close friends feel familiar to us. But, experimental

evidence shows that individuals who are diagnosed with Capgras delusion do not experience autonomic arousal when they look at familiar faces.³⁻⁵ As a result, the person that one is staring at might look exactly like one's own mother, but she doesn't *feel* like it.

Within cognitive neuropsychiatry, most theorists think that, in addition to the occurrence of a strange experience, there must be some additional cognitive or neurobiological disturbance implicated in the onset of a delusional belief.^{6,7} This is partly because, as Davies and colleagues

much more plausible alternatives, to explain the unusual experience.

Might there be more than two impairments underlying delusional thinking? We have been considering the example of someone adopting a delusional belief to explain an odd experience of her mother's face. But we might naturally wonder why a person would even entertain the thought about a look-alike imposter as a serious possibility. That is, why would someone not immediately rule out the imposter idea on the grounds that it is far too implausible to be given serious con-

more precise account than any currently available of how people *generate* candidate explanatory hypotheses, in both delusional and nondelusional cases.

Furthermore, if delusions involve anomalous ways of thinking about possibilities, then it may be more productive to think of them as dynamic patterns of thinking that evolve over time, rather than, as the leading diagnostic criteria currently recommend, fixed beliefs that are formed independently of evidential considerations.

Given the considerations mentioned above, it seems to me that the conception of delusions as fixed beliefs is too narrow. It is more plausible that a person can display characteristics of delusional thinking in several different respects, including, for instance, in the way the person reasons, or imagines, or conceives of alternative possibilities.

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What could lead someone to believe that her own mother is some kind of alien imposter?

note, "the suggestion that delusions arise from normal construction and adoption of an explanation for unusual features of experience faces the problem that delusional patients construct explanations that are not plausible and adopt them even when better explanations are available."⁶

Going back to Capgras delusion, there is a sense in which believing that one's mother is an imposter helps to make sense of a strange experience of her face, but it seems quite far from the best explanation available. In fact, several alternative explanations could be selected instead, for example, that one has recently suffered a stroke, or that one's mother has suddenly changed her hairstyle or is very ill. Thus, the adoption of an implausible delusional belief seems like the result of some kind of irregular process of hypothesis selection, not like a typical psychological response to a strange experience.

Partly for this reason, it is now widely held that two distinct impairments are causally implicated in the onset of delusional beliefs like the one found in Capgras syndrome.⁶⁻⁸ One of these is whatever causes a highly unusual experience, such as a complete lack of autonomic arousal to familiar faces, and the other is thought to be some type of cognitive or neurobiological disturbance that leads a person to select a delusional belief, from a range of

sideration? Why is the notion that one's mother is an imposter even a psychologically live possibility?

Explaining something is demanding on a person's cognitive resources. So, when someone is engaged in an explanatory task, she must consider only a restricted set of possible candidate explanations.⁹ Although we don't know precisely how a person generates the members of this candidate set, it is plausible that people typically exclude things that are incompatible with their background knowledge.¹⁰ But if that is right, then, since delusional beliefs typically conflict with background knowledge, they are ordinarily not even considered as possible candidate explanations for a strange experience. In other words, when someone is engaged in an explanatory task, delusional thoughts usually are not psychologically live possibilities.¹⁰

This argument shows that part of the reason a person comes to hold a delusional belief is that she considers certain delusional possibilities to be viable candidate explanations. Thus, I propose that the way in which a person thinks about possibilities can itself be a manifestation of delusional thinking, independently of what the person believes. It follows that an adequate scientific understanding of the formation of delusions requires a

References

1. *Diagnostic and statistical manual of mental disorders. Fifth edition.* Arlington (VA): American Psychiatric Association Publishing; 2013.
2. Maher BA. Delusional thinking and perceptual disorder. *J Individ Psychol* 1974;30:98-113.
3. Bobes MA, Góngora D, Valdes A, et al. Testing the connections within face processing circuitry in Capgras delusion with diffusion imaging tractography. *Neuroimage Clin* 2016;11:30-40.
4. Brighetti G, Bonifacci P, Borlomi R, et al. Far from the heart far from the eye": evidence from the Capgras delusion. *Cogn Neuropsychiatry* 2007;12: 189-97.
5. Hirstein W, Ramachandran V. Capgras syndrome: a novel probe for understanding the neural representation of the identity and familiarity of persons. *Proc Biol Sci* 1997;264:437-44.
6. Davies M, Coltheart M, Langdon R, et al. Monothematic delusions: towards a two-factor account. *Philos Psychiatry Psychol* 2001;8:133-58.
7. Coltheart M, Langdon R, McKay R. Delusional belief. *Annu Rev Psychol* 2011;62:271-98.
8. Davies M, Egan A. Delusion: cognitive approaches, Bayesian inference, and compartmentalization. In: Fulford KWM, Davies M, Gipps RGT, et al. editors. *The Oxford handbook of philosophy of psychiatry*. Oxford: Oxford University Press; 2013.
9. Thomas RP, Dougherty M, Sprenger A, et al. Diagnostic hypothesis generation and human judgment. *Psychol Rev* 2008;115:155-85.
10. Parrott M. Bayesian models, delusional beliefs, and epistemic possibilities. *Br J Philos Sci* 2006; 67:271-96.

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