

# REVIEW ARTICLE: *Pathological Beliefs, Damaged Brains*

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COGNITIVE NEUROPSYCHIATRY, THE study of psychiatric disorders using the methods and models of cognitive neuropsychology, has paid particular attention to *monothematic* delusions, which include the Capgras, Cotard, and Fregoli delusions, mirrored-self misidentification, and reduplicative paramnesia. These delusions have attracted a fair amount of philosophical interest. *Pathologies of Belief* (Coltheart and Davies, 2000) is a welcome manifestation of this interdisciplinary interest. Originally published as a special edition of the journal *Mind and Language*, it consists of eight essays by psychologists and philosophers.

What are *pathologies of belief*? That question is not answered in this book, not directly at any rate. Clear examples can sometimes suffice, and in this case, I think they do. Obviously, the above-mentioned delusions are thought to qualify as pathologies of belief; otherwise, the book would not have the title it has. There is one chapter about theory of mind deficits (as indicated by failures on false belief tasks, for example), so presumably they qualify too. All well and good, but even if we leave aside the question of what else counts as a pathology of belief (for the book never claims to be comprehensive anyway), there is still clearly room for debate about whether all cases of delusions and theory of mind deficits count, and if not, Why?

This matter is addressed in several of the chapters, though really only with respect to delusions.

The psychology of belief is, of course, a staple of the philosophical diet, so it is not surprising that some philosophers are showing a keen interest in the study of cases in which the normal processes of belief fixation go awry. The philosophers represented in *Pathologies of Belief* are all, broadly speaking, from the cognitive science stable, as are the psychologists. Although the discussions and arguments contained in the book are diverse, I came away feeling that while a reasonably united front was being presented, I was not much the wiser in regard to the alternatives (apart from psychodynamic approaches, which are fairly criticized for being unable, in and of themselves, to account for why many delusional subjects have some kind of neurological abnormality or damage).

Together, the essays in *Pathologies of Belief* illustrate in various ways what I take to be two general requirements and one desideratum for cognitive neuropsychiatry's success. The requirements, which I see as applicable to psychology in general, are the need for a pluralist approach and the need to keep the personal and subpersonal levels of description and explanation distinct, while seeking to show how accounts at one level relate to accounts at the other level. The desideratum is that we have accounts that develop gen-

eral links between experience and reasoning and, thus, between deficits in each. I shall discuss each of these issues in turn.

Many of the chapters advocate or illustrate a pluralist approach. They see cognitive neuropsychology as being a very promising paradigm for advancing our understanding of psychiatric disorders but are also of the view that a full understanding of those disorders requires input from research at multiple levels of enquiry. Certainly, they mean by this input from different levels within cognitive neuropsychology (evidenced, for example, by a useful reminder in Currie's chapter of the distinction between high-level functional explanations and explanations that appeal to the underlying biology). However, there is also the suggestion that elements of theories from other paradigms should be included, even those sometimes seen as being in opposition to cognitive neuropsychology (e.g., psychodynamic theories).

Andrew Young's chapter, for example, is an extended and convincing argument for why a cognitive neuropsychiatric approach is the leading contender for explaining certain delusions. An important part of this argument is psychodynamic theory's inability to account for the neurological damage found in many but not all cases of monothematic delusions. (Some instances of these delusions, sometimes observed in schizophrenics, do not have identifiable neurological correlates, as Breen et al. discuss in their chapter.) Yet Young is careful to embrace a multilevel approach to the study of delusions that incorporates neurological and psychological (including, perhaps, psychodynamic) factors: "There are actually a number of different phenomena [involved in these delusions] which need to be explained, and these exist at levels of discourse requiring different levels of explanation" (p. 56).

A pluralist approach is well illustrated by Breen, Caine, Coltheart, Hendy, and Roberts, who present four case studies of delusions of misidentification: two of mirrored-self misidentification and one each of reduplicative paramnesia and reverse intermetamorphosis. They discuss each of these cases in terms of their neurological basis, cognitive or neuropsychological deficits, and phenomenological profiles. In

so doing, they emphasize the differences among the cases, rather than the more traditional enterprise of stressing the common denominator. This exemplifies an issue also discussed by Young, namely, the pros and cons of symptom- versus syndrome-based approaches.

In Robyn Langdon and Max Coltheart's chapter, a pluralist approach can be seen in their proposal as to what is required for a full cognitive neuropsychiatric account of delusions. Such an account, they argue, requires an explanation not only of how delusional beliefs get their particular thematic content, but also of how patients come to have those delusional beliefs in the first place. (This is a specific case of a distinction, familiar to philosophers of mind, concerning psychological states in general.) Langdon and Coltheart's view is that explanations of the content of particular delusional beliefs may require an appeal to some perceptual abnormality and to a particular attributional or reasoning bias, as other authors in this issue also argue, but that appeal to either or both of these factors is not sufficient to explain the presence of delusional beliefs. They go on to sketch a model of normal belief generation and evaluation, which they claim can explain the presence of delusional beliefs. So on their view, a full account of delusions—that is, one that explains both their presence and their content—involves two deficits, namely, a perceptual aberration and faulty belief evaluation in combination with individual attributional biases. Langdon and Coltheart illustrate how a range of delusions, including some that do not have an identifiable neurological basis as well as those that do, can be explained in this way.

In detailing their normal model of belief generation and evaluation, Langdon and Coltheart claim that there is a natural human bias, preserved in delusional patients, for favoring personal-level causal explanations over subpersonal-level causal explanations. They are appealing here to a distinction between levels of descriptive and explanatory discourse that has wider application in psychology and philosophy (Dennett 1969). To a first approximation, personal-level phenomena are those picked out in the conceptual scheme of folk psychology: beliefs, desires,

intentions, reasoning, thinking, and the like—phenomena that apply to *actors* in environments, as Dennett says. Subpersonal-level phenomena, in contrast, are those picked out by the conceptual schemes of the brain and cognitive sciences—sciences that view humans as biological machines.

An unresolved issue is how the personal and subpersonal levels are related: Can some or all personal-level concepts be reduced to subpersonal-level concepts, or are the two levels autonomous? Is there instead a middle ground, such as “interaction without reduction” (Davies 2000a,b)? My money is on the latter option. Moreover, my view is that a truly pluralist approach in psychology, one that integrates both the personal and subpersonal levels, is the most promising way forward. That is to say, a pluralist approach should be structured around the personal/subpersonal distinction, not least because it reduces the chances of different disciplines simply talking past each other and should at least be open to ways in which these two overarching levels of theorizing might be integrated.

Consider then, Philip Gerrans’s thoughtful but concise essay in which he offers an account of the Cotard delusion that adapts an idea first proposed by Young and Leafhead (1996). According to that idea, which seems to belong to the personal level of explanation, Cotard and Capgras delusions involve the same anomalous phenomenal experience (lack of affective response to stimuli) but different attributional styles. Capgras patients, in this view, explain their weird experience by locating the problem in the external world (“my spouse has been replaced by an imposter”), whereas Cotard patients explain it by identifying the problem with themselves (“I’m dead”). However, according to Gerrans, this account is not sufficient for explaining the difference between these two delusions. He highlights the fact that Capgras patients have a localized affective deficit, confined to certain familiar faces, places, or objects, whereas Cotard patients have a global affective deficit (severe depression). Young and colleagues also note this difference, but for Gerrans it is crucial: The global

affective deficit in Cotard patients is, in his view, the causal origin of the delusion, though not a sufficient cause. Gerrans argues, as do Langdon and Coltheart, that Cotard patients also have a reasoning deficit. His particular proposal is that this reasoning deficit (a deficit posited at the personal level) is produced by the neurochemical substrate of a deluded patient’s depressive state (the subpersonal level) and is evidenced by the failure of these patients to implicate themselves in their own experiences, leading them to rationalize their depression in the peculiar way that these people do (the personal level again).

Consider next, Gregory Currie’s proposal that schizophrenic delusions are disorders of imagination, insofar as they involve a failure to distinguish between what is imagined and what is believed. He sets up his pluralist account with the help of Frith’s (1992) two proposals, according to which schizophrenic delusions either involve a deficiency in metarepresentation (which Frith also claims to be the basis of theory of mind deficits) or an impairment of action and intention monitoring due to impaired efference copying. Currie suggests that the first of Frith’s claims is a personal-level explanation, whereas the second lies at the subpersonal level. However, Currie is not hopeful that Frith’s two claims can be brought together into a unified theory in which the subpersonal story about deficient efference copying *explains* the personal level story about a metarepresentational deficit. Currie criticizes Frith’s metarepresentational theory, but sees more promise in the proposal about efference copying, using it to underpin his own account.

Now consider Ian Gold and Jakob Hohwy’s lucid account of schizophrenic thought insertion (an account that, they conjecture, may be useful in explaining other schizophrenic delusions). Based on a discussion of Frith’s (1987, 1992) influential theory of delusion, they propose that thought insertion is irrational but not according to the traditional canons of rationality. According to a new branch of the theory of rationality they call “experiential rationality,” a principal constraint on rational thought is the registering in consciousness of thoughts “as having originated in one’s own mind.” Thought insertion clearly

violates this “egocentricity” constraint. This leads Gold and Hohwy to emphasize the particular phenomenology of thought insertion, namely, its alien quality as being more central to its explanation than the disorders of belief or reasoning proposed by Breen et al., Langdon and Coltheart, Young, and Stone and Young (1997).

Gold and Hohwy’s account is pitched at the personal rather than subpersonal level: The central explanatory construct in their account, namely, the alien quality of inserted thoughts, is a property of people, not of their brains. Gerrans and Currie, in contrast, present accounts that integrate personal- and subpersonal-level proposals. We can also see personal- and subpersonal-level proposals in other chapters (e.g., Breen et al.). My only complaint is that some of these authors (Gold and Hohwy, for example) could have been more explicit about the level or levels at which their proposals are pitched. Indeed, a worthy future project would be for someone to classify extant theories of delusions into personal- and subpersonal-level accounts and then sort out which of these theories are compatible, both within and between levels.

Let us now turn to my third key issue for discussion: the desire for accounts that develop general links between experience and reasoning. Experience and reasoning are phenomena that, as we can now say, belong to the personal level but on which, we are hoping, subpersonal-level theories might be able to shed some light. Central to many of the papers in this book seems to be the struggle to make sense of the relationship between deficits in experience, broadly conceived (to include deficits in language-processing skills, for example, and in face-processing skills), and deficits in reasoning, especially abilities for certain forms of reasoning about self and others. Candida Peterson and Michael Siegal’s chapter provides a fresh angle on this theme by presenting an intriguing account of theory of mind deficits (i.e., deficits in reasoning about the mental states of self and others) in deaf children. Peterson and Siegal review a number of studies (including their own), which show that deaf children, especially those from hearing families who come to use sign language late, are impaired on

various theory of mind tests compared to deaf native signers and hearing children. As discussed, there is an interesting parallel with autism here in that, like deaf children, autistics tend also to have impaired spoken language skills in addition to impaired theory of mind skills (e.g., Frith 1989; Tager-Flusberg 1993). What connects these two populations, Peterson and Siegal propose, is restricted early exposure to conversation, especially about mental states, as the result of impaired hearing and the lack of a shared language in the deaf and social aloofness and language difficulties in autistics.

That we find a chapter about theory of mind deficits in a book about pathologies of belief raises the question, which I posed initially, namely: What counts as a pathology of belief? In particular, is there any meaningful way in which theory of mind deficits can be lumped together with monothematic delusions under that one heading? Whatever the answer to those questions, one thing is clear: As we have just seen, there are certainly enough common elements in these two classes of disorder and common concerns in their study to warrant inclusion of Peterson and Siegal’s chapter in this book. Their chapter does not seem out of place here but rather as an essay in need of company.

Finally, let me address the introduction by Martin Davies and Max Coltheart, which is not a standard one in the sense of being a straightforward summary of the other chapters and how they interrelate and contrast with one another. Instead, Davies and Coltheart succeed in offering something that, in this case at least, is probably more useful in the form of a chapter that stands on its own but which also speaks to the subsequent chapters in the book. First, they map the conceptual landscape in which pathologies of belief are located, concentrating in particular on the issue of whether monothematic delusions really qualify as false *beliefs* (their conclusion is that in most cases, they do). Second, Davies and Coltheart develop a schematic account of the etiology of delusions, which draws on and elaborates Stone and Young’s (1997) valuable contribution. Monothematic delusions, according to Davies and Coltheart, involve (a) a cognitive

deficit and associated “perceptual, affective or other experiential anomaly” resulting from brain injury, which the subject then attempts to explain by (b) generating a hypothesis that is given priority as the result of some factor, such as a reasoning bias, and which (c) is then adopted and maintained as a belief (d) without any significant disruption to the rest of the subject’s beliefs, thanks probably to motivational factors. This sketch of an account certainly admits the need for a pluralist approach and seems to keep the personal and subpersonal levels distinct, though without explicitly developing that issue in the way that I have suggested (perhaps surprising, given Davies’s work elsewhere on the issue) and hints at a link between deficits in experience and deficits in reasoning. It is a promising proposal.

*Pathologies of Belief* is a stimulating book of obvious interest to readers of this journal. Indeed, if you have not read it, I recommend that you put it at the top of your “to read” lists, even (or perhaps, especially) if you are not yet convinced of the explanatory power and promise of cognitive neuropsychiatry. This book also deserves, and I suspect shall reach, a wider audience. In addition, there is at least one advantage in owning the book as opposed to the original journal version: the provision of an index.

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#### REFERENCES

- Davies, M. 2000a. Persons and their underpinnings. *Philosophical Explorations* 3:43–62.
- . 2000b. Interaction without reduction: The relationship between personal and subpersonal levels of description. *Mind and Society* 1:87–105.
- Coltheart, M. and M. Davies 2000. *Pathologies of Belief*. Oxford: Basil Blackwell.
- Dennett, D. C. 1969. *Content and consciousness*. London and New York: Routledge.
- Frith, C. 1987. The positive and negative symptoms of schizophrenia reflect impairments in the perception and initiation of action. *Psychological Medicine* 17:631–48.
- . 1992. *The cognitive neuropsychology of schizophrenia*. Hove, Sussex: Lawrence Erlbaum.
- Frith, U. 1989. *Autism: Explaining the enigma*. Oxford: Oxford University Press.
- Tager-Flusberg, H. 1993. What language reveals about the understanding of minds in children with autism. In *Understanding other minds: Perspectives from autism*, ed. S. Baron-Cohen, H. Tager-Flusberg, and D. Cohen. Oxford: Oxford University Press.
- Stone, T., and A. W. Young. 1997. Delusions and brain injury: The philosophy and psychology of belief. *Mind and Language* 12:327–64.
- Young, A. W., and K. M. Leafhead. 1996. Betwixt life and death: Case studies of the Cotard delusion. In *Method in madness: Case studies in cognitive neuropsychiatry*, ed. P. Halligan and J. Marhsall. Hove, Sussex: Psychology Press.