

Book review

Coltheart, M. & Davies, M. (2000) *Pathologies of Belief*. Oxford: Blackwell Publishers Ltd. 224pp, ISBN 0-631-22136-0, £12.99 (pbk)

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Delusions have long been subjected to the analyses of the moment, from Freud's theories of repressed libido to Laing's meditations on social meaning. One of the major problems of past explanations has been that empirical and philosophical accounts have often been seen as rivals, sometimes with little in the way of (a much needed) collaboration. Psychopathologists can be grateful that these disciplines are now complementary, and that the recent developments in neuropsychology can be focused on solving the delusion problem. It is with this interdisciplinary approach in mind that Coltheart and Davies have produced this welcome collection (originally a *Mind and Language* special issue) providing, in many cases, a fresh insight into a conceptually difficult problem.

The initial chapters lean towards reviewing the growing literature, with later chapters seeming to present more in the way of theoretical developments and new hypotheses. Davies and Coltheart start by providing an extensive review of current delusion research, focusing on some of the issues raised by newer developments in the neuropsychology of delusions after brain injury, specifically the mono-delusional disorders. Notably, they spend considerable time examining Stone and Young's (1997) ideas on how an individual may decide between competing hypotheses that may be generated to explain anomalous experience. This provides a comprehensive, if rather difficult-to-follow analysis of this key paper. They also outline a four stage approach (Experience, Hypothesis, Belief, Circumscription) in describing the aetiology of mono-delusional states and apply it to a variety of clinical presentations, and whilst this is a fairly blunt analytical tool it does make for a well structured and readable account of different delusional presentations.

The following chapter is very much focused on the Capgras delusion (the longstanding poster boy of cognitive neuropsychiatry research) and is an able review of the results and implications stemming from this work. It also serves to highlight how much methodology in current delusion research is still based around this single rare phenomenon and Andrew Young is wise to advise caution when approaching psychiatric phenomena with the methodology 'we have come to know and love from cognitive neuropsychology' (p48). The case studies reported in the chapter by Nora Breen and colleagues, as case studies often do, bring a human element to scientific understanding. These are particularly good examples, with the accompanying analysis given in terms of neurology, cognition and phenomenology.

Philip Gerrans' chapter, on the interpretation of the Cotard delusion combines two of my favourite scientific qualities: brevity and insight. Gerrans argues against Young and Leafhead's (1996) hypothesis that the Cotard and Capgras delusions are simply the results of differing attributional styles explaining the same neuropsychological deficit. He provides a convincing argument suggesting that Cotard patients suffer from a distinct reasoning deficit that stems from their deep depressive symptoms.

At this point, the *Pathologies of Belief* collection includes a chapter by Candida Peterson and Michael Siegal that seems a little incongruous in a book largely devoted to delusions. This chapter compares and contrasts 'theory of mind' deficits in deaf and autistic children and provides a fascinating challenge to the popular theory that such impairments are due to damage to an encapsulated theory of mind module. They suggest instead that the relevant skills are, at least partly, reliant upon adequate language development (often impaired in autism). They cite evidence that deaf children suffering language development problems show similar theory of mind deficits to autistic children, whereas deaf children who develop language normally, via sign-language fluent parents, do not show such problems. This, in particular, stirred some compelling thoughts as to the reliance of belief upon language, and I was left hungry for additional analysis of what seemed to be one of the more radical implications of this study.

Ian Gold and Jakob Hohwy's chapter tackles the age-old problem of rationality in schizophrenic delusions and, while their analysis of traditional concepts of rationality and the relation to delusions (especially to Frith's (1992) theories of meta-representation and the occurrence of passivity phenomena) is enlightening, I would take issue with some of their assumptions. Their main thrust is that deficits or biases to accepted processes of rationality (procedural and content rationality) do not fully capture schizophrenic delusions as they '[do] not explain why the bizarre beliefs of schizophrenics can seem so narrowly restricted and predicable in content' (p158). Instead they suggest the need for a novel form of rationality to be impaired: that of experiential rationality.

Certainly, the monothematicity of delusions has been noted as a theoretical hurdle for anyone arguing for an aetiology implicating a global deficit or bias (see Davies et al, in press, for a discussion). However, this account rather ignores the role of interactions between relevant conditions in producing a significant effect. Experiments commonly given to research methods students to sharpen their understanding of ANOVA demonstrate that a global influence on performance does not necessarily show itself under all conditions and may only produce a significant influence when specific conditions are combined. We can assume that the multiple interacting conditions present within an individual may mean that a global deficit only causes notable pathology in certain subsystems, and / or within certain domains of experience. This would suggest the possibility that deficits or biases to procedural and content rationality may indeed produce circumscribed delusions, purely due to the massively interactional nature of their application, without the need for further explanation.

As subscribers to Frith's theories on damaged meta-representation in schizophrenia, Gold and Hohwy conclude that it is the experience of having thoughts or actions lacking in self ownership that comprises the delusion in itself, and that such delusions 'are best explained as *disorders of experience* rather than disorders of belief desire or reasoning' (p160, their italics). I certainly think this is a valid point even if arrived at by rather a scenic route. Such phenomena are classified by psychiatrists as delusions, although if explained via Frith, they seem to be better described as hallucinations. If a hallucinating person sees a penguin and believes there is a penguin in front of him, it would be hard to say the pathology was entirely (if at all) in the area of belief formation. Similarly, if a patient with a thought ownership problem believes that such thoughts are not her own, one can hardly choose to describe this as arising solely from the belief formation stage, when downstream cognitive mechanisms are providing faulty input.

It is at this point, where an explanation of the delusional nature of such experiences is needed, and perhaps where Gold and Hohwy fall a little short. After all, such experiences are rarely explained by affected patients as statements of experiences ('I have thoughts that are not mine'), but as

evidence in wider delusions ('My thoughts are being controlled by the CIA'). It is this delusional (rather than hallucinatory) aspect which is in need of explanation.

Gregory Currie's chapter attempts, at least in part, to address this problem, again with reference to Chris Frith's meta-representation theory. Currie proceeds to make the conjecture that similar deficits may lead to 'cognitive hallucinations' which can occur 'when a mental state of one kind (an imagining) presents itself to the subject as a mental state of another kind (a belief)' (p175). Theories of delusions based on the misidentification of cognitive processes are not new and, although Currie doesn't acknowledge it, have been elaborated by, for example, Johnson and Raye (2000) as part of their work on source monitoring failures and delusions; they have tended to suggest however, that misidentifications provide faulty data, rather than influence the belief formation process directly. Currie suggests that loss of agency, in the form of cognitive self-ownership, affects both.

This still seems a little unsatisfying. The only way in which this could be possible, is if we accept that imaginings can be misidentified as delusions per se, when it is not clear that they share any of the same properties. This is akin to suggesting that attentional processes could be misidentified as linguistic input. Indeed, Churchland (1981) has argued that beliefs may not have any coherent cognitive structure at all, making the chance of mistaking (for example) an imagined visual image as a belief fairly remote. If on the other hand, we accept that imaginings can only be mistaken for other sorts of belief-feeding input, such as sensory perception, then again, we are not really talking about a pathology of belief but of perceptual input.

The final chapter by Robyn Langdon and Max Coltheart attempts to cut the Gordian knot of the delusion problem. They put forward a model of normal belief formation and propose how damage to such a model might explain delusions. Their model takes a three stage approach: the first stage consists of monitoring processes which alert an individual to information in the environment which may be novel or personally relevant. The second stage concerns the generation of hypotheses to explain any information that might be made salient by the earlier monitoring stage, with the final stage involving the evaluation of all possible explanations, a process by which the most rational (or most likely) explanation is accepted as a belief.

Again, much of the discussion and rationale stems from Stone and Young (1997) who have proposed that belief formation may involve weighing up explanations that are observationally adequate versus those which fit within a person's current belief set. As well as providing such analysis, Langdon and Coltheart's chapter also seeks to capture previous delusion research in an overarching explanatory framework. Their model is certainly comprehensive, although it must be said, speculative. Whilst theoretically enticing (compelling even) the empirical limits need still to be tested, although I'm sure there will be many eager people awaiting such evidence.

So, the conclusion of any book review requires a recommendation for a possible addition to the reader's bookshelf. Unfortunately, books on delusions and related pathologies of belief are few and far between, so almost any book would have to be recommended, if only to keep the other handful of books company. However, this particular tome would be worth acquiring even if delusion research were to be blessed with libraries of similar volumes; it is both insightful and provocative. The particular emphasis on neuropsychology is especially welcome, and the chapters are generally strong on careful discussion and theoretical advances. My copy is already well thumbed, and will probably remain so for, at the very least, a few years to come.

References

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