

## Book Review

### *Mindvaults: Sociocultural Grounds for Pretending and Imagining*,

by Radu J. Bogdan. Cambridge, MA: MIT Press, 2014. Pp. ix + 236. H/b. £24.95

The main hypothesis of Radu J. Bogdan's *Mindvaults* is that the cognitive ability to reason hypothetically in ways that involve others' mental states is a distinct, humans-only adaptive response to human social complexities. This hypothesis — elaborated in his own terminology below — is the latest extension of Bogdan's systematic philosophical project of defending the socially-driven ontogeny of the more sophisticated aspects of human cognition. I am sympathetic to the general social-intelligence research programme, according to which higher intellectual capacities are adaptations to needs to interact with conspecifics in complex societies. But in this latest installment, Bogdan has not done his project any favours nor, for that matter, the general research programme. By using confusing proprietary vocabulary (which I will call Bogdani) to lay out his view, and sampling selectively from relevant empirical literatures, he fails to support or illuminate the claims he is most committed to, however valid they might be.

In Bogdan's terms, the main hypothesis of *Mindvaults* is that 'Imagination', with an upper-case 'I', is an ontogenetic solution to sociocultural and sociopolitical pressures on the human child's mind. The metaphor *mindvaulting* refers to:

the consciously and deliberately exercised ability of the human mind to vault itself out of the enclosure of current perception, motivation, emotion, and action, and leap over to future, past, possible, or even impossible facts, situations, or scenarios. (pp. xvii, 195)

This general capacity to entertain stimulus-independent contents of various kinds is exercised in Imagination as a special, perhaps apical, case. In the Bogdani glossary provided (pp. 217-20), it is defined as:

the capacity to project offline thoughts about nonactual, possible, future, or counterfactual scenarios, and from their perspective and in their terms, further deploy such thoughts as tool-like means to ends in a deliberate, self-conscious, effortful, reflective, suppositional, and introspectively active form (also called productive, constructive, reflective, re-creative, or suppositional). (p. 218)

This 'deliberate projecting [of] thoughts as props or platforms from which to vault projectively other thoughts into the realm of the future, the possible, or

a reconstructed past' (p. 47) is also called 'a capability for deliberate and effortful metamental rehearsal by double projection' (p. 56).

For example, when considering how to break delicate news to a friend, I deliberately and consciously rehearse in my head what to do: I consider a proposition I might use to convey the news, evaluate its possible effects on my friend's mental states as I project them to be, consider a different proposition if the hypothesized mental (or other) effects are undesirable, and so on, all the while simultaneously managing my current real-world perceptions (i.e. perhaps I engage in this strategizing while driving my Bentley to my friend's country estate) (p. 66). This mental rehearsal, involving the projected mental states of others and projected consequences of those states, is paradigmatic of Imagination. It is a marvelous ability indeed. But Bogdan's account of it, and his defence of that account, is puzzling and weak. In fact, when push comes to shove, I am not even sure he is committed to anything more than some social-intelligence hypothesis or other.

The stated goal of the book is to answer two major puzzles about mind-vaulting (and Imagination in particular): the 'phylogenetic uniqueness of human mindvaulting, with no known parallels or precursors in animal minds', and 'why mindvaulting evolved at all' (p. xvii). Part one ('Questions', Chs. 1–3) sets the evolutionary and ontogenetic stages. This part asserts the phylogenetic uniqueness of Imagination and its main precursor capacities, pretending and imagining (lower-case 'i'). The latter is defined as 'either the various outputs of the competence for Imagination, in the form of mental images, reenacted experiences, and fantasies, or else passive and unbidden mental projections, in the form of hallucinations, images, and dreams of day and night' (p. 218). Part two ('Developmental answers', Chs. 4–7) sketches the emergence of mindvaulting in children in response to escalating sociocultural and sociopolitical pressures, culminating in Imagination (and perhaps other capacities not targeted in this book).

Online pretend play is a metamental rehearsal capacity that develops between ages two to four to handle sociocultural learning (p. xix). Before age four (an approximate cognitive milestone marking when children are able reliably pass false belief tasks), children can engage in online pretend play and naïve psychology. The latter is defined as:

a competence to recognize, track, interpret, and react to mostly visible, behaviorally, and communicationally manifested mind–world relations of others... as well as relations between two or more minds (including one's own) and a shared world. (p. 78)

These abilities emerge in contexts involving 'the sociocultural tasks of understanding, mastering, and reproducing some standard handling of cultural artifacts, roles, and practices' (p. 86).

Offline imagining is a metamental rehearsal capacity that develops after age four to handle sociopolitical strategizing (p. xix). Before then, children 'cannot Imagine'. For one thing, they 'lack the mental machinery for

Imagination', in particular 'commonsense psychology', the full-blown mind-reading competence in which a child can pass the false belief task (p. 45). For another, before four they:

do not have to Imagine because they do not yet register and respond to the significantly new sociopolitical pressures that would call for the development and use of this new machinery. (p. 137)

It is not until 'peer socialization' pressures kick in at around age four, prompting the need for strategizing and other responses that 'end up instilling the infrastructure for Imagination' (pp. 164–5), which 'snaps together' (p. 23) or is otherwise assembled from the prior cognitive components.

Bogdan thus makes three basic claims: (1) Humans possess a distinct cognitive capacity, Imagination, which is (2) a composite assembled from capacities that are unique to humans (3) in response to uniquely human sociopolitical and sociocultural pressures exerted in early and mid-childhood. As far as I can tell, there is no support for (1) over a more parsimonious cognitive ontology; the jury is out on (2); and we get no new insight into (3). Bogdan might be correct on all three counts, but in this book he is not persuasive.

Regarding (1), the importance of the age four milestone in Bogdan's account raises the question of whether 'Imagination' is just Bogdan's for a suite of capacities that can be combined as needed or desired once high-level mind-reading has been attained. Ontological parsimony favours the hypothesis that we dynamically deploy abilities for mind-reading, deliberating or planning, tool-use, linguistic communication, entertaining stimulus-independent contents, and so on in context. We may be pressured to use and coordinate these capacities in response to complex new social contexts, but this fact does not suffice to establish the assembly of a new capacity from these parts. We are also not given an explanation of why the abilities Bogdan lists as constitutive and essential to Imagination are on his list (pp. 5–6); for example, it is not clear why 'deliberatively positing a goal' is constitutive, while language is 'collateral or enabling', even though the latter but not the former is closely tied to mind-reading abilities. Finally, if Imagination were a distinct new competence, one might also think it is a module (i.e. for offline strategizing involving others' mental states). At the very least, those who think the human mind is massively modular might object to Bogdan's assertion that Imagination is not (p. 54), even if they agree with his ontology.

Regarding (2), ontological parsimony would also tend to undermine the phylogenetic uniqueness thesis, since it suggests that human cognitive sophistication lies in our greater ability to flexibly deploy and combine capacities that other animals may share to at least some degree, rather than our possession of sophisticated new capacities. Bogdan's defense of (2) is rather lopsided. Bogdan asserts that pretending has 'no known parallels or precursors in animal minds', and that pretend play is 'exclusively human', such that most other animals are 'mere players and object manipulators rather than

pretenders' (p. 87), with the possible exception of human-reared primates. Other animals play, but their play is prompted by the genome (p. 84); the 'distinctly human form of play — pretend play' (p. 84) depends on intuitive psychology, 'the unique competence responsible for understanding and employing mental states in one's goal strategies' (p. 41). The objection that at least some other animals do seem to engage in pretend play can then be undermined by claiming that they do not really have what it takes, given what 'pretend play' means in Bogdani.

Other animal capacities are similarly found wanting. The dynamic and fast-moving reciprocal interactivity of human transactions (p. 69) is a challenge not faced by other animals. Animal minds are 'anchored in the motivational present as well as wired or habituated to expect few and specific kinds of future events', and are 'predominantly modular' or domain specific (p. 54). Finally, animals 'learn associations between specific kinds of stimuli and frequently encountered states of affairs, or make connections between such stimuli, action schemes, and ecological regularities known to range over frequently encountered states of affairs', and they 'use such associations and connections to predict future states of affairs, usually by habit, and when cued by the right sensory or memory inputs' (p. 53).

These claims about animal cognition are grounded in an 'admittedly rough and sketchy portrait of animal motivation and cognition' (p. 55) drawn from a rather selective sample. Michael Tomasello and Josep Call may have been justified in 1997 (*Primate Cognition*, Oxford: Oxford University Press) in being 'prudently inclined not to attribute pretendingness to the play of apes or other species' (p. 108). However, even Sara J. Shettleworth (*Cognition, Evolution, and Behaviour*, Oxford: Oxford University Press, 2010) who tends more to the same conservative side of the fence when it comes to interpreting the results of more recent research, is far more cautious about drawing definitive conclusions. Less conservative researchers argue that association is inadequate for explaining much animal behaviour, and that at least some of the capacities Bogdan includes in mindvaulting and Imagination may exist in some form in other primate and non-primate species, such as chimpanzees, crows, dolphins, and hyenas. For example, Western scrub jays who had pilfered other jays' caches have been observed to be more likely to recache a food item cached in the presence of another jay than jays who had not themselves been pilferers. This suggests a specific, goal-directed, conscious way of deciding to act in part after taking another's perspective into account and using one's own experience to inform that perspective-taking. The point is not that this is the correct account of what scrub jays do, but that uniqueness claims about many human abilities — differences in kind, not just degree — are hardly uncontroversial. Bogdan asks:

Of what use is Imagination to a bird or rodent that uses it only to hide food for later — a probably modular, domain-specific, and hence narrow accomplishment, it seems to me — or an ape that takes some primitive tool-like stone or branch

along the ride for a later, specific use in getting food and for nothing else? What sort of Imagination could that be? (p. 59)

Given that ecologically valid and species-specific research across a wide variety of species is quite recent, the responsible reply is that we simply do not know — the science is, as Shettleworth puts it, in flux. There are simply no firm grounds on which Bogdan can assert that ‘the abilities required for Imagination... are not in the evolutionary cards for most animal minds’ (p. 55). When ontological extravagance for human capacities is conjoined with explanatory parsimony for other animals, it is no wonder that a cognitive gulf emerges.

Yet Bogdan does not seem entirely committed to (2). For example, he writes that whether human-raised chimps engage in pretend play ‘may not be an all-or-nothing choice, which is just as well from an evolutionary standpoint’ (p. 86) — and then affirms a few paragraphs later that pretend play is ‘exclusively human’ (p. 87). If ‘what matters... is that exploration of function and pretend play emerge where as well as when ape and human players are constantly surrounded by and confronted with the sociocultural tasks of understanding, mastering, and reproducing some standard handling of cultural artifacts, roles, and practices’ (p. 86), it sounds a bit like what matters for animals to demonstrate advanced cognitive capacities is for them to function in our contexts, rather than in theirs. Bogdan also grants that exceptions to associationist explanations of the behaviour of highly-socialized species, such as primates and cetaceans, ‘would support the position taken in the book because of the intensely sociopolitical and minimally cultural habitats in which they live’ (p. 55). At the same time, the relevant pressures on human minds ‘turn precursors into genuine forms of Imagination — something that the minds of apes apparently fail to do. How do we know all this? We don’t. We conjecture’ (p. 59). Bogdan’s frankness is refreshing, but epistemically confusing.

The curious question about (1) and (2), though, is that giving up either claim would not seem to matter to what appears to be Bogdan’s main concern — the sociocultural and sociopolitical pressures that yield advanced cognitive capacities. This is why, regarding (3), Bogdan is so disappointingly vague about the sociocultural and sociopolitical pressures that must be applied for Imagination to blossom in minds that are generally prepared for ‘culture, social institutions, norms, and practices’ (p. 68). What are the relevant features of and constraints of the relevant social practices? How and in what contexts are they transmitted, and what are the mechanisms by which they are applied? References to ‘role impersonation’ and the like is the level of detail provided about sociocultural pressures. In just three pages (pp. 164–7) Bogdan sketches how children begin to exit the family circle at age four and ‘enter the more fluid, complex, surprising, challenging world of their peers and adult strangers’ that prompts peer sociopolitics: the need to master the basic parameters of group affiliation (e.g. in-group favouritism, within-group

jockeying for status, and out-group hostility), cooperation in joint activities and planning, conflict resolution, inter alia. While I wonder whether a typical middle-class Western childhood has been universalized to justify his explanation of the emergence of Imagination, without further detail it is impossible to know.

For this reason it is also not clear how Bogdan's view relates to other social-intelligence hypotheses, which do not exclude other animals (in fact Jolly's original hypothesis was based on her observations of lemur colonies). Bogdan cites Richard W. Byrne and Andrew Whiten (*Machiavellian Intelligence: Social Expertise and the Evolution of intellect in Monkeys, Apes, and Humans*, Oxford: Oxford University Press, 1988), but does not discuss the Machiavellian intelligence hypothesis nor other theories within this thriving research programme. Since (3) is the claim Bogdan is most committed to, one would have hoped to see his considerable expertise employed in helping to clarify it.

That certain cognitive capacities develop in ontogeny in response to socio-political and sociocultural pressures is a neat idea. So my disappointment in *Mindvaults* is not grounded in scepticism about the general hypothesis about the social roots of higher cognition. Fundamentally, it is whether there is a new capacity that corresponds to the Bogdani term 'Imagination'. It follows from this doubt that the phylogenetic uniqueness thesis is nothing over and above a phylogenetic uniqueness thesis about the key precursor or pre-adaptive capacities. Lively debate about animal cognition suggests it is premature to state with any confidence what capacities other animals have and how they are related to ours. One might say I refuse to 'Conjecture', where Conjecture is a deliberately and consciously exercised ability to vault out of the enclosure of factual ignorance and theoretical incompleteness to project simplemindedness onto other animals.

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