

epigenesis' may actually be better considered a theory of preformation. This raises the unsettling suspicion that, for all Mensch's admirable archaeological investigation into the roots of 'epigenesis' in sixteenth- and seventeenth-century biology, we are left little the wiser as to Kant's own understanding of the term. Kant appears to be one of the first of the figures cited by Mensch to actually use the term, and if natural science of his era does not provide a coherent clue to the meaning of epigenesis, we must take a lead from Kant's convoluted definitions, like that in §810 of the *Critique of the Power of Judgement*, to which Mensch wisely accords little time unpicking. The stakes of this issue are apparent when Mensch writes,

In its most radical form, epigenesis offered a theory of generation that Kant found compelling as a model for interpreting reason, for approaching reason as an agent that was both cause and effect of itself. But it was precisely the radicality of this model that led investigators of Kant's day to ultimately decide that this form of epigenesis was untenable as an explanation of nature.

The model of biological development on which, in Mensch's view, Kant's conception of reason was based was actually considered unfeasible as a description of nature. Kant's grounding of his account of reason on an empirically, even conceptually, absent ground – for all its modern re-emergence in epigenetics – throws us into a hermeneutic circle, and again returns us to Heidegger's work. The ground of Kant's model of reason was, in view of the natural science of his time, what Heidegger would call an *Abgrund*. Here, a greater focus on the philosophical implications of the epigenetic account of reason would be particularly welcome. What does it mean that biological generation is the absent ground of Kant's conception of reason? There may be greater light shed on these kinds of questions by Catherine Malabou's upcoming book on Kant and epigenesis. Either way, long may the subreptive cross-fertilization of philosophical subdisciplines continue.

Steve Howard

The pig's head

Adrian Johnston, *Prolegomena to Any Future Materialism*, Volume 1: *The Outcome of Contemporary French Philosophy*, Northwestern University Press, Evanston IL, 2013. 257 pp., £26.67 pb., 978 0 81012 912 2.

Prolegomena to Any Future Materialism is the first volume in a proposed trilogy. As such it seeks to clear the ground for the formulation of a contemporary materialism worthy of the name. The book itself is composed and divided up in terms of a particular trinity of thinkers: Lacan, Badiou, Meillassoux. No doubt such 'threes', wherever they arise (and even where they structure a book), are not ultimately tinged with religiosity of the kind Johnston's materialism so steadfastly opposes. Perhaps they are more properly speaking dialectical. Yet to formalize the number in such a way (and according to current fashions) seems at odds with the evocation of 'hyperdense complexity' that permits Johnston's move from the mathematical to the life sciences as the true destiny of modern thought.

The first part of the book, then, is devoted to Lacan. Following Lacan's mantra that the truth can sometimes be stupid (doubtless even more stupid than my clumsy reaction to the 'three'), Johnston advocates a 'healthy dose of pig-headed, close-minded

stupidity on behalf of materialism' as right for the times. Let's see what that looks like, perhaps looking with the clumsy eyes of a pig's head.

The stated aim of Johnston's materialist project is, as mentioned, the desire to purge materialism itself of any and every vestige of religiosity. Speaking of Lacan's attitude towards Marxism, Johnston writes of materialism's task as the 'surprisingly incomplete and difficult struggle exhaustively to secularize materialism, to purge it of camouflaged residues of religiosity hiding within its ostensibly godless confines'. When such 'materialism' is described foremost in terms of the urge to purge – and, perhaps first of all, to purge itself – historical memory might cause some to shudder. Just a few pages later, Johnston (by now on a roll) proposes a Lacanian atheism that 'demands flushing out and liquidating' each and every 'stubborn investment' in 'the theological and religious', whether conscious or unconscious. And, once more, suspicion grows that the enemy may be within, and that one must therefore begin at home:

'faithfulness to this Lacan dictates submitting to merciless criticism those Lacans who deviate from this uphill path.' How, exactly, is this language – a language of the purge, no doubt – party to a thoroughgoing purge of religiosity? I for one tremble at its religious or, one might say, its theologico-political fervour. To the extent that the failure of materialism to date is still something of a surprise, no one (as Monty Python might say) expects the Adrian Johnston inquisition.

The deep history of the arche-fossil, evolutionary complexity, and modern neurological and biological science (not to mention the materialist legacy of



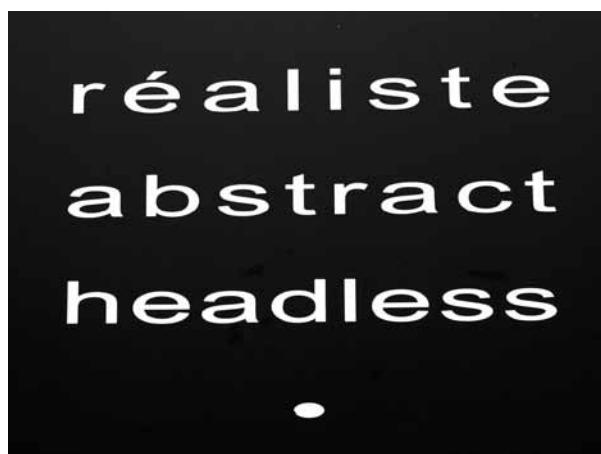
Marxism) are crammed back into a certain Lacan, such that we are presented with the extraordinary claim that, at last, science is ready for Lacanian psychoanalysis. The scariest thing about this proposition is that it is entertained solely on the strength of its supposed internal theoretical consistency. There is no reality check, no modicum of perspective of the kind that might come from even the most casual conversation with a practising life scientist. Once more, the combination of utter self-belief and utter self-suspicion stirs historical memory in troubling ways. No doubt fittingly, Johnston concludes the chapter in question with 'an enthusiastic call-to-arms that is simultaneously a warning of the danger of the return of old (un)holy ghosts'. I'll let that call-to-arms speak for itself.

While the sundry secularisms, rationalisms and atheisms that sought to hasten religion's decline by championing 'the Enlightenment world-view of scientific-style ideologies' bequeath to us the metaphysics of religiosity in different guise, for Johnston psychoanalysis is better equipped to deliver materialism's aspirations, in the sense that 'its placement of antagonisms and oppositions at the very heart of material being' chimes with biological science. The myth of biological immutability is countered by the anti-reductionist findings of the contemporary life sciences, where a 'hyperdense complexity', not reducible to any form of self-identical conceptuality or theoreticity, might be taken as the watchword. Johnston argues for a new materialism of the kind made possible by a thinking of plasticity, one that remains hospitable to scientific endeavour at its cutting edges, while at the same time speaking back to the ideological predilections of science and scientists, particularly where certain forms of determinism are concerned. Via the Lacanian Real and Badiouist mathematics, we have the perhaps predictable evocation of Cantorian set theory as the now-standard gesture by which contemporary thought's resistance to totalization is formalized. Yet Badiou's preference for the mathematizable is itself resisted in favour of a certain biological preference, one which permits the assertion of merely a 'weak nature' defined by 'heterogeneous ensembles of less-than-full synthesized material beings, internally conflicted, hodgepodge jumbles of elements-in-tension'. Here, the 'material' in its non-reductive sense is depicted in terms of 'phenomena flourishing in the nooks and crannies of the strife-saturated, undetermined matrices of materiality, in the cracks, gaps, and splits of these discrepant strata'. 'Weak nature' is thus matched by a kind of motherhood-and-apple-pie image of the bio-material, propagated in the ground of a language which leaves little room for sharp disagreement. (I leave it to others to think of examples where the rhetoric of motherhood-and-apple-pie happily co-exists with the urge to purge.)

Along the way, the Lacan who seemed at certain points to favour 'mathematical-type formalism' as an escape route from humanistic models of subjectivity is downgraded in favour of a psychoanalysis able to rehabilitate aspects of Freud's biological scientism (as Johnston puts it), in the interests of a new pact between philosophical or critical thought and the life sciences today. Thus, unsurprisingly, Badiou's outsourcing of ontology from philosophy to mathematics is contested as the basis of materialism proper. It

is just too pure; it lacks the messiness demanded by an authentic dialectics and evinced by the findings of the natural sciences alike (messy bedfellows in themselves). It is as if materialism must purge itself even of purity. In the kind of hyperinflationary environment that characterizes the field of contemporary continental philosophy, true materialism must up the ante on the 'ultra-rigour' of Badiouist 'purity'.

Johnston suggests that the assault on idealism by materialism must of necessity also counter itself, or must, in a certain sense, act as its own counter-resistance. The messiness that transpires from this doesn't only reflect nature, 'manifest in condensed form in the bodies and brains of human beings', taking inconsistent and heterogeneous shapes characterized by 'holes, gaps, and lags'; it also describes the politics of the field. Badiou is thus presented, in



the space of just a couple of pages, as at once averse to biology and as unclear on the borderline between idealism and materialism as he is on that which separates biopolitics from biological science. It seems to me that the 'good' rhetoric of a non-deterministic biology masks a highly determined political game played out across this particular landscape of 'materialism' that time and again succumbs to the fateful logic of the purge. But is this how the brain works, for Johnston? Are its dynamics of self-organization those of a perpetual self-cleansing? The story is a messier one than that, not least since the purifying gesture of mathematical formalization is presented by Johnston as rather alien to neuroscience. (Thus, Johnston questions what he deems the Badiouist inclination to drive the life sciences towards quantum mechanics.) If the brain doesn't work on the basis of self-purification, why retain the motif for materialism, if that same materialism justifies itself on the strength of its affinity with science in its biological rather than mathematical form? Unless

of course the plasticity of the brain – 'as both flexible and resistant, as moving between the malleability of reformation and the fixity of formation' – gives itself as the very medium and instrument of a politics that hygienizes in increasingly intensifying ways. This seems a doubtful but nevertheless rather terrifying prospect.

Meillassoux is last up in this Holy Trinity, Son of the Badiouist Father – and treated very much in the vein of such a family romance. Meillassoux is described as 'more of a realist than Badiou' to the extent that the former, more so than the latter, encourages a certain passage from mathematical purity to a sense of extra-subjective or non-correlational 'matter'. Equally, though, Meillassoux is (quite rightly) deemed guilty of cherry-picking from the empirical realm when it suits, for instance in his arguments about the arche-fossil, while violently sealing off his brand of speculative materialism from the messy evidence of empirical science, whenever the latter troubles the former's rationality. From here, it is a short stride to idealism and religiosity. Yet one might speculate that Johnston's retreat from the 'hygiene' of Meillassouxian thinking is another instance of the logic of the purge, which comes ever closer to home but only in the sense that the nearest family member is the most suspect. Meillassoux 'clings with one hand to what he struggles to cast away with the other' – be it Kant, idealism, metaphysics – but, between the 'mess' and the 'purge', what makes Johnston think this characterization of the other won't come home to roost?

As the book nears its conclusion, Johnston argues that there is 'a big difference between arguing for materialism/realism versus actually pursuing the positive construction of materialist/realist projects dirtying their hands with real empirical data'. As a condemnation, this is surely nothing but self-condemnation, since, by obsessing over the former, *Prolegomena to Any Future Materialism* makes no attempt at the latter; doubtless because the latter would be as suicidal, in practical terms, as the former eventually turns out to be. Hands get dirty in this book, not in the sense that – going along for the ride on some life science field trip – they enjoy digging in fertile ground. The logic of the purge (that is, of purification), which this book at once resists and advocates, no doubt as a feature of that very same logic, casts a more troubling light on those dirty hands.

Simon Morgan Wortham