

evolution in terms of disorder also accept the indisputable place of values in psychiatry. Psychiatry is conceptually and empirically more complex than the rest of medicine. Every now and then a claim is made for a concept that will push psychiatry to an exclusively biological future. But psychiatry must be the avant-garde of science, rather than the runner-up of medicine, for perspectives which truly add to those complexities (empirical as well as philosophical) to do justice to themselves.³

Psychiatry's interest in evolutionary theory is not new. The authors will be familiar with the views of Scadding, Kendell and Boorse, who all attempted to define disease in evolutionary terms. Accounts of disorder based on evolutionary theory allegedly offered the epistemological background for a value-free conceptualisation of disease. This is one way out of psychiatry's embarrassment when comparing itself against the scientific status of the rest of medicine and the medical model. However, this seems to be a misuse of natural selection, dressed in the colours of realism in order to enhance a 'scientific' psychiatry.

We do not argue that evolutionary theory has no role to play. Evolutionary psychology may offer new significant ways of approaching mental disease. But let us hope that this interest in Darwin will not be a pretext for blind reductionism and a return to a fact/value dichotomy. Britain is in the front line of value-based and evolution-based considerations with the work of Fulford, Thornton,⁴ Bolton⁵ and others. Great heritage, greater present.

- 1 Nesse RM. Evolution at 150: time for truly biological psychiatry. *Br J Psychiatry* 2009; **195**: 471–2.
- 2 Fulford KWM, Thornton T, Graham G. *Oxford Textbook of Philosophy and Psychiatry*. Oxford University Press, 2006.
- 3 Fulford, KWM. Teleology without tears: naturalism, neo-naturalism, and evaluationism in the analysis of function statements in biology (and a bet on the twenty-first century). *Philos, Psychiatry Psychol* 2000; **7**: 77–94.
- 4 Thornton T. *Essential Philosophy of Psychiatry*. Oxford University Press, 2007.
- 5 Bolton, D. Alternatives to disorder. *Philos Psychiatry Psychol* 2000; **7**: 141–53.

Athanassios Douzenis, Dionisios Seretis, Emmanouil Rizos, Ioannis Michopoulos, Christos Christodoulou, Leftaris Lykouras, Athens University Medical School, 2nd Psychiatry Department, Attikon University Hospital, 7 Rimini Street, Athens 12462, Greece. Email: thandouz@med.uoa.gr

doi: 10.1192/bjp.196.3.246a

Nesse¹ argues that psychiatry requires both proximate and evolutionary explanations to become a fully fledged biological science. He thinks that mental disorders such as schizophrenia and depression would benefit from posing the question of whether low mood and variable social ability were adaptive traits in times long gone and are no longer of evolutionary advantage in our current environment.

I think that Nesse's approach is as laudable as it is flawed. Evolutionary psychology proposes that most if not all human psychological traits are complex adaptations which have evolved under selective pressures. Richardson convincingly shows that the claim that all our psychological capacities have been selected for the purpose of accomplishing a particular task is too strong and that the empirical evidence required to support this claim is necessarily historical.² The problem is, however, that the required historical evidence is hard or impossible to come by – we simply do not know what psychological traits were prevalent let alone advantageous to survive in a Pleistocene environment about which we also have little information.

For evolutionary psychology to be regarded as a credible theoretical framework it will have to be examined against

standards of scientific enquiry used in other evolutionary fields such as evolutionary biology. Archaeopteryx was thought to be able to fly as it possessed feathers and claws to allow it to perch on trees.³ However, fossil records also showed that archaeopteryx lacked a sternal keel and that its awkward tail would have been likely to impede flying. Further comparative analysis showed that archaeopteryx was neither likely to perch nor be able to fly and refuted the conclusions arrived at by reverse engineering as proposed by Dennett.

Evolutionary psychology relies mainly on reverse engineering as this strategy requires comparatively few historical data but risks arriving at erroneous conclusions. Buller⁴ shows this to be the case for evolutionary explanations of the existence of cheater detection modules or gender differences in jealousy.

This is not to say that evolutionary psychology cannot offer an exciting and innovative framework for scientific inquiry into common mental disorders such as depression and schizophrenia but that we have to be aware of its current theoretical and methodological shortcomings and the need for further conceptual work. I agree with Geaney⁵ that further advances to understanding human behaviour and mental disorder would be best served by interdisciplinary cooperation whether based on evolutionary theory or not.

- 1 Nesse RM. Evolution at 150: time for truly biological psychiatry. *Br J Psychiatry* 2009; **195**: 471–2.
- 2 Richardson RC. *Evolutionary Psychology as Maladapted Psychology*. MIT Press, 2007.
- 3 Dennett DC. *Darwin's Dangerous Idea: Evolution and the Meanings of Life*. Simon & Schuster, 1995.
- 4 Buller DJ. Evolutionary psychology: the emperor's new paradigm. *Trends Cogn Sci* 2005; **9**: 277–83.
- 5 Geaney D. Evolutionary psychiatry: the way ahead (eLetter). *Br J Psychiatry* 2009; <http://bjp.rcpsych.org/cgi/eletters/195/6/471#27117>

Yvonne Treffurth, ST5 CAMHS, Forest House Adolescent Unit, Harperbury Hospital, Hertfordshire. Email: yvonne.treffurth@gmail.com

doi: 10.1192/bjp.196.3.247

Author's reply: Douzenis is concerned that adding evolution will make psychiatry narrowly biological in a way that excludes values. However, my article makes no claim that proximate and evolutionary approaches make up the whole of psychiatry, it says only that 'biological psychiatry is making full use of only one half of biology'.¹ Applying this additional biological knowledge to psychiatry should not exclude values. In fact, it offers a scientific foundation for addressing the very difficulties Douzenis mentions. It is fundamentally different from 19th-century evolutionary applications to medicine.² It is an antidote to mindless reductionism. It helps to solve the problem of defining disease,³ and to explain why psychiatric nosology is inherently problematic.⁴ Furthermore, profound advances in understanding human moral capacities, with important implications for psychiatry, are coming from evolutionary analyses of their origins and functions. I encourage those who share Douzenis' concerns to consider how evolutionary approaches can help us better understand our patients as individuals and provide personalised treatments that go far beyond analysing genes and prescribing drugs.

I am delighted that Treffurth finds my approach laudable, but dismayed that she seems to think my article is about evolutionary psychology. Evolutionary biology has vastly more to offer psychiatry than just evolutionary psychology, a field not mentioned in the article. I share Treffurth's concerns about the

difficulties of reaching firm conclusions about the adaptive significance of traits; this is challenging science. However, most working biologists find little value in philosophical arguments about whole fields and generalisations about the study of adaptations. Using historical, comparative, and other evidence to assess hypotheses about past events poses challenges in geology and cosmology, as well as in evolutionary biology. Generalisations about the difficulties are not very helpful. Examples like the one provided do not undermine the enterprise, they illustrate how such hypotheses can be tested. We will come to better methods, not by disparaging whole areas of work, but by pursuing specific questions in depth with evidence.

The fields of animal behaviour, behavioural ecology, and evolutionary genetics offer well-developed frameworks for understanding phenomena of core importance to psychiatry, such as the origins and functions of the capacities for emotions, attachment, and social behaviour. Darwinian medicine offers explanations for why natural selection has left us vulnerable to diseases.⁵ My argument is simple: basic knowledge from these fields is useful in psychiatry. Unfortunately, they are connected

to psychiatry by only a few bridges.⁶ I hope readers will explore and build more.

- 1 Nesse RM. Evolution at 150: time for truly biological psychiatry. *Br J Psychiatry* 2009; **195**: 471–2.
- 2 Zampieri F. Medicine, evolution and natural selection. An historical overview. *Q Rev Biol* 2009; **84**: 1–23.
- 3 Nesse RM. On the difficulty of defining disease: a Darwinian perspective. *Med Health Care Philos* 2001; **4**: 37–46.
- 4 Nesse RM, Jackson ED. Evolution: psychiatric nosology's missing biological foundation. *Clin Neuropsychiatry* 2006; **3**: 121–31.
- 5 Nesse RM, Bergstrom CT, Ellison PT, Flier JS, Gluckman P, Govindaraju DR, et al (2009) Making evolutionary biology a basic science for medicine. *Proc Natl Acad Sci*, published online before print November 16, 2009, doi: 10.1073/pnas.0906224106
- 6 Brüne M. *Textbook of Evolutionary Psychiatry: The Origins of Psychopathology*. Oxford University Press, 2008.

R. Nesse, The University of Michigan, Research Center for Group Dynamics, ISR, 530 Church Street, Ann Arbor, MI 48109-1043, USA. Email: nesse@umich.edu

doi: 10.1192/bjp.196.3.247a

Correction

Long-term mental health of Vietnamese refugees in the aftermath of trauma. *BJP*, 196, 122–125. The second sentence of the Method (p.122, col. 1) should read: An interview administered in the respondents' home (by A.B.V. and T.V.T.) included a self-report questionnaire available in Vietnamese and Norwegian, and a structured face-to-face interview in Vietnamese.

doi: 10.1192/bjp.196.3.248

extra

Bringing new life into psychiatry

Rebecca McKnight

I recently spent my elective doing psychiatry in a world-renowned hospital in the USA. I went hoping to confirm my interest in psychiatry as a career, but also as a way of avoiding the practical nature of most placements in low- and middle-income countries. I am not a 'hands-on' person, much preferring talking therapies to actually doing anything practical.

During my time on the in-patient unit, a patient with bulimia nervosa was admitted with hypokalaemia secondary to thrice-daily purging. This was not an unusual scenario, but this lady happened to be 34 weeks pregnant. One morning, having arrived on the ward at 6.40 am to prepare for the daily rounds, I was asked to review the patient as she was having abdominal pain. From the end of the bed I could see she was sweaty, pale, and looked to be in severe discomfort. I was concerned, and asked the nurse to contact an obstetrician urgently. Moving closer I saw there was bloody fluid on the bedclothes, and the patient starting yelling she could 'feel something coming out'. I took the plunge and asked for permission to examine her. After the usual psychiatric ward struggle to find some equipment, I performed a vaginal examination. I was alarmed to feel a head pushing down on my hand, and immediately went into the push . . . stop . . . push mode I had learnt during obstetrics. A few moments later and I had delivered the baby, which thankfully started to breathe by itself. I put the baby onto the mother's chest, and then started to panic as to what to do next. I was saved by the arrival of a paediatrician, swiftly followed by someone with a pair of umbilical cord scissors. Now all I had to do was to sort out the fourth year resident – obstetrics was optional in her training, and witnessing her first delivery left her collapsed in a heap on the floor.

While I hated obstetrics as a student, and complained about most practical specialties, I am extremely glad the UK training system remains for the most part general and all-inclusive. I'm still heading for psychiatry, but perhaps will put a little more effort into honing my practical skills, and encouraging other psychiatrists to do the same.

Rebecca McKnight is academic foundation trainee at the Department of Psychiatry, Oxford University.

The British Journal of Psychiatry (2010)
196, 248. doi: 10.1192/bjp.196.3.248