but later on admit that the true mechanism of action of psychiatric drugs and the pathophysiology of mental disorders are unknown. Despite this, they conclude by advocating for more psychopharmacology in the MRCPsych curriculum.

Bullmore *et al* correctly highlight the false dichotomy between functional and organic disorders. However, they fail to acknowledge that disorders previously conceived as psychiatric, for which a neuropathology has been elucidated, are now considered neurological disorders and the preserve of neurologists. Huntington's disease and neurosyphilis are two examples. Consequently, they do not consider whether, if future neuroscientific research elucidates a neuropathology for the major mental disorders, these disorders would still be under the remit of psychiatrists. If not, perhaps there is little need for clinical psychiatrists to embrace the neurosciences.

They further note that objections to neurobiological research are based on concerns that the doctor–patient relationship would be fundamentally altered, to the patient's detriment. They argue that this is not the case for other medical specialties, where empathy and understanding are still important. However, Kleinman[2] notes that the doctor–patient relationship did indeed become a casualty of an increasingly scientific and technological medicine. Bullmore *et al* suggest that the neurosciences will reduce the stigma of mental illness. Yet, there is evidence that neurobiological models of mental disorder may actually increase stigmatising attitudes to the mentally ill and that clinicians who hold such views are less likely to involve patients in decisions about their care.[3]

They note the contention that physical models have not made any difference to clinical psychiatry, yet they provide no defence, only an optimistic future prediction that this will happen.

It is difficult to object to neurobiological research, but it is important to temper enthusiasm for its potential to revolutionise psychiatry. Not a single patient has benefitted from neurobiological research into psychiatry, and although psychopharmacology is one of the success stories of modern psychiatry, our drugs are the result of serendipity rather than a true understanding of the neural and molecular basis of the mental phenomena that underpin the experiences diagnosed as mental disorder. This research is extremely expensive and may be occurring at the cost of social, epidemiological and psychological research for which it is increasingly difficult to secure funding. In contrast, such research has created evidenced-based interventions for mental illness. For example, the finding that high expressed emotion in families is associated with greater relapse in schizophrenia led to the development of family intervention,[4] and the finding that life events of an interpersonal nature were associated with the onset of depression led to the development of interpersonal therapy.[5] Perhaps psychiatry cannot afford to be neurophobic, but no evidence for this has thus far been provided.


1 Bullmore E, Fletcher P, Jones PB. Why psychiatry can't afford to be neurophobic. *Br J Psychiatry* 2009; **194**: 293–5.

2 Kleinman A. *The Illness Narratives: Suffering, Healing and the Human Condition*. Basic Books, 1988.

3 Read J, Haslam N, Sayce L, Davies E. Prejudice and schizophrenia: a review of the mental illness is an illness like any other approach. *Acta Psychiatr Scand* 2006; **114**: 303–18.

4 Kuipers E, Leff J, Lam D. *Family Work for Schizophrenia: A Practical Guide (2nd edn)*. Gaskell, 2002.

5 Klerman GL, Weissman MM, Rousanville BJ, Chevron ES. *Interpersonal Psychotherapy of Depression*. Basic Books, 1984.



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**doi: 10.1192/bjp.195.3.268b**


Psychiatry rests on the biopsychosocial model rather like a three-legged stool: remove any one of the legs and the stool, and psychiatry, fall over. Another three-legged stool might be that of emotion, cognition and behaviour, each is necessary, but insufficient, for understanding humans.

In 'Why psychiatry can't afford to be neurophobic',[1] Bullmore *et al* give a compelling picture of the complexity and explanatory power of genotype and phenotype in modern psychiatry and neuroscience. They expand phenotype to include behaviour and cognition, and also refer to Reil's vision of psychiatrists as physicians of the mind. Reil (1759–1813) coined the term 'psychiatry' and was concerned with the soul and soul organ, which he considered to be a product of the nervous system.[2] Reil's conception of the soul would be considerably wider than cognitive function and behaviour. Living during the Romantic period, he was concerned with what today might be called emotions, character and self-regulation.

It is difficult to do justice to the full breadth of neuroscience in an editorial; however, neuroscience and psychiatry are far broader than genes, cognition and the intervening processes. Although the nod is given to psychoanalysis and the importance of 'mental, interpersonal, developmental and therapeutic processes', and 'maternal deprivation and child abuse', there is no reference to emotion and its mental representation, affect, and the rapidly growing fields of affective neuroscience, attachment theory, affect regulation, mentalisation and developmental psychopathology.

Biology, ethology and palaeoanthropolgy have shown that social living has been the most important recent evolutionary pressure for brain development.[3] Subjectivity is intrinsic to, and an emergent property of, our social brain.[4] Ethology and attachment theory have shown how emotions are the glue of social interactions; from the moment of birth we are instinctually driven to engage with others: attachment behaviours, smiling and crying are genetically programmed. The representation of affect states in self and other (mentalisation) is vital to affect regulation and effective social adaptation; affect regulation and mentalisation are acquired through secure attachment relationships; and secure attachment, mentalisation and self-regulation contribute significantly to emotional resilience, which helps us to weather the challenges that life presents.[5,6]

The danger of seeming to neglect the importance of emotion and relating (while emphasising the importance of cognition, molecules and genes) in psychiatry is that we risk promoting the disengagement from neuroscience that Bullmore *et al* argue so passionately against.


1 Bullmore E, Fletcher P, Jones PB. (2009). Why psychiatry can't afford to be neurophobic. *Br J Psychiatry* 2009; **194**: 293–5.

2 Marneros A. Psychiatry's 200th birthday. *Br J Psychiatry* 2008; **193**: 1–3.

3 Wills C. *The Runaway Brain*. Harper Collins, 1993.

4 Solms M, Turnbull O. *The Brain and the Inner World*. Other Books, 2002.

5 Fonagy P, Gergely G, Jurist E, Target M. *Affect Regulation, Mentalization, and the Development of the Self*. Karnac, 2004.

6 Sroufe LA, Egeland B, Carlson EA, Collins WA. *The Development of the Person. The Minnesota Study of Risk and Adaptation from Birth to Adulthood*. Guilford, 2005.



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**doi: 10.1192/bjp.195.3.269**


**Authors' reply:** We thank the correspondents for their interest in our article[1] that, following Craddock's polemic,[2] we hoped would provoke some responses and debate. While we would dearly