3 Heim C, Newport DJ, Mletzko T, Miller AH, Nemeroff CB. The link between childhood trauma and depression: insights from HPA axis studies in humans. *Psychoneuroendocrinology* 2008; **33**: 693–710.

4 Boyce P, Mason C. An overview of depression-prone personality traits and the role of interpersonal sensitivity. *Aust N Z J Psychiatry* 1996; **30**: 90–103.

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Authors' reply: We would like to clarify a few points regarding our conclusion that our results 'strengthen the theory of a cardiovascular contribution to the aetiology of depression'.[1]

First, we talk about a 'contribution' which does not necessarily imply a direct causal pathway, stating that 'our findings are not explanatory with respect to causal chains leading to the onset of depression'. In line with this, we did include a careful discussion about other possible confounding mechanisms, i.e. factors that may increase the risk for both poor fitness and depression – for example, childhood factors, personality, self-esteem and subsyndromal affective problems. By including parental educational level as a confounder and by performing subanalyses within full brother pairs, many of the early childhood risk factors could be accounted for.

Second, as the conscription routines included extensive questions regarding every possible previous and present mental health problem in combination with separate examinations by professional psychologists and physicians, we believe that subsyndromal affective problems were not often overlooked. Also, to further reduce baseline misclassification, we did perform separate analyses excluding incident cases in the first year.

Third, we would like to stress that not all study participants were fit for recruitment into national service, but that the conscription test was used to select suitable recruits. Participation in the conscription tests was compulsory according to Swedish law and exemptions were granted only for incarcerated males and severe chronic medical disabilities (approximately 2–3% of the yearly male population). We can therefore consider our study a population study. After conscription, about 40 000 individuals were considered 'unfit' due to a cardiovascular fitness stanine score 1–3. All these 'unfit' young men were included in our study.

Fourth, the question of whether cardiovascular fitness may be related to increased risk for other types of psychiatric disorders in adulthood is one that we will continue to pursue in future analyses of the national conscription data.

Taken together, we still argue that the data 'strengthen the theory of a cardiovascular contribution to the aetiology of depression', which in our paper stands in direct connection with the sentence: 'although the results in the present population-based prospective study are compelling, a number of confounders could not be measured and intervention studies are needed to determine whether physical exercise in young adulthood can prevent future onset of depression.' We fully agree with de Jonge & Roest in their editorial[2] that a greater understanding of the mechanisms underlying these associations, including complex bidirectional models, may provide opportunities and strategies for prevention.

1 Åberg MAI, Waern M, Nyberg J, Pedersen NL, Bergh Y, Åberg DN, et al. Cardiovascular fitness in males at age 18 and risk of serious depression in adulthood: Swedish prospective population-based study. *Br J Psychiatry* 2012; **201**: 352–9.

2 de Jonge P, Roest AM. Depression and cardiovascular disease: the end of simple models. *Br J Psychiatry* 2012; **201**: 337–8.

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New paradigm: developmental psychopathology

Strong on diagnosis, but weak on prescription, Bracken *et al*'s[1] critique of contemporary psychiatry suffers from the very difficulty which they decry. They rightly complain that current paradigms ignore the psychosocial, fail to combat stigma, and that academic psychiatry has little impact on clinical practice. They cogently argue that the relational aspects of treatment, whether avowedly psychotherapeutic or pharmacological, outweigh any supposed specificity in their effectiveness.

Sadly, their remedies are vague and anodyne: encouraging service user involvement, acknowledgement of complexity, taking account of 'systems of meaning'. Motherhood and apple pie anyone? This anti-psychiatry rehash sounds the retreat rather well, but as a call to arms is feeble; it knows what it is 'anti', but lacks a convincing 'pro'.

Yet there is in fact an exciting way forward, one where academic psychiatry and psychology convincingly combine to enhance work in the clinic. Developmental psychopathology is the current cutting edge, drawing on attachment theory, neuro-imagining and epigenetics.[2] We are beginning to see how developmental experience inscribes itself on the brain, and sometimes on the genome; how the interaction of adverse developmental processes within the social milieu sows the seeds for psychiatric disorder. This provides the intellectual and evidential underpinning for effective psychotherapeutic treatments, which enhance resilience through fostering mentalising and mindfulness skills, promoting a sense of agency, and validating appropriate help-seeking. Psychiatrists-of-the-future's enthusiasm needs to be fanned by this flowering of environmental neuroscience, rather than doused with thin foam of post-modern angst.

1 Bracken P, Thomas P, Timimi S, Asen E, Behr G, Beuster C, et al. Psychiatry beyond the current paradigm. *Br J Psychiatry* 2012; **201**: 430–4.

2 Holmes J. Psychodynamic psychiatry's green shoots. *Br J Psychiatry* 2012: **200**: 439–41.

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Territorial disputes are a zero sum game: if one side gains ground, it can only be at the expense of the other. As clinical psychologists, it was therefore with a wry smile that we read the recent paper by Bracken and colleagues,[1] which calls for psychiatry 'to move beyond the dominance of the current, technological paradigm' and towards an understanding of mental health problems not as

diseases of the brain, but as involving 'social, cultural and psychological dimensions'.

We agreed with much of the paper's substance, yet found ourselves concerned by the implied route to implementation. Given their audience, Bracken *et al* can be forgiven for failing to acknowledge the existence of clinical psychology; yet their arguments owe a great deal to advances, both theoretical and empirical, made in this field. By calling for psychiatry to shift its epistemology and praxis, it might seem not only that that they want to adopt an alternative philosophy, but quietly to move their tanks onto the lawns of fellow professionals.

One could follow their argument to a different conclusion. If the goal is a mental healthcare system in which problems are seen principally as 'social, cultural, and psychological' in origin rather than biomedical, then the case for having medically trained professionals in positions of seniority is substantially weakened. Rather, clinical leadership would need to be provided by people who have received a comparably extensive training in psychological, social and cultural causes of distress.

Reforming the whole of psychiatry from the inside out can hardly be the most practical means of realising this vision. Instead, consider that there are some 10 000 clinical psychologists in the UK, the majority of whom work in the National Health Service (NHS). A substantial number of psychiatric posts go unfilled,[2] while clinical psychologist posts are being cut and downgraded across the country despite training places being vastly over-subscribed. We could begin by imposing a moratorium on filling psychiatric posts and use the money saved (about £100 million, at a conservative estimate) to reverse the process of downgrading, increase the number clinical psychologists at higher leadership grades and expand the number of training places. That – at zero net cost to the NHS – could help move us towards Bracken and colleagues' vision.

To be clear, this is not an 'anti-psychiatry' argument. We do not dispute psychiatric expertise in several technical areas, principally psychopharmacology. Although the benefits of antipsychotic medication have often been gravely overstated[3] and the utility of diagnostic categories is a source of constant dispute,[4] we would not be among those who deny that pharmacological interventions are ever a useful part of the treatment armoury, nor would we join the ranks of those criticising the profession of psychiatry. But if we want mental health services to be structured around the epistemological and theoretical assumptions outlined by Bracken *et al*, psychiatry should not aspire to colonise the territory of social, cultural, and psychological disciplines, but instead adopt a more genuinely equitable stance.

1 Bracken P, Thomas P, Timimi S, Asen E, Behr G, Beuster C, et al. Psychiatry beyond the current paradigm. *Br J Psychiatry* 2012; **201**: 430–4.

2 Royal College of Psychiatrists. *Census 2009: Workforce Figures for Psychiatrists*. Royal College of Psychiatrists (http://www.rcpsych.ac.uk/pdf/2009%20Census.pdf).

3 Whitaker R. The case against antipsychotic drugs: a 50-year record of doing more harm than good. *Med Hypotheses* 2004; **62**: 5–13.

4 Kinderman P, Read J, Moncrief J, Bentall R. Drop the language of disorder. *Evid Based Ment Health* 2013; **16**: 2–3.

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Authors' reply: Our central argument is that, for too long, academic psychiatry has been in the grip of a bioreductionist ideology that has prevented a truly 'evidenced-based' discourse to emerge. This ideology has encouraged us to see our discipline as simply 'applied neuroscience' and we have been promised over and over that the neurosciences will deliver insights and results 'in the future'. But this promised future never materialises. Our analysis of the literature about how drugs and therapies actually work, about how recovery from serious mental illness is promoted in the real world and about what service users and their organisations are telling us about their lives and their encounters with services has led us to seek a post-technological psychiatry: one that is able to acknowledge the primary importance of relationships, meanings and values in mental health work. We believe that the available scientific evidence endorses this position and the demands from service users and their organisations for a very different sort of medical engagement with mental suffering.

Of course, there is work to be done in mapping the implications of this analysis. Moving 'beyond the current paradigm' is not about a search for another singular framework, but a realisation that the complex world of mental health demands openness to multiple paradigms. We believe that a mature psychiatry will be one whose practitioners are comfortable with the epistemological, political and therapeutic implications of this. Many psychiatrists strive to work in this way already and there is evidence that an increasing number are keen to move towards recovery-oriented service models.[1]

We do not claim to have all the answers and value the work of Professor Holmes, for example in relation to the role of narrative in mental health practice.[2] However, we would caution against any attempts to explain the insights of psychodynamics through the discourse of neuroscience. We fear that this is another example of what the physician and philosopher Raymond Tallis calls 'neuromania',[3] a contemporary intellectual fashion which seeks to explain every aspect of the human condition through the terms of neuroscience. One of Freud's greatest insights was the realisation that relationships are at the heart of mental health work, both in terms of explaining how problems emerge as well as offering solutions. Although neuroscience can offer some speculative ideas, it cannot be used to ground a science of interpersonal dynamics. In reality, human relationships, meanings and values are given their coordinates by the social context in which they exist. This context is deeply textured with cultural, linguistic, political and economic dimensions. It is the product of centuries of human history and simply cannot be grasped with the reductionist logic of biomedicine.

We are not too sure what to make of Professor Holmes's tone in referring to our 'encouraging service user involvement'. We would like to reiterate that we do indeed see this as a vital ingredient in any progressive debate about the future of psychiatry.

Kinderman & Thompson support our analysis but seem afraid that we are attempting to create a psychiatry that will seek to colonise the territory of other disciplines such as their own (psychology). This is a misreading of our project and our intentions and we can reassure them that we have no tanks to move onto anyone's lawn! If human suffering fell neatly into specific domains there would probably be no need for psychiatry at all. Neurologists would deal with the brain and its disorders, endocrinologists would grapple with our hormones and psychologists could work with thoughts and feelings. However, human reality is not neat, and human suffering is often multidimensional. There aren't discrete domains. At its best, psychiatry involves an attempt to bring medical insights and practices to bear on the complex nature of mental problems. Such problems can emerge through purely psychological pathways but, most often, they involve social, economic, political and biological