

From the Editor's desk

By Kamaldeep Bhui

**Cultural neuroscience:
a meta-paradigm for psychiatry?**

A paradigm is set of shared ideas, assumptions and rules, including values and cultural beliefs, by which we understand and progress research on scientific problems. Paradigms enable scientific advances through carefully positioned questions within the paradigm, and research that advances our knowledge of the paradigm and its boundaries and assumptions. Paradigmatic conflicts reveal failings of the paradigm and drive the search for a better theory that matches empirical data. For mental healthcare, this means learning about improving people's positive experiences of living, protection against harms and adversity, reducing emotional distress, and discovery of new treatments for mental illnesses.*

Therapies and treatments are often formulated within paradigmatic boundaries, but given the lack of a major paradigm shift in the care of the mentally ill, policy makers, commissioners, providers and practitioners are all still searching for the new paradigm. Perhaps we already have all the sub-unit paradigms we can hope to discover, and rather we should now better derive a meta-paradigm that links these to produce overall theories about the genesis of emotional distress and mental illnesses, and pathways for recovery and treatment.

A revolution in neurosciences is attracting investment, and offers hope and optimism for discovery of new treatments for mental illnesses.¹ The ambition is that a better understanding of neurobiological mechanisms of symptom production offers more effective models of intervention. For example, Fouche *et al* (pp. 67–74) and Peters *et al* (pp. 75–82) show how striatal connections might explain symptoms of, respectively, obsessive-compulsive disorder and psychoses. At the same time there is a challenge to reductionism that emphasises neuroscience (as opposed to socio-cultural and health systems research) as a natural science that can uniquely herald a fundamental shift of paradigms to understand, prevent and treat mental illnesses.^{2,3}

A rapidly emerging new paradigm is 'cultural neuroscience'. This asserts the co-evolution of genetic, biological, neural, social and cultural affordances, that improve the human capacity to communicate, cooperate, survive and adapt.^{4,5} It is through interpretive processes of communication and sharing of meanings and perspectives that people experience their place in the social world and in relationships and roles. This is culture as a process. The assertion is that the biological and neuroscientific basis of health and the affordances offered are closely aligned with the social and cultural adaptations needed for healthy living; these adaptations lead to optimal patterns of verbal and non-verbal communication, including the use of imitation and identification through play and ritual, leading to shared imagined worlds, leading to trust and cooperative relationships. Communication without this cultural context becomes empty and open to misinterpretation and distrust. Thus, whatever the neuroscientific basis of a therapy, the impact might be enhanced or diminished by

shared meanings and intentions (cultures) in which people exist and experience the world. It is through culture that people relate and communicate with each other, organise their collective and individual agency. People use these shared belief-action transactions to draw on powerful sources of motivation and emotional strength in order to cope and to overcome adversity, or to protest about exclusion and isolation.

Other emerging methods, which need harnessing into a paradigm of research and clinical care, include genetic epidemiology deploying Mendelian randomisation, now promoted as perhaps the only way that epidemiological studies can avoid bias and confounding and reverse causality; Mendelian randomisation also allows for tests of causality where randomised controlled trials are untenable.^{6,7} This powerful methodology is applied in this month's *BJPsych*: Wium-Andersen *et al* (pp. 31–38) suggest the association of depression with short telomere length previously reported in cross-sectional analysis is not verified in prospective or causal genetic analyses. Sequeira *et al* (pp. 39–46) show that early menarche is causally associated with depression at age 14, but not at a later age. Brain connectivity studies may also reveal new mechanisms of symptom generation that afford protective interventions. Three studies attempt to deploy new paradigms of causality to find better treatments for mania (Bartoli *et al*, pp. 10–15), residual depression (Alda *et al*, pp. 54–60) and early Alzheimer's disease (Huntley *et al*, pp. 61–66).

Alternative foci for investigation are social structures and status, and health systems. For example, Burns and Baggaley (pp. 6–9) debate the pros and cons of a functional split between in-patient and out-patient care, relevant perhaps for high-income countries with these service models, but perhaps less applicable to other country contexts. The biopsychosocial paradigm originally introduced by Engel is yet to be fully adopted and advanced in mental healthcare,⁸ yet it holds much potential for improving outcomes and research benefits.⁹ Editorials by Davies & Roache (pp. 3–5) and Daly (pp. 1–2) recommend more focus on the biopsychosocial, and on premature mortality and chronic disease, rather than risk assessment, given the science suggesting that risk assessment is too imprecise.¹⁰ Indeed, long-term conditions are associated with greater intensity of care and poorer outcomes after high-intensity therapy (Delgadillo *et al*, pp. 47–53). The importance of context, political and social, is highlighted by a review of trials with and without pharmaceutical company sponsorship, showing superiority over psychological therapies only for sponsored trials (Cristea *et al*, pp. 16–23). The use of guidelines aims to improve outcomes, resources and overall provider performance, but Girlanda *et al* (pp. 24–30) show that these improve patient outcomes, but not provider performance. These might all be understood as cultures of care and research, in which the paradigms shape what we see as important and relevant to immediate care practices, rather than the longer-term evolutionary advantages proposed by cultural neurosciences. These astronomically different vistas of research and clinical care must be drawn together if we are to discover the meta-paradigm.

- 1 Reynolds CF 3rd, Lewis DA, Detre T, Schatzberg AF, Kupfer DJ. The future of psychiatry as clinical neuroscience. *Acad Med* 2009; **84**: 446–50.
- 2 Lewis-Fernández R, Rotheram-Borus MJ, Betts VT, Greenman L, Essock SM, Escobar JJ, et al. Rethinking funding priorities in mental health research. *Br J Psychiatry* 2016; **208**: 507–9.
- 3 Rego MD. Counterpoint: clinical neuroscience is not ready for clinical use. *Br J Psychiatry* 2016; **208**: 312–3.
- 4 Ramstead MJ, Veissiere SP, Kirmayer LJ. Cultural affordances: scaffolding local worlds through shared intentionality and regimes of attention. *Front Psychol* 2016; **7**: 1090.

*Illness here refers to an experience, rather than a biologically determined disease or disorder, asserting the importance of personal and cultural meaning-making in shaping help-seeking and illness behaviours and recovery.

- 5 Chiao JY, Blizinsky KD. Population disparities in mental health: insights from cultural neuroscience. *Am J Public Health* 2013; **103** (suppl 1): S122–32.
- 6 Smith GD, Ebrahim S. 'Mendelian randomization': can genetic epidemiology contribute to understanding environmental determinants of disease? *Int J Epidemiol* 2003; **32**: 1–22.
- 7 Hung CF, Rivera M, Craddock N, Owen MJ, Gill M, Korszun A, et al. Relationship between obesity and the risk of clinically significant depression: Mendelian randomisation study. *Br J Psychiatry* 2014; **205**: 24–8.
- 8 Engel GL. The clinical application of the biopsychosocial model. *Am J Psychiatry* 1980; **137**: 535–44.
- 9 Smith S, Grant A. The corporate construction of psychosis and the rise of the psychosocial paradigm: Emerging implications for mental health nurse education. *Nurse Educ Today* 2016; **39**: 22–5.
- 10 Chan MKY, Bhatti H, Meader N, Stockton S, Evans J, O'Connor RC, et al. Predicting suicide following self-harm: systematic review of risk factors and risk scales. *Br J Psychiatry* 2016; **209**: 277–83.