

Shandy as anticipating the novel and I made plain that the (postmodern) changes I observed ‘came into common usage in Europe and the United States in the last three decades or so’ (Hawthorn: p.62). To negate (my) differentiating modernist fiction from the 1950s postmodernist ‘shift’ might make good criticism if not merely advanced as opinion.

On my text choices being idiosyncratic, I acknowledged this inevitability (p. vi) before providing choices of others as a balance, including David Goldberg. But this was ignored and readers left with assumptions of my eccentricity.

I did not identify psychoanalysis as a dominant force in the 1930s. I asserted its significance as an interest in Freudianism, in the 1920s, with ‘think-tanks’ involving John Rickman, Lionel Penrose, A. G. Tansley and John Bowlby, who qualified medically in the 1930s. This interest persisted into the 1950s, some medical superintendents being conversant with psychoanalysis whose emergent tensions, in psychiatry, I addressed in my chapter on Pat Barker’s *Regeneration*.⁴

On Kafka’s *Metamorphosis* being a short story: I quote acclaimed literary critic Harold Bloom:⁵ ‘Considering the origins of this great short novel, *The Metamorphosis*’ (p.65).

In effect, your reviewer ignored most of my book, opting for points of little intellectual interest. As for my (perceived) disparaging remarks about psychiatry ‘throughout the book’, my critical take on psychiatrists Dr Yealand (Chapter 3) and Dr Weir-Mitchell (Chapter 5) stemmed from fiction. My ‘disparaging comments’ were exceptionally sporadic but their effect clearly outweighed the rest of my text.

It is false that I ‘dismiss’ Nietzsche, Socrates and Foucault. I critically quoted Foucault thus: ‘Shall we try reason: to my mind nothing could be more futile’ (p.66). I attributed only to Socrates that he was Plato’s mouthpiece and placed my take on Nietzsche within Hesse’s *Steppenwolf* and *Richard III*.

In general, the review was ill-considered, selectively dismissive and factually inaccurate.

- 1 Clarke L. *Fiction’s Madness*. PCCS Books, 2010.
- 2 Beveridge A. *Fiction’s Madness*. *Br J Psychiatry* 2010; **197**: 337–8.
- 3 Hawthorn J. *Studying the Novel (4th edn)*. Bloomsbury Academic, 2001.
- 4 Barker P. *Regeneration*. Viking Press, 1991.
- 5 Bloom H. *Bloom’s Guides: The Metamorphosis*. Chelsea House, 2007.

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doi: 10.1192/bjp.198.4.324a

Author’s reply: I would like to make the following points. First, in referring to Laurence Sterne’s *Tristram Shandy*, which is regarded by most commentators as a novel, I was challenging the author’s contention that: ‘From the eighteenth century through to the nineteenth, novels were realist by nature [. . .] from the 1950s, however, novels began to move in mysterious ways. Suddenly “Multivoiced” narratives, unreliable narrators, allegories, genre dodging, satire, and allusiveness [. . .] became the order of the day’ (Clarke,¹ pp. 11–12). Sterne’s *Tristram Shandy*, written in the 18th century, and James Hogg’s *The Private Memoirs and Confessions of a Justified Sinner*, written in 1824, experiment with the genre and with the notion of the unreliable narrator. Indeed, Clarke himself (p. 17) cites Ford Madox Ford’s 1915 novel *The Good Soldier* as representing a good example of an unreliable narrator.

Second, in his letter the author states that he did not identify psychoanalysis as a dominant force in the 1930s, but in his book

he writes: ‘Psychoanalysis was a major force in English psychiatry during the 1930s’ (p.150).

Third, as regards disparaging remarks about psychiatry, the quote about the smugness of male psychiatrists comes directly from the author, not from a novel. Elsewhere we find other critical remarks. Commenting on psychiatric training the author states: ‘three years of preparation for membership of the Royal College of Psychiatrists [. . .] requires not a whit of training in interpersonal relations, little of self-reflection, or what it means to be human. Such diversions might inhibit the self-assuredness provided by a medical model of madness. Alternatively, of course, the hyped confidence may simply compensate for the psychiatrists’ self-perceived fragility compared with the knowledge basis and status of other medical specialities’ (p.147).

Finally, with reference to a dismissive approach to major thinkers, the author discusses what he calls ‘Socrates’ infamous claim that no one can knowingly do wrong’, and concludes: ‘Perhaps Socrates got it wrong’ (p. 156). He writes that ‘Although Nietzsche’s Superman (*Übermensch*) was realised most horrifically, in our own time, by the Nazis, the impulse to stomp on others continues’ (p. 136). He also observes: ‘Foucault foolishly suggests abandoning rationality itself’ (p.186).

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doi: 10.1192/bjp.198.4.325

Theories on the evolutionary persistence of psychosis

We note that the Darwinian models of psychosis reviewed by Kelleher *et al*¹ in their editorial were all variants of the ‘costly by-product’ evolutionary model whereby an adaptive neuro-biological system that enhances fitness in the vast majority of the population generates the risk of error in a small minority, resulting in psychosis (including schizophrenia). Burns² identified the frontotemporal and frontoparietal cortical connections of the social brain, whereas Crow³ proposed that the dysregulation occurs in the language centres.

We wish to propose a different and entirely environmental Darwinian formulation for the non-affective psychoses based on an ‘environmental mismatch’ model. We have explained elsewhere⁴ that, although we agree with Burns’ proposal regarding locating the dysregulation and dysconnectivity within the social brain, we contend that the aetiology of the dysregulation relates to the effects of the novel post-Neolithic social environment. Although the susceptibility to non-affective psychosis, including schizophrenia, is likely to be ancient, the schizophrenic and the non-affective psychosis phenotype did not manifest itself until very recently in our species’ history. In other words, the risk of these disorders lay dormant and did not become evident until the post-Neolithic period.

Hence, we have proposed a reformulation of the social brain theory of schizophrenia and contend that schizophrenia (and the non-affective psychoses) are novel human phenomena that arose following the establishment of large permanent human settlements that accompanied the advent of agriculture and the abandonment of the hunter–gatherer way of life. We have contended that the blurring of the demarcation between in-group and out-group membership and living in close proximity to strangers is a stressor that can lead to perturbation in the development of the social brain in vulnerable individuals, resulting in the syndrome of schizophrenia. Hence, according to our formulation, schizophrenia is the result of a mismatch between the post-Neolithic human social environment and the

design of the social brain. We highlight the importance of the distinction between in-group and out-group membership that lies at the heart of intergroup conflict, violence and xenophobia. Our hypothesis (the out-group intolerance hypothesis) provides an explanation for the disparities in the prevalence of schizophrenia across the world and for the higher risk of this condition among immigrants and city dwellers. We propose that our hypothesis can account for a range of disparate epidemiological and other findings regarding schizophrenia that have thus far defied explanation by other theories, including the Darwinian by-product formulations reviewed by Kelleher *et al.*

- 1 Kelleher I, Jenner JA, Cannon M. Psychotic symptoms in the general population – an evolutionary perspective. *Br J Psychiatry* 2010; **197**: 167–9.
- 2 Burns JKP. An evolutionary theory of schizophrenia: cortical connectivity, metarepresentation, and the social brain. *Behav Brain Sci* 2004; **27**: 831–55.
- 3 Crow TJ. Is schizophrenia the price that Homo sapiens pays for language? *Schizophr Res* 1997; **28**: 127–41.
- 4 Abed R, Abbas M. A reformulation of the social brain theory for schizophrenia: the case for outgroup intolerance. *Perspect Biol Med* 2011; in press.

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doi: 10.1192/bjp.198.4.325a

Kelleher *et al.*¹ note the significant prevalence of non-clinical psychotic symptoms in the general population and discuss some hypotheses regarding its evolutionary survival. One theory not mentioned by them or those who have so far responded is a trait known as schizotypy. While accepting that to some degree the whole topic is rich with speculation, I suggest that schizotypy may be the missing piece in the puzzle. What follows is necessarily a brief summary of some of the relevant literature.

Differing from both schizotypal and schizoid personality disorders, schizotypy² is a heritable trait associated with an increased likelihood of creativity and of religious or mystical experiences. Importantly for this discussion, schizotypy also appears to be necessary but not sufficient for the development of schizophrenia, although not all those with schizotypy develop psychotic illnesses.

The four key dimensions of schizotypy are unusual experiences (which may be considered to be related to positive symptoms), cognitive disorganisation (related to thought disorder), introverted anhedonia (related to social withdrawal and depression) and impulsive non-conformity. This last is related to some of the disturbed behaviour, such as aggression and self-harm, seen in a range of psychiatric illnesses, including psychosis.

Regarding creativity, additional research by Nettle³ suggests that different dimensions of schizotypy are associated with different types of creativity. Nettle & Clegg further find that schizotypy is associated with increased 'evolutionary fitness' due to a greater number of sexual partners (and therefore offspring) in those with the unusual experience and impulsive non-conformity dimensions of the trait.⁴ In those with the former but not the latter dimension, the relationship with mating success is mediated by creativity. Nettle & Clegg have proposed that schizotypal traits, which in this case may be a proxy for some non-clinical psychotic symptoms, have therefore persisted because their potential negative effects are offset by enhanced mating success.

Regardless of the outcome of the search to understand the persistence of psychotic symptoms in human beings and of

possible future research involving those who have the non-clinical psychosis phenotype, it is important for people working in mental health services to remember that not all those they encounter with symptoms are ill. For those that are unwell, there will be other aspects of their existence that are positive and that may be life-enhancing for them and those around them. They should be encouraged to develop these aspects of themselves as part of their long-term recovery, in addition to the treatment and support they receive from health services, carers and friends.

- 1 Kelleher I, Jenner JA, Cannon M. Psychotic symptoms in the general population – an evolutionary perspective. *Br J Psychiatry* 2010; **197**: 167–9.
- 2 Claridge G (ed). *Schizotypy: Implications for Illness and Health*. Oxford University Press, 1997.
- 3 Nettle D. Schizotypy and mental health amongst poets, visual artists, and mathematicians. *J Res Pers* 2006; **40**: 876–90.
- 4 Nettle D, Clegg H. Creativity, schizotypy and mating success. *Proc Roy Soc B: Biol Sci* 2006; **273**: 611–5.

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doi: 10.1192/bjp.198.4.326

Don Quixote and Sancho Panza: *folie à deux*?

Martins de Barros & Busatto Filho date the first report in fiction of *folie à deux* to the Brazilian author Machado de Assis in 1879.¹ I submit that the first fictional account of 'shared delusions' was by Miguel de Cervantes over 250 years before. Cervantes wrote *Don Quixote de la Mancha* in or around 1604, publishing the first part in 1605 and the second, a decade later.

In Don Quixote, the eponymous hero, we have a domineering and voluble fantasist driven 'out of his wits' by the undue influence of books of chivalry: 'He so buried himself in his books that he spent the nights reading from twilight till day break and the days from dawn till dark; and so from little sleep and much reading, his brain dried up and he lost his wits.'² His character is steeped in rich descriptions of grandiloquent and persecutory delusions, polymorphic hallucinations and cognitive blunting. Sancho Panza, his squire, whom he enlists as his companion for his travels, is described as 'an honest man – if a poor man can be called honest – but without much salt in his brain-pan.'²

So we have a dominant Don Quixote, who has lost his reason, and a submissive, not so bright Sancho Panza, thrown together through much of their travels, creating a situation ripe for the development of *folie à deux*. And indeed we see a slow erosion of reason in Sancho Panza. He initially displays some resistance and skepticism to Don Quixote's delusions about windmills being monstrous giants or St Benedict's monks being a crew of wicked and diabolical 'perfidious scoundrels'. But he increasingly becomes convinced of the veracity of Don Quixote's beliefs. One example should suffice, the example of the balsam of Fierabras. This is a concoction that Don Quixote claims he can make on the cheap. He tells Sancho Panza, 'If ever you see me cut through the middle in some battle [. . .] you have only to take the part of my body that has fallen to the ground and place it neatly and cunningly, before the blood congeals, on to the half that is still in the saddle, taking special care to make them fit exactly. Then you must give me just two drops of this balsam to drink and, you will see, I shall be as sound as an apple.'² Sancho replies, 'If that is so, from now on I renounce the governorship of the promised isle, and all I want in payment for all my good services is for your worship to give me the recipe for that marvelous liquor.'²