

# History of the Human Sciences

<http://hhs.sagepub.com/>

---

## **Constructing a social subject: Autism and human sociality in the 1980s**

Gregory Hollin

*History of the Human Sciences* 2014 27: 98 originally published online 15 April 2014

DOI: 10.1177/0952695114528189

The online version of this article can be found at:

<http://hhs.sagepub.com/content/27/4/98>

---

Published by:



<http://www.sagepublications.com>

**Additional services and information for *History of the Human Sciences* can be found at:**

**Open Access:** Immediate free access via SAGE Choice

**Email Alerts:** <http://hhs.sagepub.com/cgi/alerts>

**Subscriptions:** <http://hhs.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

**Citations:** <http://hhs.sagepub.com/content/27/4/98.refs.html>

>> [Version of Record](#) - Sep 25, 2014

[OnlineFirst Version of Record](#) - Apr 17, 2014

[OnlineFirst Version of Record](#) - Apr 15, 2014

[What is This?](#)

---

# Constructing a social subject: Autism and human sociality in the 1980s

History of the Human Sciences  
2014, Vol. 27(4) 98–115  
© The Author(s) 2014  
Reprints and permission:  
sagepub.co.uk/journalsPermissions.nav  
DOI: 10.1177/0952695114528189  
hhs.sagepub.com



**Gregory Hollin**  
University of Nottingham, UK

## Abstract

This article examines three key aetiological theories of autism (meta-representations, executive dysfunction and weak central coherence), which emerged within cognitive psychology in the latter half of the 1980s. Drawing upon Foucault's notion of 'forms of possible knowledge', and in particular his concept of *savoir* or depth knowledge, two key claims are made. First, it is argued that a particular production of autism became available to questions of truth and falsity following a radical reconstruction of 'the social' in which human sociality was taken both to exclusively concern interpersonal interaction and to be continuous with non-social cognition. Second, it is suggested that this reconstruction of the social has affected the contemporary cultural experience of autism, shifting attention towards previously unacknowledged cognitive aspects of the condition. The article concludes by situating these claims in relation to other historical accounts of the emergence of autism and ongoing debates surrounding changing articulations of social action in the psy disciplines.

## Keywords

autism, cognitive psychology, Michel Foucault, sociality, theory of mind

## Introduction

### *The historical emergence of autism*

Autism is a condition featuring 'impaired social interaction, impaired verbal and non-verbal communication and the presence of repetitive and restricted patterns of

---

### Corresponding author:

Gregory Hollin, University of Nottingham, Institute for Science and Society, School of Sociology and Social Policy, Law and Social Sciences Building, University Park, Nottingham NG7 2RD, UK.  
Email: [gregory.hollin@nottingham.ac.uk](mailto:gregory.hollin@nottingham.ac.uk)

behaviour' (White, 2013: 114). It was first described in 1943, and, as is well recognized, there was an epidemic of autism diagnoses in the 1990s (Eyal *et al.*, 2010: 2). Within the United Kingdom, prevalence rates increased from around 4 cases per 10,000 in 1978 (Wing and Potter, 2002: 151) to an estimated 1% of schoolchildren in 2009 (Baron-Cohen *et al.*, 2009: 500). Further, since the 1980s, the nature of the population classified as being autistic has changed significantly. A fledgling cognitive research programme being established in the 1970s consistently used samples with mean IQs in the 60s, and autism was believed to be a condition that almost exclusively affected those with intellectual disability (Baron-Cohen *et al.*, 2005: 628). By comparison, it is now argued that 'intellectual disability is not part of the broader autism phenotype [and] the association between extreme autistic traits and intellectual disability is only modest' (Hoekstra *et al.*, 2009: 534). Within recent decades, then, the relationship between intellectual disability and autism has been questioned in a novel manner.

### *Experience and autism*

As important as the above, however, is the fact that today the experience of autism strikes us as both immediate and self-evident. The condition is self-evident to scientists and clinicians who report that they are able to determine whether an individual is autistic within seconds of their arrival at the clinic. The condition is self-evident, too, to the rest of us. The figure of the adolescent with Asperger's has become a mainstay of popular fiction (Hacking, 2009) and the idea that we are 'all a bit autistic' is common. We see autism everywhere and cannot imagine how it could have been otherwise; we experience it on a daily basis.

'Experience' is meant here, not in terms of 'lived experience', but in a sense more closely allied to that offered by Michel Foucault. While the term is almost entirely absent from the middle period of his work, Foucault came to understand his analyses, of the type offered in the *History of Madness* (Foucault, 2006) and *The Birth of the Clinic* (Foucault, 2003), examining radical discontinuities in thought and ways of seeing, as concerning experience (Foucault, 2010: 5). Both Foucault (1994: 275–6) and those taking his lead (e.g. Rose, 1996: 34) believe that the human sciences have had a particularly profound effect upon contemporary experience, and investigations into the fugue (Hacking, 2002), multiple personality disorder (Hacking, 1995), paedophilia (Balmer and Sandland, 2012), and post-traumatic stress syndrome (Young, 1995) can be understood in such terms.

Foucault claimed that 'historically singular experiences' were constructed by the mingling and interrelations of three axes (Foucault, 1984: 2), the so-called tripartite nature of experience (Foucault, 1994: 3) featuring 'forms of possible knowledge, normative frameworks of behavior, and potential modes of existence for possible subjects' (Foucault, 2010: 254). Lemke (2011: 39) refers to these axes, in turn, as 'the problem of truth, the problem of power, and the problem of individual conduct'. This article, in attempting to investigate the contemporary experience of autism, will primarily address the first of these axes; what forms of possible knowledge opened the space for autism, and how has autism become available as a problem of truth.

It is well recognized that Foucault used the French terms *connaissance* and *savoir*, both of which are translated into English as knowledge, to mean very different things:

Foucault uses *connaissance* to refer to the conscious rules men themselves recognize as justifying a claim of knowledge and uses *savoir* to refer to another level constituting the underlying necessary conditions defining and making possible these recognitions. (Kennedy, 1979: 271)

It is the latter of these knowledges, *savoir*, which Hacking translates as ‘depth knowledge’ (Hacking, 1995: 198) and which Foucault claims to be so important in determining the possible forms of knowledge (Foucault, 1972: 15), the highly interconnected ‘set of rules that determine what kind of sentences are going to count as true and false’ (Hacking, 1986: 30), which constitutes the first axis of experience. It is argued here that the three most significant contemporary models of autism rely upon a shared *savoir*, and that an understanding of this depth knowledge is crucial to explaining the contemporary truth of autism.

### Constructing autism

A small body of work has begun to consider this historical emergence of autism, as well as the remarkable rise in prevalence rates discussed above. This research has highlighted three key events that occurred within the 20<sup>th</sup> century. First, increased surveillance over the mental health of the child is seen as particularly important. It has been noted that ‘the 1920s and 1930s in Britain witnessed a vast expansion of charitable and governmental services to cater for the psychological problems of children’ (Evans, 2013: 3; see also Armstrong, 1983: 27; Armstrong, 1995: 396; Nadesan, 2005: 67; Rose, 1985: 176). Given that research ‘relentlessly focuses on the figure of the child when seeking to explore what autism is and what it might mean’ (Murray, 2008: 139), it seems likely that such knowledges of childhood were a prerequisite for the emergence of autism.

A second event to which is attributed particular importance within the history of autism was the widespread process of de-institutionalization that occurred around the 1960s. Within the United Kingdom this deinstitutionalization followed the Mental Health Act 1959 (Evans, 2013: 11) although, as analyses by Eyal *et al.* (2010) demonstrate, this de-institutionalization occurred throughout much of the Anglo-sphere. Indeed, within their text *The Autism Matrix* Eyal *et al.* award de-institutionalization the central place in the history of autism, claiming that:

The current rise in autism diagnoses, we argue, should be understood as an aftershock of the real earthquake, which was the deinstitutionalization of mental retardation that began in the late 1960s. (Eyal *et al.*, 2010: 3)

It is argued by both Eyal and others that while de-institutionalization was, in part, brought about because of the increased surveillance over childhood, it was de-institutionalization itself that further encouraged surveillance ‘as it became paramount to demarcate the mental problems and needs of children and adults who had previously been confined but were now being integrated into the population’ (Evans, 2013: 11).

Finally, a third crucial moment in the history of autism is taken to be the move away from psychoanalytically inspired conceptualizations of autism, which dominated until

the 1960s, and towards the constructions of the cognitive and biological sciences. Evans has noted that the move from psychoanalysis to a bio-cognitive model involved a significant change in dominant methodology. Much of psychology had been 'statisticalized' by the middle of the 20<sup>th</sup> century (Danziger, 2000: 344) and, thus, as autism research moved towards experimental psychology in the 1960s, research was increasingly concerned with an examination of statistical populations rather than case studies. This move, claims Evans, ushered in significant changes within in the field, most notably the disappearance of hallucination and fantasy from autism symptomatology (Evans, 2013: 21).

### *Autism and the social*

It is a central claim of this article that a fourth event needs to be considered in order to understand the emergence of autism in its contemporary form. It is not an argument of simple cause and effect, but rather a claim concerning the matrix of possibilities (Hacking, 1975: 15) or intelligibility (Butler, 1990: 17), which, when taken together, have allowed contemporary ways of thinking about autism to develop.

Autism is described as a social disorder and is thus dependent upon a conceptualization of the social. If one is to act under a description, then it is a point of logic that the description must precede the act (Hacking, 1995: 239). It is the claim of this article that the modern conceptualization of autism became dependent upon a novel production of the social during the 1980s and that this has had profound consequences for the experience of autism. A space was opened for new possible truths and knowledges, new types of disorder and new types of person.

John Greenwood is among several scholars to consider changing constructions of the social within psychology (Danziger, 1992, 2000; Good, 2000; Greenwood, 2004; Stam, 2006). Greenwood states that, in a model dominant prior to 1930:

[B]eliefs and attitudes were held to be social by virtue of their orientation to represented beliefs and attitudes of members of social groups, irrespective of the types of objects to which they were directed. (2004: 5)

To use one of Greenwood's examples, within this model of sociality my wearing of blue jeans is a social behaviour if I wear those jeans because I believe that this behaviour is consistent with that of my social group.

This model of sociality contrasts quite markedly with that which became dominant in the middle of the 20<sup>th</sup> century and which is notable for two key features. First, 'cognition is characterized as social merely by virtue of the objects to which it is directed, namely, other persons or social groups' (Greenwood, 2004: 6). This facet of the new social model means that, within contemporary thinking, the social is effectively synonymous with the interpersonal, a 'social in the shape of a crowd' (Danziger, 1992: 313). Second, 'the basic cognitive processes engaged in the perception and cognition of nonsocial objects, are also engaged in the perception and cognition of social objects' (Greenwood, 2004: 6). Perspective-taking tasks, for example, may be social despite being largely founded upon spatial reasoning skills that are just as crucial for negotiating a landscape as for understanding agents' locations (Shelton *et al.*, 2012: 199).

It is argued here that the modern conceptualization of autism became dependent upon a novel production of the social, as identified by Greenwood, in the 1980s and, when integrated with those further historical changes outlined above, that this has had profound consequences for the experience of autism. The years between 1985 and 1989 saw the arrival of three key aetiological theories of autism at the psychological level, theories that continue to dominate the field today (Pellicano, 2010). Those theories are the theories of meta-representations or theory of mind (Baron-Cohen, Leslie and Frith, 1985), executive dysfunction (Rumsey, 1985) and weak central coherence (Frith, 1989). This article will discuss the early work elucidating the new aetiologies of autism and seek to show that the contemporary construction of sociality is a precondition for those theories. It is hoped that such an analysis provides further evidence towards the emergence of this modern experience.

## Accounts of autism from within cognitive psychology

### *Autism as a disorder of executive functioning*

A new foundation for thinking about autism in cognitive terms arose in relation to the construct of executive functioning. The psychological concept of executive functioning is both heterogeneous and contested. During the late 1980s and early 1990s, and when discussed in reference to autism, there was general agreement that executive functioning abilities included, among other things, ‘flexibility of thought’ (Ozonoff and McEvoy, 1994: 415; Ozonoff *et al.*, 1991: 1083); the ‘inhibition of prepotent but irrelevant responses’ (Ozonoff and McEvoy, 1994: 415; Ozonoff *et al.*, 1991: 1083; Pennington and Ozonoff, 1996: 55; Russell, Jarrold and Henry, 1996: 673), and ‘planning’ (Ozonoff and McEvoy, 1994: 415; Ozonoff, Pennington and Rogers, 1991: 1083; Pennington and Ozonoff, 1996: 55; Russell, Jarrold and Henry, 1996: 673).

By 1996, 32 measures of executive functioning had been used in the study of autism (Pennington and Ozonoff, 1996: 53), although foremost among these was the Wisconsin Card Sorting Test (WCST), a game in which participants must stack cards according to unknown, and abstract, sorting rules (see Rumsey, 1985: 27, for a full description). Numerous executive functions are believed to be required in order to complete the WCST:

To perform well on this task, subjects must be able to discriminate among stimuli, classify them according to abstract principles, inhibit previously reinforced responses, sustain attention to appropriate attributes of compound stimuli, and use verbal feedback. (Ozonoff, South and Provençal, 2005: 607)

It is immediately apparent that card-sorting tests such as the WCST do not appear to be social. The fact that, in the 1980s, it was seen as possible to obtain knowledge of a social disorder with such tests is a clear indication of the novel *savoir* underpinning the research programme.

The first empirical papers examining executive functioning in autism came out of Judith Rumsey’s laboratory at the National Institute of Mental Health (Rumsey, 1985;

Rumsey and Hamburger, 1988, 1990). In 1985, Rumsey compared the performance of autistic and control groups on WCST and reached the following conclusions:

(1) High-functioning autistic men, i.e. those with good verbal skills and high IQs, as a group show significant deficits in conceptual problem-solving, (2) that these deficits involve both deficiencies in conceptual-level responding and a tendency to perseverate, (3) that the deficits are, to some extent, independent of Full Scale IQ, and (4) that considerable heterogeneity is characteristic of autism. (Rumsey, 1985: 31)

These conclusions were supported and extended in two subsequent studies (Rumsey and Hamburger, 1988, 1990).

In the 1990s the research programme began to gather pace as executive dysfunctions in autism were differentiated from a control group comprising children diagnosed with Conduct Disorder or Attention Deficit Hyperactivity Disorder (ADHD), a finding that extended executive dysfunction to children, and also appeared to differentiate autism from highly co-morbid diagnoses (Szatmari *et al.*, 1990). Executive dysfunctioning was claimed to be exceptionally widespread, if not universal, in the autistic population (Ozonoff, Pennington and Rogers, 1991) and present longitudinally (Ozonoff and McEvoy, 1994), leading to claims that executive dysfunctioning was a 'primary deficit' in autism (*ibid.*: 424). By 1996, 14 papers had been published on the topic (outlined in the first review on the subject by Pennington and Ozonoff, 1996) and papers began to appear in which particular aspects of executive functioning were probed and more specific models (i.e. that the primary deficit in autism may be an inability to inhibit prepotent responses) began to be formed (Russell, Jarrold and Henry, 1996).

Rumsey was aware, even in the first articulation of the hypothesis (Rumsey, 1985), that something interesting was occurring:

While impairments in social relatedness are increasingly considered to constitute the core symptoms of autism, cognitive impairments are now recognized as common accompaniments. (Rumsey, 1985: 23)

Rumsey goes on to say that:

The extent to which cognitive deficits actually underlie or contribute to the social impairments is unclear however. (Rumsey, 1985: 24)

The conclusion of the article is that:

The shared social impairments in autism may occur on the basis of a variety of deficits – motivational, sensory-perceptual, and higher cognitive deficits – and/or positive psychiatric symptoms. (Rumsey, 1985: 34)

These three extracts all reveal important insights. First, Judith Rumsey directly equates relatedness with sociality and agrees that, before 1985, deficits in social relatedness were indeed considered to be primary to autism (1985: 23), autism is a disorder *of* relatedness, ergo sociality. As discussed in the introduction, such a conclusion is itself historically

contingent for relatedness has not always been directly equated with sociality within the psychological literature (Greenwood, 2004). Second, the possibility that social impairments are symptomatic of cognitive impairments cannot be precluded (Rumsey, 1985: 24), indeed this is the very basis of the executive dysfunction account of autism which suggests that the cognitive dysfunction may be primary with social deficits emerging as a result of these deeper cognitive symptoms (ibid.: 34). These conclusions too are demonstrative of the contemporary production of the social, seeing interpersonal impairment arise from asocial cognitive impairment, another historically novel conclusion.

The implicit theory of sociality inherent in the executive dysfunction account, and the operationalization of that theory within the laboratory, would be completely alien to a psychoanalytic framework, previously so dominant within autism research. Hitherto ignored, uncovered, or symptomatic cognitive aspects of the disorder are being centralized. This change in attention is based upon an altered *savoir*, with new ‘forms of possible knowledge’ (Foucault, 2010: 254) and a vision of the social in which the ‘basic cognitive processes engaged in the perception and cognition of nonsocial objects are also engaged in the perception and cognition of social objects’ (Greenwood, 2004: 6). In a very real sense, the capacity to form ordering rules is indicative of social ability. Whether or not those classed as ‘classically autistic’ (Kanner, 1943) also had these deficits, it is now clear that a great many people do have these deficits who are not classically autistic. It was the conceptualization of these behaviours as social which brought these people under the gaze of autism researchers and began the process of transforming the condition.

### *Autism as a deficit in meta-representations*

Arguably the most important paper since Kanner’s initial description (Kanner, 1943), Simon Baron-Cohen, Alan Leslie and Uta Frith’s 1985 work was the first to propose that autism was a disorder of meta-representations or Theory of Mind (ToM). That this pioneering, British, cognitive research into autism was conducted at the Cognitive Development Unit (CDU) at University College London is not without significance. Researchers such as Henri Tajfel were advocating a construction of social psychology quite different from that advocated in America (Good, 2000: 395). CDU, however, was under the stewardship of John Morton, whose background was in theoretical cognitive (e.g. Morton, 1969) rather than developmental or social psychology. Thus, the rich European tradition of social psychology embodied in the likes work of the of Tajfel and Moscovici goes entirely unreferenced and, seemingly, unconsidered at the CDU. It seems unlikely that British autism research in the 1980s would have adopted the *savoir* of the social it did without this disciplinary and institutional history.

The theoretical basis behind Baron-Cohen, Leslie and Frith’s meta-representational theory of autism has its origins in a 1978 paper by Premack and Woodruff, ‘Does the Chimpanzee have a Theory of Mind?’ According to Premack and Woodruff, the concept of ToM is taken to mean that an individual (of whatever species) ‘imputes mental states to himself and to others’ (1978: 515). In extending upon this point, Premack and Woodruff state that:



It seems beyond question that *purpose* or *intention* is the state we [humans] impute most widely; several other states are not far behind, however. They include all those designated by the italicized term in each of the following statements; John *believes* in ghosts; he *thinks* he has a fair chance of winning; Paul *knows* that I don't *like* roses; she is *guessing* when she says that; I *doubt* that Mary will come; Bill is only *pretending*. (1978: 515; original emphases)

Premack and Woodruff conclude their article by saying that 'These inferences, which amount to a theory of mind, are, to our knowledge, universal in human adults' (ibid.: 525).

Evoking Premack and Woodruff, Baron-Cohen, Leslie and Frith (1985) questioned that universality of ToM in the human population in an article entitled 'Does the Autistic Child have a "Theory of Mind"?' This question from Baron-Cohen, Leslie and Frith was asked, at least in part, upon the basis of a cognitive-based theory of pretence by Alan Leslie that, while published afterwards in 1987, had clearly been in formation for some time (Baron-Cohen, Leslie and Frith, 1985: 38). The ability to pretend (for example, that a banana is a telephone) typically emerges in children between the ages of 18 months and 24 months (Leslie, 1987: 414). Leslie noted that it is in the interests of a given organism for its representations of objects to closely mirror 'the world', for this is surely the best way to ensure that individual's survival. If adults confuse bananas and telephones as a result of pretence they engaged in as a child, they are likely to find life rather difficult. Any being that engages in pretence must therefore possess the cognitive architecture that ensures that representations about the world (primary representations) are not affected by the ensuing act of pretending, avoiding what Leslie calls 'representational abuses' (see ibid.). Leslie proposes a 'decoupling' device which allows such representational abuse to be avoided. Essentially, the mechanism 'decouples' the representation from reality and context and instead forms a representation of a representation, or a *meta-representation*. The decoupling device allows one to say 'This banana is a telephone, but only in this context, my primary representations of bananas and telephones remain unchanged' (see ibid.: 419 for an overview).

Meta-representation theory takes on importance for the study of autism because of the following point made by Leslie:

The emergence of pretence is not seen as a development in the understandings of objects and events as such, but rather as the beginnings of a capacity to understanding cognition itself. It is an early symptom of the human mind's ability to characterize and manipulate its own attitudes to information. Pretending oneself is thus a special case of the ability to understand pretence in others (someone else's attitude to information). In short, pretence is an early manifestation of what has been called *theory of mind*. (Leslie, 1987: 416; original emphases)

Lorna Wing *et al.* (1977) and other authors had already noted that children diagnosed with autism do not engage in much pretend play, and Leslie proposed that a similar deficit may be found in other tasks that required ToM.

Simon Baron-Cohen (Baron-Cohen, Leslie and Frith, 1985) sought empirical support for Leslie's (1987) theory of autism through a recently devised experimental scenario. In this scenario, the 'Sally-Anne Test', the participant must correctly

inform an experimenter where a doll believes a covered marble to reside; according to the experimental rationale this is possible only if the child possesses a ToM (Wimmer and Perner, 1983).

Baron-Cohen found that, while the majority of the typical (86%) and Down (85%) control groups were able to pass the Sally-Anne Test, 80% of a group of adolescents diagnosed with autism failed the test. Baron-Cohen, Leslie and Frith (1985) thus 'conclude that the autistic children did not appreciate the difference between their own and the doll's knowledge' (ibid.: 43). In other words, they lacked a ToM (see Leudar and Costall, 2009, and Shanker, 2004: 697, for a critique).

This initial paper was soon joined by others reporting similar findings utilizing a range of different paradigms and making comparisons with different control groups (Baron-Cohen, Leslie and Frith, 1986; Leslie and Frith, 1988; Baron-Cohen, 1989a, 1989b, 1989c). By far the most important of Baron-Cohen's three papers in 1989 (Baron-Cohen, 1989c) was that examining those individuals with autism who had passed the ToM tests presented in previous experiments. That a significant minority (between 18% and 28%; Eisenmajer and Prior, 1991: 352) of people with autism could pass these tests was a consistent finding. This would seem to suggest that a ToM deficit could not be a primary deficit in autism as it would clearly be possible to be autistic and have an intact ToM (Ozonoff and McEvoy, 1994: 415). Given that cognitive theories at this time were attempting to formulate theories that capture autism in its entirety, this possibility was clearly unacceptable. Baron-Cohen noted that all paradigms thus far investigating ToM deficits had utilized 'first order belief attribution' (FOBA) tests, that is, tests that require one to know that 'X believes this'. A second order belief attribution (SOBA) is the knowledge that 'Y believes that X believes this', a significantly more complex ability not usually found in children until around the age of 7 (Baron-Cohen, 1989c: 288). When a group of 10 individuals with autism (who could all pass FOBA tests) were provided with a scenario in which SOBA was required they uniformly failed, thus restoring the possibility that a problem with meta-representation was a core, universal deficit in autism.

It is worth considering the model of sociality enacted within false-belief tasks such as the Sally-Anne Test. First, sociality is, again, being directly equated with interpersonal-ity. As belief about Sally's actions requires knowledge of Sally's mental state, it is an a priori assumption of the Sally-Anne Test that what is in question is a *social* belief. By considering the conceptualization of Greenwood's early social model (2004: 5), in which wearing blue jeans can be a social behaviour, we can see that this claim is far from a given – indeed it was disputed by other researchers working from within different traditions at around the same time (Hobson, 1990: 114) – and that it is dependent upon the *savoir* of contemporary cognitive psychology.

Further, and as would be expected for a theory dependent upon the contemporary definition of the social outlined by Greenwood, meta-representations theory still considers social activities to emerge as symptoms of asocial cognitive modules. While the relationship between social behaviour and Leslie's meta-representations is nuanced, the proposed meta-representation module does not deal exclusively with interpersonal behaviour. Once again social behaviour is seen as arising from non-social cognitive architecture. Indeed, a diagram in Leslie and Frith (1990: 124) makes this clear. The diagram proposes three possible aetiologies for autism: a basic affective disorder; a

combined affective/cognitive disorder; or a basic cognitive disorder. The authors explicitly (ibid.: 123) favoured the third of these options, stating that affective difficulties were an emergent consequence of this unitary disturbance. While it would be wrong to conclude that 'affective' is synonymous with 'social', in the context of the work by Hobson (e.g. Hobson, 1990, 1991, 1993), to which the article is a riposte, there is a significant overlap. The dismissal of 'affective' processes by Leslie and Frith (1990) (which Hobson explicitly distances from cognitive processes, 1993: 79) is also, to a significant extent, a dismissal of inherently interpersonal processes. As quoted above, for Leslie the social is about one's own 'attitudes to information' (Leslie, 1987: 416).

Authors from the same time period also recognized this aspect of the ToM hypothesis in which social and non-social cognition is blurred. In 1991, Leekam and Perner conducted empirical work which did not support the meta-representational theory of autism and prompted a theoretical shift from Leslie (Leslie and Thaiss, 1992). Leekam and Perner (1991) note:

This suggestion [of change in theory from Leslie] deprives the original idea of one of its most interesting implications, namely that autism might involve very specific problems which do not involve the understanding of human agents in particular. (Leekam and Perner, 1991: 214)

Like executive dysfunction, ToM drew upon the *savoir* (Foucault, 1972: 15; Hacking, 1995: 198–200) of cognitive psychology and its particular production of the social, reconstructing autism in ways we now know to be hugely significant.

### *Autism as a form of weak central coherence*

The final cognitive model to be considered here is the weak central coherence (WCC) hypothesis. In a sense, WCC belongs not with meta-representation and executive dysfunction theories but with a second generation of theories that emphasize autism as a difference rather than a deficit. WCC was the first model of autism to take this step and, analytically, culturally and politically, that move should not be underestimated. Nonetheless, WCC is suitably close to executive dysfunctioning and meta-representation accounts of autism, temporally and aetiologically, to ensure it is worth considering alongside those models.

WCC is demonstrably similar to the executive dysfunction account in that emphasis is placed upon the non-social aspects of autism, such as savant abilities and a child's IQ profile. Similarly, these non-social facets are used to explain the social aspects of the condition. As has been argued throughout this article, the tendency to focus upon non-social cognitive features of autism and suggest that these non-social features cause the social deficits found in autism is demonstrative of a changing *savoir* of the social underpinning autism research in the 1980s. As with executive dysfunction, even the most specific of social deficits in autism – comprehension of interpersonal relationships – are made out to be symptomatic of a non-social deficit/difference (Frith, 1989: 163).

Uta Frith is, once again, the central figure (along with another of her PhD students, Francesca Happé) in the WCC account of autism. It is the only one of the new cognitive

theories that is first elucidated in a book, *Autism: Explaining the Enigma* (Frith, 1989), and not an empirical study. Perhaps accordingly, there is an early emphasis on reinterpreting existing empirical work as well as work conducted in further studies. The theory of WCC emerged, primarily, due to the search for parsimony. While a ToM deficit account attempted to provide a complete model of autism, it remained better at explaining the triadic impairments in social functioning, communication and imagination and less able to explain the non-triadic aspects of the disorder. Among a list of frequently reported non-triadic features in autism, Frith and Happé (1994: 119) include restricted interests, desire for sameness, islets of ability, idiot savant abilities, excellent rote memory and a preoccupation with parts of objects.

The consistent finding of 'islets of ability' and 'idiot savants' manifests itself in what have been called 'spiky' IQ profiles, where some areas of performance are exceptionally good and others exceptionally poor. The Wechsler-Intelligence Scales (W-IS), for example, have 10 subtests in which participants are expected to score reasonably evenly (Happé, 1994: 1462). In autism, however, there are consistent peaks, such as in the 'block design' subtest, and consistent troughs, as in the 'verbal comprehension' subtest. It is hard to explain this pattern of ability with reference only to ToM or meta-representations. A quest, initially at least, to explain all aspects of the autism phenotype within one cognitive model seems to have driven Frith to consider ToM deficits to be symptomatic of a larger difference, one that could explain both peaks and troughs.

Frith incorporated research she had been involved in during the early 1980s into the WCC account, including that conducted with Maggie Snowling (Frith and Snowling, 1983; Snowling and Frith, 1986) and Amitta Shah (Shah and Frith, 1983). With Maggie Snowling, Frith seemed to demonstrate that those with autism were less able to take account of word context when reading out loud. Reading in context was tested by examining the number of errors those with autism made when reading homographs, words that are spelt identically but pronounced differently. The findings suggested that while those with autism were more than capable of reading single words, there was also a deficit when 'reading for meaning'.

In an apparently unrelated test, Shah and Frith (1983) demonstrated that individuals with autism had an 'islet of ability' (i.e. a peak of performance) when it came to completing an 'embedded figure' paradigm. In an embedded figure paradigm a participant must find a presented shape as it appears in a larger picture (see Shah and Frith, *ibid.*: 615, for details). In the Shah and Frith study it was found that individuals diagnosed with autism vastly out-performed control groups and, indeed, performed in line with their chronological rather than mental age (*ibid.*: 617). Such a finding led to the conclusion that:

With the present test an effort is needed to resist the tendency to see only the forcefully created gestalt which in itself is a meaningful picture [e.g. the car]. Perhaps they were able to locate the target figure [e.g. the wheel] so easily because the overall meaning of the complex figure (or embedding context) was not relevant or dominant for them. (Shah and Frith, 1983: 618)

In this quote, then, we see both the perceived similarities with the Snowling work and also the beginnings of what would become the WCC hypothesis: that people with autism find it hard to see the wood for the trees.

Frith (1989) describes the WCC in the following terms:

We have now enough evidence to formulate a hypothesis about the nature of the intellectual dysfunction in Autism. In the normal cognitive system there is a built-in propensity to form coherence over as wide a range of stimuli as possible, and to generalize over as wide a range of contexts as possible. It is this drive that results in grand systems of thought, and ultimately in the world's great religions. It is this capacity of coherence that is diminished in autistic children. As a result, their information-processing systems, like their very beings, are characterized by detachment. (Frith, 1989: 100)

Such a grand narrative allows for the parsimony that Frith sought. It is a grand narrative that is, again, absolutely dependent upon the contemporary *savoir* of sociality, for alternative conceptualizations of the social could not be operationalized within the embedded figures paradigm. Such an operationalization of sociality only makes sense if social deficits can emerge from deficits in cognitive processes. To this end, and both with the executive dysfunction and the meta-representation accounts, it is clear that the WCC account has centralized cognitive deficits and made social deficits merely symptomatic, in a sense de-socializing the social disorder. This is a significant rearticulation of the concept of autism and one consistent with the broader rearticulation of sociality described by Greenwood (2004).

## Discussion

A great number of factors have been crucial to contemporary understandings of autism. Surveillance over childhood and de-institutionalization have, as discussed in the introduction, been hugely significant. The move in the 1960s to an understanding of autism articulated within a bio-cognitive framework was almost certainly crucial to the adoption of a *savoir* of the social described above. Outside of the academy, Murray has shown the importance of the representations of autism in both fiction and non-fiction across diverse media (Murray, 2008). Further, there is no doubt that advocacy groups have held, and continue to hold, a crucial role in the development and understanding of autism. Chloe Silverman's body of work in particular (Silverman, 2004, 2008, 2010, 2012) has continually reaffirmed how crucial the 'affection, love, community, and innate understanding' of parents has been in knowledge creation surrounding autism (Silverman, 2008: 39). That the voice of the self-advocate has, over the last 20 or so years, joined this cacophony should not be underestimated either.

It is within this intricate and extensive web that the claims of the current article should be understood. Those claims are that, first, the groundwork for the contemporary experience of autism, as related to three key theoretical frameworks (meta-representations, executive dysfunction, weak central coherence), was performed over a remarkably short period of time in the latter half of the 1980s. Second, focusing upon the notion of *savoir* and the first of Foucault's three axes of experience (Foucault, 1984: 2), the so-called problem of truth, it was claimed that a particular production of autism became available to questions of truth and falsity following a radical reconstruction of 'the social'. Within this reconstructed framework the object of social cognition is taken to be the immediate

interpersonal environment, while the processes that govern social cognition are the intra-personal cognitive mechanisms that also govern non-social cognition (Greenwood, 2004). Thus, and as noted elsewhere (e.g. Gergen, 2012), there has been a concurrent ‘individualization of the social and the desocialization of the individual’ (Graumann, 1986). The current article suggests that the *savoir* of cognitive psychology offered new descriptions of the social to autism researchers and, thus, the possibility to perform novel actions, find novel truths and construct novel autisms.

There is evidence to suggest that the new truths of autism revealed during the 1980s have had very real consequences for those diagnosed with autism. Evans convincingly argues that the notion of ‘autistic fantasy’ was abandoned as the study of autism became increasingly statistical during the 1960s (2013: 15). The current article has emphasized that changing descriptions of the social have also facilitated novel aspects of the autistic condition, allowing cognitive deficits and differences to be integrated within a coherent account of autism as social disorder. What was available in the 1980s, perhaps for the first time in the field of autism studies, was a *savoir* of the social that meant that socially abnormal behaviour could manifest in patterns of rule-following, jigsaw-building and imaginary play and be revealed through cognitive examinations such as the WCST. It turned out that testing social behaviour through these cognitive tests revealed a hidden mass of socially pathological persons. These, in all likelihood, are individuals whose differences were previously seen as non-pathological, non-social, non-syndromic, unimportant, and/or simply went unnoticed. Indeed, these non-social elements have become core to the diagnosis of autism, and in *DSM-5* (American Psychiatric Association, 2013) individuals who do not show evidence of these cognitive differences are no longer able to be diagnosed with autism (see Skuse, 2012, for an overview). This article has suggested that the coherence of these diagnostic practices and the contemporary autistic experience are based less upon empirical rigour than an unexamined *savoir* of 20th-century cognitive psychology.

A final point of importance is that this article has provided evidence that discussions of autism are of interest to the broader study of the human and biological sciences. Particularly following the emergence of new hybrid fields such as social and affective neuroscience, there has been recent interest in changing descriptions of social behaviour, both within psychology (Greenwood, 2004; Danziger, 1992) and the biological sciences more broadly (Novas and Gibbon, 2008; Rabinow, 1999; Rose and Novas, 2005). As Allan Young has shown in his examinations of ‘the social brain’ (Young, 2012a, 2012b) articulations of human sociality are not only changing, they are becoming increasingly central to discourses around human nature (Young, 2011). The current study has demonstrated that autism is a key empirical site for examining changing productions of the social and the consequences of these changes upon particular human kinds.

### Acknowledgements

I would like to thank the anonymous reviewers and, particularly, the editor James Good at History of the Human Sciences for their invaluable guidance. Andy Balmer, Des Fitzgerald, Brigitte Nerlich, and Amal Treacher-Kabesh have also provided valuable comments on this article. Antonia Hamilton, Paul Martin and Alison Pilnick have provided consistent and invaluable support for the duration of this project.

## References

- American Psychiatric Association (2013) *Diagnostic and Statistical Manual of Mental Disorders*, 5th edn. Washington, DC: APA.
- Armstrong, D. (1983) *The Political Anatomy of the Body: Medical Knowledge in Britain in the Twentieth Century*. Cambridge: Cambridge University Press.
- Armstrong, D. (1995) 'The Rise of Surveillance Medicine', *Sociology of Health and Illness* 17(3): 393–405.
- Balmer, A. S. and Sandland, R. (2012) 'Making Monsters: The Polygraph, the Plethysmograph, and Other Practices for the Performance of Abnormal Sexuality', *Journal of Law and Society* 39(4): 593–615.
- Baron-Cohen, S. (1989a) 'Are Autistic Children "Behaviorists"? An Examination of their Mental-physical and Appearance-reality Distinctions', *Journal of Autism and Developmental Disorders* 19(4): 579–600.
- Baron-Cohen, S. (1989b) 'Perceptual Role Taking and Protodeclarative Pointing in Autism', *British Journal of Developmental Psychology* 7: 113–27.
- Baron-Cohen, S. (1989c) 'The Autistic Child's Theory of Mind: A Case of Specific Developmental Delay', *Journal of Child Psychology and Psychiatry* 30(2): 285–97.
- Baron-Cohen, S. *et al.* (2005) 'Empathizing and Systemizing in Autistic Spectrum Conditions', in F. Volkmar *et al.* (eds) *Handbook of Autism and Developmental Disorders*, vol. 1, *Diagnosis, Development, Neurobiology, and Behavior*. Hoboken, NJ: John Wiley & Sons, pp. 628–39.
- Baron-Cohen, S. *et al.* (2009) 'Prevalence of Autism-spectrum Conditions: UK School-based Population Study', *The British Journal of Psychiatry* 194(6): 500–9.
- Baron-Cohen, S., Leslie, A. M. and Frith, U. (1985) 'Does the Autistic Child have a "Theory of Mind"?', *Cognition* 21(1): 37–46.
- Baron-Cohen, S., Leslie, A. M. and Frith, U. (1986) 'Mechanical, Behavioural and Intentional Understanding of Picture Stories in Autistic Children', *British Journal of Developmental Psychology* 4: 113–25.
- Butler, J. (1990) *Gender Trouble: Feminism and the Subversion of Identity*. New York: Routledge.
- Danziger, K. (1992) 'The Project of an Experimental Social Psychology: Historical Perspectives', *Science in Context* 5(2): 309–28.
- Danziger, K. (2000) 'Making Social Psychology Experimental: A Conceptual History, 1920–1970', *Journal of the History of the Behavioral Sciences* 36(4): 329–47.
- Eisenmajer, R. and Prior, M. (1991) 'Cognitive Linguistic Correlates of "Theory of Mind" Ability in Autistic Children', *British Journal of Developmental Psychology* 9: 351–64.
- Evans, B. (2013) 'How Autism Became Autism: The Radical Transformation of a Central Concept of Child Development in Britain', *History of the Human Sciences* 26(3): 3–31.
- Eyal, G. *et al.* (2010) *The Autism Matrix: The Social Origins of the Autism Epidemic*. Cambridge: Polity Press.
- Foucault, M. (1972) *Archaeology of Knowledge*. London: Tavistock.
- Foucault, M. (1984) *The History of Sexuality*, vol. 2, *The Use of Pleasure*. Harmondsworth, Mx: Penguin Books.
- Foucault, M. (1994) 'Interview with Michel Foucault', in J. D. Faubion (ed.) *Power: Essential Works of Foucault 1954–1984*, vol. 3. Harmondsworth, Mx: Penguin, pp. 239–97.



- Foucault, M. (2003) *The Birth of the Clinic: An Archeology of Medical Perception*. London: Routledge.
- Foucault, M. (2006) *History of Madness*. London: Routledge.
- Foucault, M. (2010) *The Government of Self and Others: Lectures at the Collège de France, 1982–1983*. Basingstoke, Hants: Palgrave Macmillan.
- Frith, U. (1989) *Autism: Explaining the Enigma*, 1st edn. Cambridge, MA: Blackwell.
- Frith, U. and Happé, F. (1994) 'Autism: Beyond "Theory of Mind"', *Cognition* 50: 115–32.
- Frith, U. and Snowling, M. (1983) 'Reading for Meaning and Reading for Sound in Autistic and Dyslexic Children', *British Journal of Developmental Psychology* 1: 329–42.
- Gergen, K. J. (2012) 'The Social Dimension of Social Psychology: A Historical Analysis', in A. W. Kruglanski and W. Stroebe (eds) *Handbook of the History of Social Psychology*. New York: Psychology Press, pp. 137–58.
- Good, J. M. (2000) 'Disciplining Social Psychology: A Case Study of Boundary Relations in the History of the Human Sciences', *Journal of the History of the Behavioral Sciences* 36(4): 383–403.
- Graumann, C. F. (1986) 'The Individualization of the Social and the Desocialization of the Individual: Floyd H. Allport's Contribution to Social Psychology', in C. F. Graumann and S. Moscovici (eds) *Changing Conceptions of Crowd Mind and Behavior*. New York: Springer, pp. 97–116.
- Greenwood, J. D. (2004) *The Disappearance of the Social in American Social Psychology*. Cambridge: Cambridge University Press.
- Hacking, I. (1975) *The Emergence of Probability: A Philosophical Study of Early Ideas about Probability, Induction and Statistical Inference*. London: Cambridge University Press.
- Hacking, I. (1986) 'The Archaeology of Foucault', in D. C. Hoy (ed.) *Foucault: A Critical Reader*. Oxford: Basil Blackwell, pp. 27–40.
- Hacking, I. (1995) *Rewriting the Soul: Multiple Personality and the Sciences of Memory*. Princeton, NJ: Princeton University Press.
- Hacking, I. (2002) *Mad Travelers: Reflections on the Reality of Transient Mental Illnesses*. Cambridge, MA: Harvard University Press.
- Hacking, I. (2009) 'How We have been Learning to Talk about Autism: A Role for Stories', *Metaphilosophy* 40(3–4): 499–516.
- Happé, F. (1994) 'Wechsler IQ Profile and Theory of Mind in Autism: A Research Note', *Journal of Child Psychology and Psychiatry* 35(8): 1461–71.
- Hobson, R. P. (1990) 'On Acquiring Knowledge about People and the Capacity to Pretend: Response to Leslie (1987)', *Psychological Review* 97(1): 114–21.
- Hobson, R. P. (1991) 'Against the Theory of "Theory of Mind"', *British Journal of Developmental Psychology* 9: 33–51.
- Hobson, R. P. (1993) *Autism and the Development of Mind*. Hove, Sx: Psychology Press.
- Hoekstra, R. A. *et al.* (2009) 'Association between Extreme Autistic Traits and Intellectual Disability: Insights from a General Population Twin Study', *The British Journal of Psychiatry* 195: 531–6.
- Kanner, L. (1943) 'Autistic Disturbances of Affective Contact', *Nervous Child* 2: 217–50.
- Kennedy, D. (1979) 'Michel Foucault: The Archaeology and Sociology of Knowledge', *Theory and Society* 8(2): 269–90.
- Leekam, S. R. and Perner, J. (1991) 'Does the Autistic Child have a Metarepresentational Deficit?', *Cognition* 40(3): 203–18.
- Lemke, T. (2011) 'Critique and Experience in Foucault', *Theory, Culture & Society* 28(4): 26–48.



- Leslie, A. M. (1987) 'Pretense and Representation: The Origins of "Theory of Mind"', *Psychological Review* 94(4): 412–26.
- Leslie, A. M. and Frith, U. (1988) 'Autistic Children's Understanding of Seeing, Knowing and Believing', *British Journal of Developmental Psychology* 6: 315–24.
- Leslie, A. M. and Frith, U. (1990) 'Prospects for a Cognitive Neuropsychology of Autism: Hobson's Choice', *Psychological Review* 97(1): 122–31.
- Leslie, A. M. and Thaiss, L. (1992) 'Domain Specificity in Conceptual Development: Neuropsychological Evidence from Autism', *Cognition* 43(3): 225–51.
- Leudar, I. and Costall, A. (2009) 'Introduction: Against "Theory of Mind"', in I. Leudar and A. Costall (eds) *Against Theory of Mind*. Basingstoke, Hants: Palgrave Macmillan, p. 273.
- Morton, J. (1969) 'Interaction of Information in Word Recognition', *Psychological Review* 76(2): 165–78.
- Murray, S. (2008) *Representing Autism: Culture, Narrative, Fascination*. Liverpool: Liverpool University Press.
- Nadesan, M. H. (2005) *Constructing Autism: Unravelling the 'Truth' and Understanding the Social*. New York: Routledge.
- Novas, C. and Gibbon, S. (2008) *Biosocialities, Genetics, and the Social Sciences: Making Biologies and Identities*. Abingdon, Oxon: Routledge.
- Ozonoff, S. and McEvoy, R. E. (1994) 'A Longitudinal Study of Executive Function and Theory of Mind Development in Autism', *Development and Psychopathology* 6: 415–31.
- Ozonoff, S., Pennington, B. F. and Rogers, S. J. (1991) 'Executive Function Deficits in High-Functioning Autistic Individuals: Relationship to Theory of Mind', *Journal of Child Psychology and Psychiatry* 32(7): 1081–105.
- Ozonoff, S., South, M. and Provençal, S. (2005) 'Executive Functions', in F. R. Volkmar *et al.* (eds) *Handbook of Autism and Developmental Disorders*, vol. 1, *Diagnosis, Development, Neurobiology, and Behavior*. Hoboken, NJ: John Wiley & Sons, pp. 606–27.
- Pellicano, E. (2010) 'Individual Differences in Executive Function and Central Coherence Predict Developmental Changes in Theory of Mind in Autism', *Developmental Psychology* 46(2): 530–44.
- Pennington, B. F. and Ozonoff, S. (1996) 'Executive Functions and Developmental Psychopathology', *Journal of Child Psychology and Psychiatry* 37(1): 51–87.
- Premack, D. and Woodruff, G. (1978) 'Does the Chimpanzee have a Theory of Mind?', *Behavioral and Brain Sciences* 4: 515–26.
- Rabinow, P. (1999) 'Artificiality and Enlightenment: From Sociobiology to Biosociality', in M. Biagioli (ed.) *The Science Studies Reader*. London: Routledge, pp. 407–16.
- Rose, N. (1985) *The Psychological Complex: Psychology, Politics and Society in England, 1869–1939*. London: Routledge & Kegan Paul.
- Rose, N. (1996) *Inventing Ourselves: Psychology, Power, and Personhood*. Cambridge: Cambridge University Press.
- Rose, N. and Novas, C. (2005) 'Biological Citizenship', in A. Ong and S. Collier (eds) *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Oxford: Blackwell, pp. 439–63.
- Rumsey, J. M. (1985) 'Conceptual Problem-solving in Highly Verbal, Nonretarded Autistic Men', *Journal of Autism and Developmental Disorders* 15(1): 23–36.

- Rumsey, J. M. and Hamburger, S. D. (1988) 'Neuropsychological Findings in High-Functioning Men with Infantile Autism, Residual State', *Journal of Clinical and Experimental Neuropsychology* 10(2): 201–22.
- Rumsey, J. M. and Hamburger, S. D. (1990) 'Neuropsychological Divergence of High-level Autism and Severe Dyslexia', *Journal of Autism and Developmental Disorders* 20(2): 155–68.
- Russell, J., Jarrold, C. and Henry, L. (1996) 'Working Memory in Children with Autism and with Moderate Learning Difficulties', *Journal of Child Psychology and Psychiatry* 37(6): 673–86.
- Shah, A. and Frith, U. (1983) 'An Islet of Ability in Autistic Children: A Research Note', *Journal of Child Psychology and Psychiatry* 24(4): 613–20.
- Shanker, S. (2004) 'The Roots of Mindblindness', *Theory & Psychology* 14(5): 685–703.
- Shelton, A. L. *et al.* (2012) 'Should Social Savvy Equal Good Spatial Skills? The Interaction of Social Skills with Spatial Perspective Taking', *Journal of Experimental Psychology General* 141(2): 199–205.
- Silverman, C. (2004) 'A Disorder of Affect: Love, Tragedy, Biomedicine, and Citizenship in American Autism Research, 1943–2003', PhD dissertation, University of Pennsylvania.
- Silverman, C. (2008) 'Brains, Pedigrees, and Promises: Lessons from the Politics of Autism Genetics', in S. Gibbon and C. Novas (eds) *Biosocialities, Genetics, and the Social Sciences: Making Biologies and Identities*. Abingdon, Oxon: Routledge, pp. 38–55.
- Silverman, C. (2010) "'Birdwatching and Baby-watching": Niko and Elisabeth Tinbergen's Ethological Approach to Autism', *History of Psychiatry* 21(2): 176–89.
- Silverman, C. (2012) *Understanding Autism: Parents, Doctors, and the History of a Disorder*. Princeton, NJ: Princeton University Press.
- Skuse, D. H. (2012) 'DSM-5's Conceptualization of Autistic Disorders', *American Journal of Psychiatry* 169(4): 344–6.
- Snowling, M. and Frith, U. (1986) 'Comprehension in "Hyperlexic" Readers', *Journal of Experimental Child Psychology* 42: 392–415.
- Stam, H. J. (2006) 'Introduction: Reclaiming the Social in Social Psychology', *Theory & Psychology* 16(5): 587–95.
- Szatmari, P. *et al.* (1990) 'Asperger's Syndrome and Autism: Neurocognitive Aspects', *Journal of the American Academy of Child and Adolescent Psychiatry* 29(1): 130–6.
- White, S. J. (2013) 'The Triple I Hypothesis: Taking Another(s) Perspective on Executive Dysfunction in Autism', *Journal of Autism and Developmental Disabilities* 43: 114–21.
- Wimmer, H. and Perner, J. (1983) 'Beliefs about Beliefs: Representation and Constraining Function of Wrong Beliefs in Young Children's Understanding of Deception', *Cognition* 13: 103–28.
- Wing, L. *et al.* (1977) 'Symbolic Play in Severely Mentally Retarded and in Autistic Children', *Journal of Child Psychology and Psychiatry* 18: 167–78.
- Wing, L. and Potter, D. (2002) 'The Epidemiology of Autistic Spectrum Disorders: Is the Prevalence Rising?', *Mental Retardation and Developmental Disabilities Research Reviews* 8(3): 151–61.
- Young, A. (1995) *The Harmony of Illusions: Inventing Post-Traumatic Stress Disorder*. Princeton, NJ: Princeton University Press.
- Young, A. (2011) 'Self, Brain, Microbe, and the Vanishing Commissar', *Science, Technology & Human Values* 36(5): 638–61.

- Young, A. (2012a) 'Empathetic Cruelty and the Origins of the Social Brain', in S. Choudhury and J. Slaby (eds) *Critical Neuroscience: A Handbook of the Social and Cultural Contexts of Neuroscience*. Chichester, Sx: Blackwell, pp. 159–76.
- Young, A. (2012b) 'The Social Brain and the Myth of Empathy', *Science in Context* 25(3): 401–24.

### **Author biography**

**Gregory Hollin** has recently completed an ESRC-funded PhD studentship at the Institute for Science and Society, School of Sociology and Social Policy, University of Nottingham. The project considers socio-historical constructions of autism and sociality from within psychology and social neuroscience.