



The reality of autism: On the metaphysics of disorder and diversity

Robert Chapman

To cite this article: Robert Chapman (2020) The reality of autism: On the metaphysics of disorder and diversity, *Philosophical Psychology*, 33:6, 799-819, DOI: [10.1080/09515089.2020.1751103](https://doi.org/10.1080/09515089.2020.1751103)

To link to this article: <https://doi.org/10.1080/09515089.2020.1751103>



© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 18 Apr 2020.



Submit your article to this journal [↗](#)



Article views: 4491



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 25 View citing articles [↗](#)

ARTICLE



The reality of autism: On the metaphysics of disorder and diversity

Robert Chapman

Department of Philosophy, University of Bristol, Bristol, UK

ABSTRACT

Typically, although it's notoriously hard to define, autism has been represented as a biologically-based mental disorder that can be usefully investigated by biomedical science. In recent years, however, problematic findings regarding the biological underpinnings of autism; historical research examining the shifting nature of the categorization; and a lack of biomedical utility have led some to suggest abandoning the concept of autism. My interest here is the possibility that autism may remain a meaningful and helpful classification even if it lacks scientific validity and biomedical utility. After arguing that accounts of autism as a psychiatric classification are unsustainable, I draw on feminist philosopher Iris Marion-Young's distinction between groups and serial collectives in order to account for the reality of autism as a social category, best framed in terms of a social model of disability. When it is taken as a serial collective, I argue, we can coherently understand autistic people as forming a marginalized minority, disabled in relation to the specific material and social contexts, yet in a way that avoids neuro-centric commitments. Autism is thus real and valuable for political and ethical rather than biomedical reasons.

ARTICLE HISTORY

Received 19 July 2018
Accepted 24 July 2019

KEYWORDS

Autism; neurodiversity; iris Marion-Young; seriality; philosophy of psychiatry; disability; cognitive disability; mental disorder

1. Introduction

Autism was initially classified by clinicians in the 1940 s (Asperger, 1944; Kanner, 1943). It was later conceptualized as a spectrum condition defined by social and communication impairments and deficits in social imagination (Wing & Gould, 1979). The most widely used diagnostic criteria for Autism Spectrum Disorder (ASD) today identifies two core conditions for diagnosis as follows:

- (1) Persistent deficits in social communication and social interaction across multiple contexts.
- (2) The presence of restricted, repetitive patterns of behavior, interests, or activities. (American Psychiatric Association, 2013, p. 31)

CONTACT Robert Chapman  kn18198@bristol.ac.uk  Philosophy, University of Bristol, Bristol, UK

© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

Diagnosis of ASD is clarified as being ‘mild,’ ‘moderate,’ or ‘severe,’ indicating the purported degree of disability. The process also includes determinations of whether the individual is verbal or non-verbal, as well as whether she is intellectually disabled or not. Hence, autism – as I shall call it – is currently viewed as a spectrum condition that manifests in varying levels of severity, affecting development throughout the lifespan.

As to what autism *is*, however, the diagnostic criteria only get us so far, with behavioral definitions encountering many issues (Cushing, 2013, pp. 18–22; Fitzgerald, 2004, pp. 22–42). Besides, very few commentators, if any, actually take the behaviors associated with the autism diagnosis to be its defining properties. In the diagnostic manuals – and among philosophers of psychiatry (e.g., Bolton, 2008) – diagnoses are only recommended if the manifest behavior is taken to stem from the appropriate dysfunction(s) (American Psychiatric Association, 2013, p. 31) at the psychological or biological levels of functioning. As to what this underlying reality is, autism has been associated with various underlying traits such as empathy deficits or so-called “risk” genes (Baron-Cohen, 2008; Coleman & Betancur, 2005). Hence, today, autism is generally framed as a neuro-developmental disorder, and it is associated with various dispositions at the genetic, neurological, and cognitive levels.

Nonetheless, in recent years, two significant lines of criticism have emerged for those attempting to define or clarify the nature of autism. First, a growing awareness of both the vexed history of the concept and findings that problematize its supposedly biological foundation have led to a crisis in the meaning of ‘autism’ from a medical perspective (Cushing, 2013; Timimi et al., 2010; Verhoeff, 2015; Waterhouse, 2013). This has led to some taking the concept to be scientifically invalid or medically useless, and many advocate abandoning the concept (Cushing, 2013; Timimi et al., 2010; Waterhouse, 2013). Second, the status of autism as a medical pathology has been contested by proponents of the neurodiversity movement. On this view, autism should not be counted as a mental disorder but, rather, as a natural manifestation of neurological diversity (Singer, 1999). Neurodiversity proponents have argued in great detail – convincingly, in my view – that at least a significant proportion of distress and disablement associated with autism can be accounted for in terms of marginalization and oppression (Chapman, 2019a; Robertson, 2010). Given this, neurodiversity advocates take the classification to indicate a marginalized minority rather than a medical condition, making it more in line with political identities such as ‘trans’ or ‘gay’ than something that we should attempt to treat or cure.

Here, I’m interested in asking whether the neurodiversity framing of autism may have room for a coherent conception of autism even if the medical model does not. On the one hand, according to the medical view,

for those who want to defend the reality of autism, the task is, firstly, to ask what the standards of validity are for something to count as a psychiatric classification and then to show that the concept of autism fulfills the conditions set by these standards. For instance, depending on which understanding of psychiatric validity is evoked, they can ask whether it is a natural kind (i.e., something that is there anyway, regardless of human ways of carving things up) (Cooper, 2005, pp. 45–76; Cushing, 2013), or whether it has some kind of medical utility (Zachar, 2015). On the other hand, neurodiversity proponents who advocate abandoning the concept tend to treat it as a political issue rather than a problem of nosology. In the words of autistic researchers Woods et al. (2018), for instance, those who seek to abandon the concept “envision autism and consequently the autistic voice as a non-entity” (p. 976), and they overlook “the flourishing distinctive autistic culture” (p. 977). According to the neurodiversity view, then, denying the validity or reality of autism seems to be taken more as a political act of misrecognition than as a position in psychiatric nosology.

When it comes to attempts to defend the reality and define the nature of autism, this may open up new resources from social metaphysics that are unavailable on the medical account. This would be much as, say, “black” or “gay” may be valid political classifications despite lacking validity as biological classifications. Curiously, although there is now a wealth of literature written by autistic researchers analyzing autistic disablement in light of marginalization and oppression (e.g., Milton, 2016a; Robertson, 2010; Booth, 2016; Chapman, 2019a), there hasn’t been any systematic attempt to draw on analyses of the social metaphysics of race, gender, or sexuality in order to rigorously analyze the nature of autism in line with the neurodiversity perspective.¹ I aim to fill this lacuna by drawing on feminist analyses of the metaphysics of gender to propose a new way of understanding the nature and reality of autism.² My core positive aim is to show that autism is a politically useful classification indicating something real, in line with the neurodiversity view, and to provide a framework for understanding this reality. In doing so, I aim to both fend off the proposal to abandon the concept of autism altogether, and show the metaphysical superiority and practical benefits of this approach over the various medical accounts of autism’s nature.

I begin by reviewing leading medical accounts of autism that posit a biological or psychological essence. I argue that they are unconvincing, since they conflict with available evidence and are based on untenable essentialist commitments. I then consider two more nuanced non-essentialist defenses of the medical conception of autism, the first being a soft naturalist account and the second framing autism as a practical (i.e., medically-useful non-natural) kind. I argue that these accounts fail because the boundaries of autism are normatively determined and because the

concept, in fact, lacks medical utility. I then turn to the neurodiversity conception of autism and argue that it has more room to coherently account for the nature of autism. To achieve this, I first consider and then reject the possibility that autism should simply be reduced to a political identity. Finally, I draw on Iris Marion Young's (1994) notion of a *serial collective*, which frames autism in relation to current social and material conditions more primarily than in relation to shared identification or internal properties. I'll show that this allows us to account for the nature and reality of autism in such a way that avoids each of the problems encountered by previous attempts.

2. Scientific essentialist accounts of autism

Although representations have changed over time, since the 1970 s, autism has typically been framed as a natural phenomenon of which we are developing an ever-greater scientific understanding. Fellowes (2017) notes how popular histories treat "the autistic spectrum as a fact waiting to be discovered" (p. 56), while the authors (Goldani et al., 2014) of a recent literature review of the biomedical science of autism have proclaimed that "new potential biomarkers for [autism] are being identified every day" (p. 1). More generally, as Nadesan (2005, pp. 19–20) observes:

In the search for its essence, the being of autism, . . . autism continues to be implicitly and explicitly theorized as a definitive entity whose origins can be found in faulty genetics, neurological impairments (e.g., of the amygdala) or impaired biochemistry. The implicit but dominant model seems to be that there is a visual-spatial-topological autistic centre that will ultimately be discovered.

This paints a picture of autism in which the behavioral symptoms of autism stem from what philosophers call a "natural kind." A kind is typically said to be natural if it is taken to reflect a structure of the world that is there regardless of how humans come to categorize reality – for instance, chemical kinds or biological species (Cooper, 2013). Such representations of autism also seem to be committed to neuro-centric essentialism about autism or subtypes of autism (Nadesan, 2005, pp. 19–20). This maps on to the scientific essentialist view of natural kinds, whereby essential properties are what is definitive of such kinds (see, e.g., Ellis, 2001).

Supporters of the scientific essentialist view of autism can appeal to a good deal of research that indicates that autism stems largely from neurological and genetic factors (Coleman, 2005; Feinstein, 2010). For example, reviews indicate general neurological tendencies among the autistic population such as larger overall brain size, a larger parieto-temporal lobe, and a larger cerebellar hemisphere than neurotypical controls (Brambilla et al., 2003). Nonetheless, despite its prominence, this scientific essentialist project has increasingly led

to findings that undermine the assumptions driving it. When it comes to the genetic findings, Coleman and Betancur (Coleman & Betancur, 2005) explain, “there now exists evidence of both locus heterogeneity (mutations in completely different genes causing the same phenotype) and allelic heterogeneity (different mutations in the same gene causing different phenotypes)” (p. 15). In fact, recent research indicates that hundreds of different genes may contribute toward being autistic, with the combination being different in each case (Waterhouse, 2013, pp. 9–12). In line with this, according to Coleman (2005), neurological research increasingly indicates that “autistic symptoms reflect a great variety of underlying . . . entities, each perhaps with a somewhat different neuropathological mechanism” (p. 30).

Other scientific essentialist attempts focus on psychological properties. The most influential seeks to explain autism as stemming from an empathy-deficit that makes it hard to process the social world (Baron-Cohen, 1995; Baron-Cohen et al., 1985). Other more general cognitive theories seek to explain autism in reference to reduced context sensitivity in cognitive processing (Verhoeff, 2013), detail-orientated processing (Happé & Frith, 2006), general executive dysfunction (Hill, 2004), hyper-perception and hyper-emotionality (Markram et al., 2007), or hyper-mechanistic thinking (Badcock, 2009; Baron-Cohen, 2011). Nonetheless, despite varying levels of success, the same issue reemerges for these accounts: no single cognitive property has been found that can explain all or even most traits associated with autism, and each autistic person seems to have a processing style that is different to all other autistic people (Happé et al., 2006; Timimi et al., 2010). At least currently, then, as Cushing (2013) summarizes, unless a more satisfactory account is developed, it seems hard to deny the possibility that “autism is not a unified [psychological] phenomenon, but in fact a bundle of distinct, often comorbid, but actually independent conditions” (p. 30).

The issue here has been referred to as the “problem of heterogeneity” (Timimi & McCabe, 2016, p. 16). In short, at every level of analysis (from genes to behavior, neurology to lived experience), autism seems to be unique in each case and not defined by any single shared trait. Some researchers have pointed to the heterogeneity problem as evidence that autism has no inherent natural structure at all. Indeed, Timimi et al. (2010, p. 139) for instance, claim that

the most scientifically appropriate conclusion that we can draw from the evidence (or lack of it) so far is that *there is no characteristic genetic or biological brain-based abnormality that corresponds with our current definition of autism and the broader ASDs . . .*

If we are looking for something like an essential biological or psychological trait, then this seems like a feasible conclusion. Even if autism is highly

heritable and related to various biological or psychological tendencies – something none of the above authors deny – the evidence nonetheless points toward there being a different causal pathway in each case.

3. Autism as a mechanistic property cluster

Scientific essentialism isn't the only way of assessing the validity of autism as a psychiatric classification. In fact, Zachar (2015, p. 288) notes that there may be an unhelpful “essentialist bias” in traditional psychiatric taxonomy which assumes that an essential property is necessary for a classification to be valid. The reality of autism as a medical condition might be defended at this point if one takes the issue to be this bias rather than psychiatric classification itself. In other words, the problem could be the assumption that we need to find an essential property that can explain all instances of autism (or some subcategories of autism), rather than recognize autism's heterogeneity. In line with this, in recent years, philosophers of psychiatry have proposed both softer naturalist as well as non-naturalist models for understanding psychiatric nosology.

The most influential softer naturalist alternative (Kendler et al., 2011) frames psychiatric classifications as mechanistic property clusters. This notion indicates categories defined in light of a whole range of characteristic (although not singularly essential) factors that interact with each other *causally* and at varying levels (e.g., biological, psychological, behavioral) (Kendler et al., 2011). Within this framing, at least some natural kinds that lack fixed essences – most notably, species – can be thought of as complex sets of entities with “various degrees of causally supported resemblance” (Boyd, 1999, p. 144), insofar as they possess similar properties in light of related causal links. With psychiatric classifications, Kendler (2016, p. 9) notes how

[Mechanistic] property clusters can allow us to “soften” the unsustainable demand for true “essences” in realistic models for psychiatric disorders. They give us a tractable kind of “emergent” pattern. What makes each psychiatric disorder unique are sets of causal interactions amongst a web of symptoms, signs and underlying pathophysiology across mind and brain systems.

It might then be argued that autism should be located at various levels – the genetic, neurological, psychological, and behavioral levels – but in light of a complex nexus of causal relations rather than a single essential trait (Verhoeff, 2015, p. 54; also see Chapman, 2019b for a recent, non-essentialist account of autism). The various implicated genes, neurological functioning tendencies, cognitive-perceptual traits, and the whole spectrum

of behaviors associated with autism might then make up and express the coherence of this cluster, even if we cannot point to any single essential characteristic or, indeed, any defining cluster at one particular level.

However, there is an issue, pointed out by Verhoeff (2015), regarding how the classification of autism isn't just fuzzy (which would be compatible with the mechanistic property cluster conception), but, instead, it is constantly fluctuating in relation to broader, non-medical norms. In recent years, historical analyses of autism have found that the concept expands and contracts in relation to the following factors: the drive for normalization and the medicalization of childhood (Nadesan, 2005); shifting economic and gender norms (Timimi et al., 2010); the multitude of industries and economic need surrounding autism (Mallett & Runswick-Cole, 2012); and passing trends in medical and scientific thinking (Silverman, 2011). For Verhoeff,

[the boundaries of] autism can *only* be understood in relation to ideas about what kind of behavior is unacceptable, deviant, and in need of correction or support [at any given time]. Autism cannot avoid being related to a cultural norm of a social, empathic and engaged individual, and any account of autism begins with a need to demarcate, locate and treat particular discontents and impairments that have appeared. (Verhoeff, 2015, p. 21, emphasis mine)

Verhoeff argues that this poses an issue for the mechanistic property cluster conception of autism, for even while it “corrects an empirically flawed essentialist model [and] it is compatible with the multicausality, heterogeneity and fuzzy boundaries” surrounding autism, it nonetheless remains unconvincing. This is because it “disregards the way in which [the shifting boundaries of] autism relates to ideas about what kind of behavior is inappropriate and in need of correction or support” (p. 61). The point here is that even if we accept the notion that species are non-essentialist natural kinds in this sense, then the concept of autism still seems very different. What we count as, say, a horse at any given time does not regularly fluctuate in relation to social norms and ideological shifts but, rather, remains relatively stable. That autism isn't like this indicates that it may be a social kind, in line with (on many accounts at least) ‘female’ or ‘queer,’ the boundaries of which seem to shift in relation to norms as much as natural findings.

4. Autism as a practical (psychiatric) kind

Autism does not, then, seem to be a natural kind. At this point, however, the defender of the medical conception of autism can still turn to standards of validity that focus on medical utility rather than on whether there is natural grounding. For instance, Zachar (2000) has argued that we can conceptualize psychiatric classifications as “practical kinds,” indicating “entities having stable patterns that can be identified with varying levels

of reliability and validity” (p. 167). Following this view, we can justify the validity of psychiatric classifications because they are ultimately useful ways of carving up the world, regardless of whether they reflect something that’s actually there. For instance, it is at least conceivable that the classification ‘major depressive disorder’ is a practical kind even if it isn’t a natural kind. This would be, for instance, on the grounds that it could be a useful way of grouping together those individuals who would likely benefit from certain forms of medication or therapy. In other words, it would seem to have medical utility, much like certain somatic disease classifications (e.g., cancer) which are not natural kinds either but which are nonetheless medically useful.

This raises the question of whether autism does in fact have utility as a psychiatric kind. To have such utility, as Cooper (2005, pp. 49–52; 2013, pp. 960–962) has pointed out, such a classification must allow us to make accurate predictions and thereby increase understanding and control, based on the similarities. It is true that the label of ‘autism’ has been correlated with many factors, such as high unemployment (Baron-Cohen, 2008, p. 113) and mental health conditions such as anxiety disorders (Badcock, 2009, p. 19). For instance, the fact that a boy diagnosed with autism will be less likely to find long-term employment than a neurotypical boy may help us make some very general predictions. This fact alone, however, does not seem to be enough to justify the claim that autism is a medical pathology. Specific races and genders may be correlated with phenomena such as employment rates, but that does not mean that they are medical pathologies. We would need to be able to make more specific predictions for autism to be established as a pragmatic *psychiatric* kind – predictions such as, for instance, that a particular medication or therapy will alter all or most autistic individuals in a similar and distinct way.

In fact, though, many have argued that autism decisively lacks utility as a medical classification (Collins, 2016; Latif, 2016; Timimi et al., 2010). Most obviously, there’s no known treatment that’s specific to autism, despite decades of attempts to develop one. As one recent review (Hassall, 2017, p. 11) found,

neither autism nor ASD appear to have much value as explanatory concepts in science. They do not explain the pattern of symptoms in individual cases, since the aetiology is unknown in most cases. In addition, the predictive and discriminative validity of ASD is very limited, since decisions about treatment and predictions about outcome are determined at least as much by other factors concerning the individual as by the diagnosis itself.

Notably too, as Virginia Bovell (2015) has pointed out, “if it is hard enough agreeing precisely what autism is in conceptual terms, it is very hard to establish what it means in practical terms to prevent or cure autism” (p. 91).

Given the underlying heterogeneity on the one hand and the breadth of the spectrum on the other, it seems unlikely that any biomedical treatment will be developed for the thing we call autism. In other words, it isn't just that we don't have the current level of understanding or the right technology; rather, the current evidence points toward autism not being the kind of thing that could be treated or cured. If this is so, then it is hard to see how it could be justified as a pragmatic kind in terms of framing it as a psychiatric condition. Indeed, some claim that the construct thus does more harm than good. For Timimi et al. (2010), the term merely functions as a "catch-all metaphor" (p. 7) for people who fall outside the dominant norms of society and is thus nothing more than a problematic distraction from individual "problems in living." In the words of Cushing (2013), "if 'autism' really is socially constructed, then I'm all in favor of its elimination. The people [diagnosed] will still be the same, but they won't be encumbered with a catch-all term weighted down with decades of bad theorizing" (p. 41).

Overall, when taken as a psychiatric classification, it is far from clear how autistics could be grouped together in a genuinely grounded way. Although the classification may be helpful in some non-medical ways (a point I'll explore below), it seems, at best, to have very limited utility as a medical classification. To be clear, none of what I've argued so far rules out the possibility that there are various naturally-grounded traits grouped together by the concept of autism. Thus, at this point, a defender of the notion of autism as a genuine medical pathology might argue that autism should be broken up into much more specific kinds, as has recently been suggested by the National Institute of Mental Health (Cushing, 2013, pp. 40–41). Perhaps this will turn out to be viable, but at the moment this remains somewhat speculative. More importantly, given our concern for the validity of the concept of 'autism,' even if autism was eventually divided up into many different valid classifications, it is far from clear that the concept of 'autism' – if it is understood in a way that is at all close to the current understanding – would survive this anyway. For the time being, then, it seems to me that the weight of the evidence militates against there being a genuinely grounded or practical concept of autism as a psychiatric classification. Either it should be abandoned, or we should look to the alternatives.

5. Autism as political identity

That autism is a social kind has been independently argued for elsewhere. Mostly Hacking (1999, 2007, 2009)), has argued that the label of autism has shifted over time due to complex interactions between autistic individuals, autism experts, related institutions, and autism knowledge-production. According to this view, showing that a kind is constructed does not indicate that it is unreal, since such kinds can group or frame underlying naturally-

occurring or otherwise real traits (I Hacking, 1999, p. 121; Nadesan, 2005, p. 7). Notably too, neither does medical dis-utility imply that there can be no other kind of utility. Rather, as Bovell (2015, p. 87) notes,

Even if autism is no more than a social construct, we should not underestimate the power of social constructs. It confers a status that can open doors for particular types of support and state funding that impact on people's well-being and safety, as well as labelling them in a way that can be [...] illuminating and liberating.

Similarly, neurodiversity proponents Woods et al. (2018) stress “the flourishing distinctive autistic culture and the importance of self-diagnosis to autistic persons’ sense of well-being” (p. 977). When it comes to asking whether autism is real or not, these perspectives reflect certain strands in feminist theory that stress the relationship between (non-medical) constructed categories, real-world structures and practices, and political utility. Sally Haslanger (2012), for example, stresses how, when it comes to constructed human divisions in race and gender, it is crucial not to overlook “the reality of social structures and the political importance of recognizing this reality” (p. 30). Similarly, Caraway (as cited in Young, 1994), has argued that reclaiming classifications such as ‘woman’ as political identities can, regardless of whether they are natural or not, help cultivate “a space for political action, praxis, justified by the critical positioning of the marginalized subjects [so classified] against hierarchies of power” (p. 722). Notably, all this is in line with the neurodiversity conception of autism as a political identity, which both takes autism to be real in some sense or another, and seeks to reclaim autism to reposition it as a post-medical, primarily political grouping.³

Applying this to the nature of autism, the most obvious possibility worth considering is that autism simply *is* a shared political identity and that this might both meaningfully account for its reality and provide an emancipatory justification for keeping the classification. According to the shared identity view, autism would, to an extent, be fluid, since it is held in place by a shared mental identification with the construct, which is constituted by shared human imagination. In terms of its metaphysical feasibility, this would fit both with the heterogeneity of autism and also with the concept being interactive and shifting, since different people would identify with – and, hence, interact with and change – the concept at different times. At the same time, it would also cohere with autistic individuals sharing a cluster of similar although not singularly essential traits – that is, it would not commit itself to further claims that these traits are naturally grouped or that they are a medical issue. According to the identity account, we would expect those who identify with the concept to do so because they have similar traits to others who identify as autistic. Hence, the identity conception of autism seems to fit with the evidence that was problematic for the naturalist accounts. This makes it initially appealing as a metaphysical account.

There's also evidence that the concept has political utility even if it has limited medical utility. For many autistic individuals – who, although they have no shared fixed essence, do face similar problems such as stigma and discrimination – have begun forming a political force to help cultivate the conditions for autistic thriving. Consider, for instance, how autistic communities have begun developing autistic-specific vocabularies that help to describe and constitute autistic experience (Hacking, 2009; McGeer, 2009); how autistic individuals often report feeling “at home” and finding a sense of “belonging” among other autistics (Sinclair, 2010, para. 41); or how individuals who are diagnosed later in life find that this helps their self-understanding and acceptance (Wylie, 2014). It is also worth noting how neurodiversity proponents reject spreading autism “awareness” in favor of promoting autism “acceptance” (Robertson, 2010). Interestingly, recent empirical research has indicated that the practice of autism acceptance is beneficial for the well-being of both autistic individuals (Cage et al., 2017) as well as their families (Da Paz et al., 2018). Also notable is that a recent study (Parsloe, 2015) of people diagnosed with Asperger's syndrome (a prior sub-category of autism)⁴ found that reclaiming autism as an identity helped provide a sense of autistic agency and community. By contrast, it was found that “treating autism as a disease category prevents [a] focus on positive difference” (p. 352). What these preliminary studies seem to indicate is both that the concept of autism has political utility and that, if anything, its utility increases precisely when the concept is reclaimed and de-medicalized.

It's true that autism has become a genuinely emancipatory political identity for many, and self-identifying as autistic has been particularly helpful for those who are unable to attain a medical diagnosis for whatever reason. Still, I'm wary of endorsing identity as the basis for an account of the *nature* of autism. This is because autism includes a small subset of individuals who have not yet been able to learn the level of language necessary to identify with other autistic individuals at all. This raises one conceptual issue and one ethical issue. First, a group-identification definition of autism might exclude the subset of autistic individuals who currently lack the linguistic ability to identify with abstract concepts at all. In other words, if autism were *only* a political identity, then this would exclude those who clearly are autistic but are not currently able to identify as such. Second, if autism were only a political identity, then those with no voice nor, perhaps, a capacity for identification could be overlooked and even harmed by their exclusion, as well as the direction in which the construct is taken. By partial analogy, my worry is similar to how various forms of feminism have overlooked, say, black women or working-class women due to white, middle-class women dominating the discourse related to feminist identity politics. This reflects a more general issue, which concerns how identity politics “frequently conflates or ignores

intra-group differences” (Crenshaw, 1991, p. 1242). Indeed, this is precisely the worry that many have with the neurodiversity conception of autism, which may seem to overlook those less able to express themselves (Jaarsma & Welin, 2012, pp. 27–28). Thus, while it is important to recognize the positive significance of autism as a political identity, I am wary of reducing the *nature* of autism to a matter of group identification, for this may contribute to excluding those who most need to be recognized as autistic and gain access to the support that comes with this.

6. Autism as a serial collective

My own suggestion is in line with the neurodiversity perspective and is compatible with recognizing the significance of autism as a political identity, as well as the validity of those who identify as autistic without a medical diagnosis. However, I posit that the reality of autism is better captured by Young’s (1994) notion of a serial collective. Unlike group identities, which denote “self-consciously, mutually acknowledging collective[s]” (p. 724), serial collectives are defined in light of shared external material factors that mutually affect each member of the collective, regardless of whether they actually identify or not. For instance, all those waiting together for a late bus would form a serial collective, despite having no internal essence or shared identification. That is, while the members of a serial collective may share various similarities (everyone waiting for the bus might, perchance, live in the same neighborhood and start work at the same time), what makes them categorizable as a serial kind is the relationship of each to social reality (in this case, to the bus, as well as the lateness of the bus, and their contrast from all those whose busses arrived on time).

Of course, being autistic isn’t the same as waiting for a late bus. More relevantly, for our concerns, Young (1994) claims that social class and gender can both be understood as serial collectives (pp. 727–728) and so defined in light of social and material conditions, regardless of shared identification or the lack of an essential trait. When it comes to the working class (p. 727), for instance,

Most of the time what it means to be a member of the working class or the capitalist class is to live in series with others in that class through a complex interlocking set of objects, structures, and practices in relation to work, exchange, and consumption [...] the characteristics of the work that one will do or not do are already inscribed in machines, the physical structure of factories and offices, the geographic relations of city and suburb.

Similarly, “gender, like class, is a vast, multifaceted, layered, complex, and overlapping set of structures and objects. Women are the individuals who are positioned as feminine by the activities surrounding those structures and

objects” (p. 728). For instance, womanhood as a serial collective arises in light of, amongst other things, representations of gender ideals (e.g., gendered clothing), sexual divisions of labor, enforced monogamy, and so forth (pp. 727–729). For Young, what binds members of each is their shared relationship to material and social conditions, rather than their shared identification with the classification: each serial collective is defined in relation to “a set of structural constraints and relations to practio-inert objects that condition action and its meaning” (p. 737). This allows Young to conceptualize gender and class in an intersectional and anti-essentialist way that is useful for organizing political resistance.

I propose that autism is a serial collective and that this notion can capture the reality of autism without encountering the various issues noted above. To understand the utility of this proposal, it’s worth first considering the social model of disability as applied to autism (Chapman, 2019a). Although I won’t offer a detailed defense of the social model as applied to autism here, it will be helpful to give a few examples of wider factors, both physical and normative, that seem to have systematically contributed to autistic disablement. In this regard, it’s worth considering autistic sensory sensitivity and sensory overload, which are central to autistic disablement and are regularly experienced by the vast majority of those who are given the autism diagnosis (Bogdashina, 2003; Markram et al., 2007). While the perceptual-cognitive profile of each autistic person is unique, autistic people characteristically report certain common factors as leading to increasing disablement. Such factors include an increase in open plan offices and the overuse of bright lights in working environments (Booth, 2016, pp. 43–44), or neurotypical social practices such as clapping. Despite the biological and psychological uniqueness of each autistic individual, such environments tend to disable all autistic individuals in a way that we can identify as characteristically autistic, for instance, by making them experience “sensory overload” or “sensory fatigue,” which can, in turn, hinder social understanding and participation (Booth, 2016, pp. 43–44).

Beyond the central issue of sensory environments, it’s equally important to consider the importance of shifting neurotypical norms and social practices. For instance, Timimi et al. (2010) and Timimi and McCabe (2016) draw attention to how the rise of the neo-liberal market system, particularly in service economies, increasingly requires individuals to both continually merge into new roles and to constantly sell one’s “self.” Those who find it difficult to meet these demands are increasingly seen as a problem to be either eradicated or altered. The historical effect of this, as Haydon-Laurelut, 2016), p. 222) summarizes, is that

Bodies now labelled as autistic were perhaps closer to the norms of the late nineteenth and the early to mid-twentieth century. These bodies and their characteristics are increasingly distinct from the kinds of humans – those of the “agile” or “flexed”

workforce, narcissistic, hypersocial, and so on – demanded from the second half of the twentieth century to the present day by the changing socio-economic conditions of neoliberal capitalist cultures and a service economy.

In other words, whereas modernist ideals tended to celebrate autistic traits such as being single-minded, rational, and independent, neoliberal economic ideology and the social structures that they are tied to mean that those who are not naturally adept in such practices are increasingly taken to be pathological – contributing to an increasingly greater percentage of the population who find themselves *actually* disabled (for instance, unable to work) in a specifically autistic manner. Hence, shifting social norms are equally important when it comes to who ends up being blocked from typical social functioning, emotionally relating, and so forth at any given time.

With these examples in mind, the key difference between the neurotypical and the autistic seems to be this: certain social developments are geared toward supporting clusters of psychological characteristics that have no natural unity but which are unified with respect to their contingently perceived positive economic or social utility, as well as their relationship to external structures and norms. Individuals who exhibit such clusters of socially useful psychological or behavioral characteristics belong to one serial. Since this serial is of contingent social utility, our environments have been arranged to support and further enable individuals who exhibit such characteristics. This serial collective is the comparatively enabled neurotypical. In contrast, other clusters of psychological characteristics may for contingent, social, historical reasons be perceived as relatively useless or undesirable. As with the clusters of “positive” characteristics, the explanation of the unity of such “negative” clusters is largely given by their perceived economic or social disutility (which is socially and historically contingent), rather than by a natural grouping. Moreover, far fewer social resources are invested in supporting individuals with such characteristics, insofar as society is not structured around their needs, thus reinforcing their initial marginalization (Milton, 2016b; Robertson, 2010). They are, thus, comparatively disabled by their environments. ‘Autism’ is a label we give to one such cluster of (purportedly) socioeconomic nonutilitarian psychological and behavioral characteristics, but these traits are grouped in light of collectively being disabled by the same norms and structures. Furthermore, while it’s true that autistic individuals do tend to share such a cluster, what allows this collective to emerge, expand, and retract is a shared relationship to the social and material conditions that produce this specific form of disablement.

7. Benefits of the serialized account

I've argued that the coherence and reality of autism lies in how autistic people share a specific relationship to current social and political conditions – those that continually produce and reproduce autistic disablement. Importantly, as a metaphysical claim, this avoids all the problems noted with the above accounts. First, according to the serialized account, whether or not one is autistic is so regardless of whether or not any given individual actually identifies as such. Thus, this account doesn't encounter the problems which plague the political-identity conception of autism (even though it still has room for and, if anything, supports the legitimacy of an autistic political identity). Second, it isn't an issue for this account that the concept of autism has no medical utility, since it doesn't claim that autism is a medical pathology in the first place (although it doesn't deny that autistic people often do encounter medical issues, for example, epilepsy). Third, it's also not an issue that autism's boundaries are shifting and fuzzy, nor, indeed, that it has no essence, for the serialized account precisely predicts that those who are disabled in this way is highly complex and changes in relation to shifting social practices and material conditions. Hence, the serialized account has no problem accounting for the various factors that are problems for the previous accounts. This makes it the most metaphysically viable account of all those surveyed.

This framing does not only have metaphysical plausibility; it also has political utility. Young (1994) herself proposed the notion of womanhood as a serial collective to find a balance between legitimizing the political voice of women and avoiding the normalizing and essentialist tendencies of identity-based conceptions, which may overlook intersections or transgender women. Similarly, framing autism as a serial collective allows us to recognize the legitimacy of the autistic voice and account for all the political benefits that come with the identity account of autism – yet without the automatic exclusion of those who do not or cannot identify as autistic. Recognizing the reality of autism as a serial collective may also help bring about important social change. Consider, for instance, how, based on the neurodiversity conception of autism, organizations such as Specialisterne aim to solve “the social challenge of unemployment through a business model that creates environments where autistic people can excel” (Sonne, 2019, para. 8) or how the UK Labor Party has recently been developing a “neurodiversity manifesto” in order to develop a more enabling society for autistic and otherwise neurodivergent individuals (<https://neurodiversitymanifesto.com/2018/09/18/labor-party-autism-neurodiversity-manifesto-final-draft-version-2018/>). Such efforts are likely to help the autistic population in a number of ways, yet none of them require conceiving autism as a natural kind, as a kind with biomedical utility, or as a kind that is reducible

to a political identity: they are focused on barrier removal and challenging social norms. All we need here is the serialized account of autism, which shifts the focus to the material and social conditions that brought the need to classify and expand the concept of autism in the first place. If anything, the emphasis of the serialized account would be more helpful for these kinds of pursuits than any previous framing, since it draws attention precisely to the current material and social conditions as being a central, core part of the reality (and disability) of autism.

8. Potential objections

I've argued that there's good reason to think of autism as something real. I've also suggested a coherent way to understand the reality of autism, by drawing on Young's notion of serial collectives. If my arguments have been convincing, then this is the most metaphysically feasible account of the nature of autism proposed so far. I'll finish off by defending my proposal against three potential worries.

How does this account square with all the evidence pointing toward autism being highly heritable and related to neurological tendencies?

To say that autism is a serial collective isn't to deny that certain genetic or neurological differences may make some individuals more or less perceptually sensitive. Indeed, it precisely presupposes this. It's just that whether any given individual develops in the way we call autistic will rely on the nature of society at any given time. The unity of the concept of autism, then, is to be explained in terms of the dominant material structures and practices at any given time rather than by reference to a natural or medically-useful kind. Nonetheless, the view that I've defended doesn't deny that autistic individuals will often exhibit rough clusters of characteristics or that many of these traits will be heritable; my point is that whether the exhibition of such characteristics *manifests as autistic* is dependent on contingent factors.

Isn't this way of framing autism just as susceptible to the criticism of being overly fuzzy and shifting as those accounts dismissed above?

In my view, the concept of 'autism' certainly is fuzzy and shifting; however, this shows a strength of my account. As we've seen, this way of being disabled has emerged and grown along with a wide range of social factors. The concept has thereby been hard to define and has constantly shifted in scope and focus. While this is a problem for naturalist and, especially, essentialist accounts, the notion of autism as a serial collective in fact *predicts* that the concept of autism will shift and change in line with social

developments. Thus, my account allows us both to acknowledge that biology can be, to some extent, relevant to understanding why some people are autistic and others are not⁵ and to acknowledge the fuzziness of the concept of ‘autism’ in relation to shifting norms, practices, and structures.

How will this account of autism help, especially considering how dangerous certain conceptions of autism can be?

In short, I’ve argued that framing autism as a serial collective may help to foster solidarity and cooperation in aid of autistic thriving, as well as recognition of autistic disablement, while avoiding potentially harmful forms of reductionism on all fronts. According to the serialized account of autism, we can recognize characteristically autistic needs and the complexity of autism in such a way that would be both more coherent and far better for the autistic population than any previous model. Of course, those who want to maintain that autism is a medical condition will disagree, but if they want to justify this disagreement, they will have to provide solutions to the problems with the medical accounts which I’ve noted above. Currently, as I see it, there’s no viable medical account of the nature of autism: the concept is much better supported by the neurodiversity view.

Notes

1. That is, although analogies between autism and marginalized groups are often invoked in discussions of whether autism is inherently harmful and/or dysfunctional, social-metaphysical analyses of concepts like “black” and “woman” have not been drawn on to rigorously define or clarify the nature of autism as such.
2. It is worth noting that, although some advocates of neurodiversity retain essentialist and naturalist assumptions or, at least, rhetoric, regarding autism, the neurodiversity approach has plenty of room for viewing autism as a social kind. This will become more apparent below.
3. As noted earlier, some neurodiversity proponents may retain essentialist and naturalist-reductionist understandings of autism or, at least, rhetorically seem to do so, by using terms such as ‘neurotype’ or ‘natural human variation’ (Jaarsma & Welin, 2012). This might be seen as a problem for the neurodiversity conception of autism. However, the majority of leading proponents of neurodiversity indicate that autism should be analyzed primarily as a political classification, even if they take it to group together various traits that are naturally-occurring individually. For instance, Singer (1999), who coined the term ‘neurodiversity,’ emphasized autism as “a new category of human difference” (p. 63) bringing the benefits “of a clear identity” (p. 62). For Nick Walker (2013), another leading neurodiversity proponent, key terms like ‘autism’ and ‘neurotypical’ are primarily political “tools” that can be instrumental in helping neurodivergent people live “better, more empowered lives” (n.p.). More explicitly, Damian Milton (2016), one of the leading autistic autism researchers, posits that the notion that autism is “scientifically valid as a natural kind” (p. 1414) is deeply misguided and that we are “unlikely ever to find . . . a simplistic explanation of what

autism ‘is’ at a biological level” (p. 1414). Although not every neurodiversity proponent would agree with such statements, and while each differs on the details, critics who target the neurodiversity view on the grounds that it retains naturalist-reductionist or scientific essentialist presuppositions thus miss the mark.

4. Some claim “Aspie” as an identity (Parsloe, 2015). However, autistic neurodiversity proponents increasingly identify simply as “autistic” (covering the whole spectrum), in an effort to be more inclusive and avoid elitism (see, e.g., Baggs, 2010). Although I certainly don’t want to deny the validity of the former identification, I follow the latter tradition here. According to this view, all those on the spectrum (including those diagnosed with Asperger’s syndrome) are simply autistic; it is just that some (referred to in the dominant view as “severe” cases) also have other intersecting disabilities.
5. Biology can be *relevant* to understanding why some people are more likely to fall within the boundary at any given time, even if it is not essential or definitive. By analogy, I don’t think Young would deny that biology might be relevant, to some extent, for understanding why some people are positioned as women and some people are not, even though she strongly denies that this is what constitutes womanhood.

Disclosure statement

No potential conflict of interest was reported by the author.

Funding

This work was supported by the The Shirley Foundation [131].

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- Asperger, H. (1944). Die Autistischen Psychopathen im Kindesalter [Autistic Psychopathy in Childhood]. *Archiv fur Psychiatrie und Nervenkrankheiten*, 117(1), 76–136. <https://doi.org/10.1007/BF01837709>
- Badcock, C. (2009). *The imprinted brain: How the genes set the balance between autism and psychosis*. Jessica Kingsley Publishers.
- Baggs, M. (2010, March 7). *Aspie Supremacy can kill* [blog post], Ballastexistenz. <https://ballastexistenz.wordpress.com/2010/03/07/aspie-supremacy-can-kill/>
- Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind*. MIT Press.
- Baron-Cohen, S. (2008). *Autism and asperger syndrome: The facts*. OUP.
- Baron-Cohen, S. (2011). *Zero Degrees of empathy: A new theory of human cruelty*. Penguin Books.
- Baron-Cohen, S., Leslie, A., & Frith, U. (1985). Does the autistic child have a ‘theory of mind’? *Cognition*, 21(1), 37–46. [https://doi.org/10.1016/0010-0277\(85\)90022-8](https://doi.org/10.1016/0010-0277(85)90022-8)
- Bogdashina, O. (2003). *Sensory perceptual issues in autism and asperger syndrome: Different sensory experiences – different perceptual worlds*. Jessica Kingsley Publishers.
- Booth, J. (2016). *Autism equality in the workplace: removing barriers and challenging discrimination*. London: Jessica Kingsley Publishers.

- Bovell, V. (2015). Is the prevention and/or cure of autism a morally legitimate quest? (unpublished doctoral thesis). University of Oxford.
- Boyd, R. (1999). Homeostasis, species, and higher taxa. In R. A. Wilson (Ed.), *Species: New interdisciplinary essays* (pp. 141–185). MIT Press.
- Brambilla, P., Hardan, A., Ucelli Di Nemi, S., Perez, J., Soares, J. C., & Barale, F. (2003). Brain anatomy and development in autism: Review of structural MRI studies. *Brain Research Bulletin*, 61(6), 557–569.
- Cage, E., Di Monaco, J., & Newell, V. (2017). Experiences of autism acceptance and mental health in autistic adults. *Journal of Autism and Developmental Disorders*, 48(2), 473–484. <https://doi.org/10.1007/s10803-017-3342-7>
- Chapman, R. (2019a). Neurodiversity and its discontents: Autism, schizophrenia, and the social model. In S. Tekin & R. Bluhm (Eds.), *The bloomsbury companion to the philosophy of psychiatry* (pp. 371–389). Bloomsbury.
- Chapman, R. (2019b). Autism as a Form of Life: Wittgenstein and the psychological coherence of autism. *Metaphilosophy*, 50(4), 421–440. <https://doi.org/10.1111/meta.12366>
- Coleman, M., & Betancur, C. (2005). Introduction in. In M. Coleman (Ed.), *The neurology of autism* (pp. 3–39). Oxford University Press.
- Coleman, M. (2005). *The neurology of autism*. Oxford University Press.
- Collins, G. (2016). Does a diagnosis of ASD help us to help a person with intellectual disabilities? In Runswick-Cole, R. Mallett, & S. Timimi (Eds.), *Re-thinking autism: Diagnosis, identity and equality* (pp. 204–220). Jessica Kingsley Publishers.
- Cooper, R. (2005). *Classifying madness: A philosophical examination of the diagnostic and statistical manual of mental disorders*. Springer.
- Cooper, R. (2013). Natural Kinds. In K. W. M. Fulford, M. Davies, R. G. T. Gipps, G. Graham, J. Z. Sadler, G. Stanghellini, & T. Thornton (Eds.), *The oxford handbook of philosophy and psychiatry* (pp. 950–965). Oxford University Press.
- Crenshaw, K. (1991). Mapping the Margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241–1299. <https://doi.org/10.2307/1229039>
- Cushing, S. (2013). Autism: The Very Idea. In J. L. Anderson & S. Cushing (Eds.), *The philosophy of autism* (pp. 17–45). Rowman & Littlefield.
- Da Paz, N. S., Siegel, B., Coccia, M. A., & Epel, E. S. (2018). Acceptance or Despair? Maternal adjustment to having a child diagnosed with autism. *Journal of Autism and Developmental Disorders*, 48(6), 1–11. <https://doi.org/10.1007/s10803-017-3450-4>
- Ellis, B. (2001). *Scientific essentialism*. Cambridge University Press.
- Feinstein, A. (2010). *A history of autism: Conversations with the pioneers*. Wiley-Blackwell.
- Fellowes, S. (2017). Putting the present in the history of autism. *Studies in History and Philosophy of Science Part C*, 61, 54–58. <https://doi.org/10.1016/j.shpsc.2016.11.002>
- Fitzgerald, M. (2004). *Autism and creativity: Is there a link between autism in men and exceptional ability?* Brunner-Routledge.
- Goldani, A. A., Downs, S. R., Widjaja, F., Lawton, B., & Hendren, R. L. (2014). Biomarkers in autism. *Frontiers in Psychiatry*, 5(100), 1–13. <https://doi.org/10.3389/fpsy.2014.00100>
- Hacking, I. (1999). *The social construction of what?* Harvard University Press.
- Hacking, I. (2007). Kinds of people: moving targets. *Proceedings of the british academy, volume 151, 2006 lectures*. pp. 285–318.
- Hacking, I. (2009). Humans, aliens & autism. *Daedalus*, 138(3), 44–59. <https://doi.org/10.1162/daed.2009.138.3.44>

- Happé, F., & Frith, U. (2006). The weak central coherence account: Detail-focused cognitive style in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 36(1), 5–25. <https://doi.org/10.1007/s10803-005-0039-0>
- Happé, F., Ronald, A., & Plomin, R. (2006). Time to give up on a single explanation for autism. *Nature Neuroscience*, 9(10), 1218–1220. <https://doi.org/10.1038/nn1770>
- Haslanger, S. (2012). *Resisting Reality: Social construction and social critique*. Oxford University Press.
- Hassall, R. (2017). How should applied psychologists conceptualise an autism spectrum disorder diagnosis and its predictive validity? *Educational and Child Psychology*, 34((4)), 1–17.
- Haydon-Laurelut, M. A. (2016). Critical systemic therapy: Autism stories and disabled people with learning difficulties. In K. Runswick-Cole, R. Mallett, & S. Timimi (Eds.), *Rethinking autism: Diagnosis, identity and equality* (pp. 221–238). Jessica Kingsley Publishers.
- Hill, E. L. (2004). Executive dysfunction in autism. *Trends in Cognitive Science*, 8(1), 26–32. <https://doi.org/10.1016/j.tics.2003.11.003>
- Jaarsma, P., & Welin, S. (2012). called ‘Autism as a natural human variation: Reflections on the claims of the neurodiversity movement’. *Health Care Analysis* 20, 20–30.doi: 10.1007/s10728-011-0169-9
- Kanner, L. (1943). Autistic disturbances of affective contact. *Nervous Child*, 2, 217–250.
- Kendler, K. S. (2016). The nature of psychiatric disorders. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 15(1), 5–12. <https://doi.org/10.1002/wps.20292>
- Kendler, K. S., Zachar, P., & Craver, C. (2011). What kinds of things are psychiatric disorders? *Psychological Medicine*, 41(6), 1143–1150. <https://doi.org/10.1017/S0033291710001844>
- Laif, S. (2016) *The Ethics and Consequences of Making Autism Spectrum Disorder Diagnoses. Rethinking Autism* (Eds.) Kathernine Runswick-Cole, Rebecca Mallett, Sami Timimi. London: Jessica Kingsley Publishers.
- Mallett, R., & Runswick-Cole, K. (2012). Commodifying Autism: The cultural contexts of ‘disability’ in the academy. In D. Goodley, B. Huges, & L. Davis (Eds.), *Disability and social theory* pp. 33–51). Palgrave Macmillan.
- Markram, H., Rinaldi, T., & Markram, K. (2007). The Intense world syndrome – an alternative hypothesis for autism. *Frontiers in Neuroscience*, 1(1), 77–96. <https://doi.org/10.3389/neuro.01.1.1.006.2007>
- McGeer, V. (2009). The thought and talk of individuals with autism: Reflections on hacking. *Metaphilosophy*, 40(3–4), 517–530. <https://doi.org/10.1111/j.1467-9973.2009.01601.x>
- Milton, D. E. M. (2016a). Disposable dispositions: Reflections upon the work of Iris Marion Young in relation to the social oppression of autistic people. *Disability and Society*, 31(10), 1403. <https://doi.org/10.1080/09687599.2016.1263468>
- Milton, D. E. M. (2016b). Re-thinking autism: Diagnosis, identity and equality. *Disability & Society*, 31(10), 1413–1415. <https://doi.org/10.1080/09687599.2016.1221666>
- Nadesan, M. H. (2005). *Constructing Autism: Unravelling the “truth” and understanding the social*. Routledge.
- Parsloe, S. M. (2015). Discourses of disability, narratives of community: reclaiming an autistic identity online. *Journal of Applied Communication Research*, 43(3), 336–356. <https://doi.org/10.1080/00909882.2015.1052829>
- Robertson, S. (2010). Neurodiversity, quality of life and autistic adults: Shifting research and professional focuses onto real-life challenges. *Disability Studies Quarterly*, 30(1).

- Silverman, C. (2011). *Understanding autism: Parents, doctors, and the history of a disorder*. Princeton University Press.
- Sinclair, J. (2005). *Autism Network International: The development of a community and its culture*. Autism Network International [Online article]. Retrieved from: http://www.autreat.com/History_of_ANI.html
- Sinclair, J. (2010). Being Autistic Together. *Disability Studies Quarterly*, 30(1). <https://doi.org/10.18061/dsq.v30i1.1075>
- Singer, J. (1999). Why can't you be normal for once in your life?' From a 'problem with no name' to the emergence of a new category of difference. In M. Corker & S. French (Eds.), *Disability discourse* (pp. 59-67). Open University Press.
- Sonne, T. (2019 January, 10). *Why people with disabilities are your company's untapped resource*. *World Economic Forum*. [online]. Retrieved from: <https://www.weforum.org/agenda/2019/01/disabilities-autism-in-employment-thorkil-sonne/>
- Timimi, S., & McCabe, B. (2016). What have we learned from the science of autism? In K. Runswick-Cole, R. Mallett, & S. Timimi (Eds.), *Re-thinking autism: Diagnosis, identity and equality* (pp. 30-48). Jessica Kingsley Publisher.
- Timimi, S., Gardner, N., & McCabe, B. (2010). *The myth of autism: Medicalising men's social and emotional competence*. Palgrave Macmillan.
- Verhoeff, B. (2013). Autism in flux: A history of the concept from Leo Kanner to DSM-5. *History of Psychiatry*, 24(4), 442-458. <https://doi.org/10.1177/0957154X13500584>
- Verhoeff, B. (2015). *Autism's anatomy: A dissection of the structure and development of a psychiatric concept*. Unpublished doctoral thesis. University of Groningen.
- Walker, N. (2013). *Throw away the master's tools: Liberating ourselves from the pathology paradigm*. Neurocosmopolitanism.com [blog post] Retrieved from <http://neurocosmopolitanism.com/throw-away-the-masters-tools-liberating-ourselves-from-the-pathology-paradigm/>
- Waterhouse, L. (2013). *Re-thinking autism: Variation and complexity*. Elsevier.
- Wing, L., & Gould, J. (1979). Severe impairments of social interactions and associated abnormalities in children: Epidemiology and classification. *Journal of Autism and Developmental Disorders*, 9(1), 11-29. <https://doi.org/10.1007/BF01531288>
- Woods, R., Milton, D., Arnold, L., & Graby, S. (2018). Redefining Critical Autism Studies: A more inclusive interpretation. *Disability & Society*, 33(6), 974-979. <https://doi.org/10.1080/09687599.2018.1454380>
- Wylie, P. (2014). *Very late diagnosis of asperger syndrome (autism spectrum disorder): How seeking a diagnosis in adulthood can change your life*. Jessica Kingsley Publishers.
- Young, I. M. (1994). Gender as seriality: Thinking about women as a social collective. *Signs: Journal of Women in Culture and Society*, 19(3), 713-738. <https://doi.org/10.1086/494918>
- Zachar, P. (2000). Psychiatric disorders are not natural kinds. *Philosophy, Psychiatry, & Psychology*, 7(3), 167-182.
- Zachar, P. (2015). Psychiatric disorders: Natural kinds made by the world or practical kinds made by us? *World Psychiatry : Official Journal of the World Psychiatric Association (WPA)*, 14(3), 288-290. <https://doi.org/10.1002/wps.20240>