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Perceiving 'Other' Minds

Autism, 4E Cognition, and The Idea of Neurodiversity[1]

The neurodiversity movement has called for a re-thinking of autistic mindedness. It rejects the commonplace tendency to theorize autism by foregrounding a set of deficiencies *in behavioral, cognitive, and affective areas. Instead, the idea is, our conception of autistic mindedness ought to foreground that autistic persons, often in virtue of their autism, experience the world in manners that can be immensely meaningful to themselves and to human society at large. In this paper I presuppose that the idea of neurodiversity is worth taking seriously and I explore to what extent it can be accommodated within a 4E cognition framework by scrutinizing two 4E approaches to autistic mindedness: Shaun Gallagher's interactionism (2004 & 2008) and Hanne De Jaegher's autopoietic enactivism (2013). Although these accounts share a number of theoretical commitments, they are also marked by different points of emphasis. Though seemingly innocuous, I show that these differences end up having a significant impact on how autistic mindedness is brought in view and how, correspondingly, the idea of neurodiversity can get a foothold.*

Significant challenges in the area of social cognition are ubiquitous among persons on the autism spectrum. According to the standard view, these challenges stem from the fact that autistic persons either lack or have a profoundly deficient Theory of Mind [ToM] mechanism (Cf. Baron-Cohen 1995; Frith & Happe 1999).[2] This mechanism is thought to enable an understanding of people's behavior as governed by their beliefs, desires, and intentions. Put differently, ToM is deemed responsible for the ability to relate to people as 'psychologically thick subjects' who experience the world from their own distinctive perspective. In its most extreme form, the ToM deficit view of autism, or ToMD, suggests that autistic persons are mind-blind; that they lack a robust understanding of their own mind and of other minds; that they move in a world bereft of psychological significance and are themselves 'psychologically thin' subjects of experience (Cf. McGeer 2009).

A growing body of testimonial literature from persons on the autism spectrum has started to put pressure on the ToMD picture of autistic persons as mind blind. This literature reveals the rich inner lives of autistic persons and the astuteness with which many autistics experience similarities but also emphatic differences between their perspective onto the world and the perspective enjoyed by typically developed social agents or *neurotypicals*. Educator Wendy Lawson, for instance, speaks of her passion to explicate her different outlook onto the world as a way of instilling empathy and understanding in neurotypicals: 'I am able to share my experiences with others and shed light on much of my autistic world. This is my passion. I love teaching and helping others to 'see' something that, perhaps, they had been blind to before' (in Barnbaum 2008, 69). In a similar vein, Gordy Baylison, a young nonspeaking autistic man, aspires to

[1] This paper would have looked very different if it wasn't for the very thoughtful in-depth comments that I received from two anonymous reviewers. I have also benefitted from the feedback I received at the Reconceiving Cognition conference at the University of Antwerp (June 2018), in particular from Giovanna Colombetti, Erik Rietveld, Thomas van Es and Jo Bervoets (who also provided feedback on an earlier draft). Finally, I would like to thank Sabine Roeser, Neelke Doorn and Giulio Mecacci for comments on an empathy and autism talk, which shaped the ideas I articulate in this paper.

[2] False-belief tests are commonly invoked as crucial empirical evidence for ToMD. Yet a fair number of persons on the spectrum pass false-belief tests with relative ease (Cf. Gallagher 2004). Nevertheless, ToMD's validity is still widely assumed. See, for instance, dr. Emily Rastall's 2016 blogpost "Autism and Theory of Mind," posted on "theautismblog" and linked to the Autism Center at Seattle Children's Hospital.

improve the notoriously fraught interactions between autistic persons and law-enforcement when he writes:

> This letter is not a cry for pity, pity is not what I am looking for … I love myself just the way I am, ... This letter is, however, a cry for attention, recognition and acceptance. With your attention, I can help you recognize the signs of nonspeaking autism. If you can recognize the signs, then you will be able to recognize our differences which then leads to the understanding of those differences, which brings us to the wonders of acceptance. (2016).

The desire to be recognized by and connect with neurotypicals expressed in Baylison's letter would make little to no sense if his autism situated him in a world devoid of psychological significance. Baylison's letter also underscores that he loves himself 'just the way' he is. Baylison is not an anomaly. Indeed, despite the sometimes profound challenges that they confront in navigating the social world, and despite the fact that these challenges place them at an above average risk for various forms of social alienation and physical and emotional abuse, many persons on the autism spectrum value their autistic mind and resist characterizations of their lives as pathological or deficient (Cf. Baggs 2007; Grandin 2006; Sinclair 1993).

The idea that autistic people make sense of the world in a manner that can be immensely meaningful to autistic individuals themselves (and human society at large) lies at the heart of the neurodiversity movement.[3] This movement calls for a shift away from *deficiency* in how we theorize 'autistic mindedness.'[4] As Jami L. Anderson, philosopher and mother of an autistic son puts it, 'Valuing neurodiversity means … regarding autistic individuals as full persons rather than as broken beings in need of repair. It also means that rather than regarding autistic neurological structures as '*defective'* or '*disordered'*, one should regard autistic neurology as worth valuing' (Cf. Anderson 2013, 126-7). I take neurological here to be a stand-in term for mindedness broadly construed. The neurodiversity movement does not restrict itself to claims pertaining merely to subpersonal neurological structures and is very much concerned with the idea that there are different ways of perceiving, making sense of the world, having reasons for action, etc. Indeed, Anderson and Cushing (2013) point to an important link between embracing the idea of neurodiversity and understanding autism's distinct phenomenology: 'If the phenomenology of autism were better understood and appreciated … perhaps autism could be seen as having value in and of its own right' (11). I take their suggestion to be an important one and I will revisit it at various moments in the paper.

For one thing it seems that the testimonial literature from autistic people ought to play an important role in coming to a better understanding of autism's phenomenology. But the meaning one attributes to these testimonials is intimately tied to one's theoretical outlook on autistic mindedness. Victoria McGeer, who has pointed out that ToMD seems to demand a profound skepticism about the kind of testimonials offered by Lawson, Baylison and many others, warns of an 'intellectual myopia,' where 'the very kind of reports that might encourage some serious rethinking of the ways in which a theory like the ToM deficit account misleads us as to the thickness of autistic mental life are, by virtue of that self-same deficit account, denied any real credibility' (2009, 527). If the idea of neurodiversity is worth taking seriously, which is a

[3] The neurodiversity movement doesn't just speak on and for autism but is typically considered to include other conditions – or, rather – cognitive variations, such as AD(H)D, dyslexia and tourettes (Cf. Silberstein 2015). When to regard something as a cognitive variation and when to label it as a cognitive deficiency or (psycho)pathology is an undeniably important question, but beyond the scope of my argument.

[4] I use the term 'autistic mindedness' for convenience sake to refer to a range of cognitive, affective, and behavioral forms of relating to the world typically associated with persons on the autism spectrum. It has to be noted, however, that speaking in generalizing terms about autistic 'mindedness' is problematized by how we have come to theorize autism in recent years, namely as a spectrum disorder that is expressed in a variety of ways in different individuals (Cf. Silberman 2015; Grandin 2009).

presupposition of this paper, and if this idea cannot be properly accommodated – but is in fact more likely to be treated with skepticism - when adopting the standard ToMD approach to autism, then we are warranted in exploring alternative conceptions of autistic mindedness and see how they fare instead.

With an eye to this task, I turn to the ever-growing field of *embodied embedded extended* and *enactive* cognition, also referred to as *4E cognition*. 4E cognition harbors a variety of subtly different takes on the view that cognition is the activity of a living *embodied embedded* organism, whose cognitive apparatus *extends* into and is shaped by its material and social environment and who has a stake in the world whose meaning it helps *enact* (Clark 2008; Colombetti 2014; Gallagher 2005; Noë 2004; Rietveld 2008; Thompson 2007). In line with the phenomenological tradition they are indebted to, many 4E thinkers have focused their efforts not only on offering accounts of typically developed (human) cognition, but also on (re)describing and explaining cognitive 'disorders' such as autism.[5] 4E proposals that have rejected ToMD and opened up new ways of understanding and explaining the cognitive, affective, experiential and behavioral dimensions of autism, particularly as they pertain to social cognition, have been offered by Fuchs (2015), Gallagher (2004 & 2008), Hutto (2003), De Jaegher (2013), Krueger & Maiese (2018) and Zahavi & Parnas (2003), just to name a few.

Some of these thinkers have started to explicate how their 4E account opens up a more inclusive approach to autism (Cf. De Jaegher 2013; Krueger & Maiese 2018). To my knowledge, though, no discussion has focused specifically on whether (and how) 4E approaches to autism and social cognition can accommodate the idea of neurodiversity, where, to repeat, the idea of neurodiversity proposes to understand autism (and perhaps other 'disorders' such as ADHD, dyslexia, and Tourette Syndrome) not as a deficiency but as a cognitive variation in human mindedness that can be considered valuable both to the autistic individual herself and society at large. My aim here is to initiate this discussion and bring out its relevance. I will focus primarily on two different 4E approaches to autism, namely Shaun Gallagher's *interactionism* (2004; 2008) and Hanne De Jaegher's *autopoietic enactivism* (2013). In many ways these approaches are compatible and like-minded. Yet they also harbor some subtle but ultimately important differences. I first discuss Gallagher's interactionism. I show that, despite several attractive features, his account harbors a form of what I call *philosophical neurotypical centrism*, which contributes to a picture of autistic mindedness in terms of its deficits. I then turn to De Jaegher's autopoietic enactive perspective on autistic mindedness and I show how her approach avoids Gallagher's 'deficit approach.' There is, however, a critical note to be raised about De Jaegher's perspective as well. To bring this out, I conclude the paper by bringing in Krueger and Maiese's (2018) recent extended mind approach to autism. All in all it is not my aim to defend one proposal tout court over the other, but (1) to bring out the significance of discussing 4Es resources for accommodating the idea of neurodiversity and (2) to make explicit how seemingly innocuous choices, such as the theoretical starting point one adopts in articulating one's view of human mindedness, can have significant consequences, not in the least for those whose mind one is attempting to bring in view theoretically.

Gallagher's Interactionist Approach to Autism: Prioritizing The Direct Perceptual Phenomenology of Everyday Social Cognition

[5] *Disorder* has been placed in quotation marks here to signal that the characterization of autism as a disorder is not without controversy and has come under pressure from representatives of the neurodiversity movement. While critically challenging the idea of autism as a disorder, it still seems crucial to be able to make relevant distinctions between expressions of neurodiversity warranting to be celebrated and aspects of what it means to be autistic that are undeniably crippling for individuals (and their significant others) and in need of amelioration and therapeutic intervention. It is beyond the scope of this paper to go into how this distinction can be made, but I briefly touch on it in the conclusion.

I will begin by looking at Gallagher's interactionist approach to autism, which he presents via a critical engagement with ToMD. His main move is to question the underlying presupposition that ToM counts as an accurate theory of typically developed social cognition, such that a deficiency in ToM can be invoked to explain problems with social cognition in autistic persons (Gallagher 2004 & 2008; Gallagher & Varga 2015). An important step in Gallagher's argument is to show that ToM accounts work with a misguided phenomenology of human social interaction (Gallagher 2004 & 2008). It is by attending to the phenomena, by noting how other minds are typically manifest to us in our everyday dealings with them, that Gallagher presents his interactionist approach to social cognition generally and to autism specifically. The aim of this section is to trace how Gallagher's approach to autism emerges out of this trajectory – the trajectory of critiquing ToM for its misguided phenomenology and of presenting his account of social cognition on the basis of a different picture of the phenomena. I conclude the section by pointing out some advantages to Gallagher's account with regard to the idea of neurodiversity. In the next section I articulate my concern that Gallagher's approach harbors a form of philosophical neurotypical centrism.

Since Gallagher's interactionism takes shape against the backdrop of a rejection of ToM, let's begin by taking a brief look at some of ToM's main commitments.[6] From the perspective of ToM, social cognition reflects a sophisticated ability to acquire reliable information about the mental – a sphere that is theorized as hidden, closed-off, invisible. In the words of Alan Leslie: 'One of the most important powers of the human mind is to conceive of and think about … other minds. Because the mental states of others … are completely hidden from the senses, they can only ever be inferred' (Leslie 2004, 164. See also Nichols & Stich 2003). According to ToM, what we see when we perceive other people is bare physical behavior that is 'in principle devoid of meaning for the observer' (Gallese 2009, 520-21). Qua explanandum, social cognition is thus approached as the (Cartesian) problem of other minds.[7] In Gallagher's words: 'In setting up the solution to social cognition, … [ToM] models share the …supposition [that] social cognition is a problem (the 'problem of other minds') because we lack direct access to other minds. Since we cannot directly perceive the other's thoughts, feelings, or intentions, we need some special cognitive process (theorizing, simulation) that will allow us to infer (mindread, mentalize) mental states in others (2008, 164). In response to this question, ToM accounts typically offer two different types of explanans, namely Theory-Theory [TT] or simulation theory [ST].[8] TT comes in a variety of forms, but in its general contours it holds that social cognition is enabled by the possession of a *theory* (typically cashed out at a neural modular level), which supports law-like generalizations that enable a cognizer to infer which mental states are to be reliably linked to observed behavior or to other already established mental states (Cf. Goldman 2012; Ravenscroft 2010). ST, by contrast, claims that we make sense of others by placing ourselves in their shoes, which we can achieve because we have a direct experiential access to our own feelings, desires, beliefs, and intentions that we can use to run simulations to arrive at a sense of the other's perspective. Their many differences aside, both theories hold that the perception of another person in her physical manifestation is by itself psychologically meaningless. Gallagher emphasizes that TT and ST are also broadly united in accepting a certain phenomenological characterization of sociality. According to this picture, our engagements with other minds is primarily a matter of 'try[ing] to get into the other person's mind'– an endeavor that is grounded

[6] My sketch of ToM is admittedly reductive. I believe this is warranted by the fact that I discuss ToM primarily to show how an engagement with it shapes Gallagher's own positive account of social cognition.

[7] Thanks to an anonymous reviewer for pushing me on the distinction between social cognition captured at the level of explanans and explanandum.

[8] There has been much debate as to whether ToM– whether in TT or ST form– operates on a sub-personal level that runs its course automatically, on a personal-level that can be cashed out phenomenologically and that involves an explicit reliance on inferential and simulating processes, or whether it involves a hybrid mix of the two. These nuances are not immediately relevant for my discussion.

in third-personal observations of behavior paired with predictions about the allegedly hidden mental states most likely responsible for the behavior in question (Gallagher 2007, 354).[9]

Gallagher stresses that this observation-prediction phenomenology 'simply does not match up to what phenomenology tells us about our everyday interactions.' He adds that 'For the most part, according to the phenomenological evidence, we are in interactive relations with others that involve modes of understanding that are pragmatic and evaluative. Our interaction is based on environmental and contextual factors, rather than mentalistic or conceptual, explanatory or predictive attitudes' (2004, 202). Following a long line of phenomenologists, Gallagher also emphasizes that in these pragmatic interactive contexts, our experience of others as expressive minded intentional agents is *Direct Perceptual*:

> In most of our ordinary and everyday intersubjective situations we have a direct, perception-based understanding of another person's intentions because their intentions are explicitly expressed in their embodied actions. This kind of primary understanding does not require us to postulate some belief or desire that is hidden away in the other person's mind. To put it most bluntly, the mind conceived as a set of propositional attitudes simply does not come into it (2004, 205).

By attending to the phenomena and foregrounding the direct perceptual nature of how we often make sense of others, a different account of the explanandum emerges. The problem of other minds – which asks how we bridge the gap between observed physical behavior and hidden mental states – disappears and changes into the following question: 'what explains our largely effortless direct perceptual grasp of the minds of others as expressed in their bodily behavior?'

The term *Direct* in Direct Perceptual can be somewhat misleading. To be sure, it captures *in part* the idea that our perceptual experience of others as expressive intentional minded agents is, to a certain degree, bedrock. As Gallagher and Dan Hutto put it:

> A primary, perceptual sense of others is already implicit in the behavior of the newborn. … infants are able to distinguish between inanimate objects and people. The fact that they imitate only human faces suggests that infants are able to parse the surrounding environment into those entities that perform human actions (people) and those that do not (things) …For the infant, the other person's body presents opportunities for action and expressive behavior. … it is a perceptual capacity that is '*fast, automatic, irresistible*' (Gallagher & Hutto 2008, 4, my italics).

I should note that the language of 'fast, automatic, [and] irresistible' to characterize an infant's sensorimotor responsiveness to others is not universally agreed upon by researchers working in the 4E tradition. Vasudevy Reddy, for instance, stresses precisely that 'imitation by newborns *doesn't have the immediate and automatic character* of other actions known to be reflexes' that it 'is not inevitable or even predictable," and that it is "often *effortful* and creative rather than *effortless'* (2008, 52-3, my italics). 4E accounts of social cognition do typically agree though, that, although bedrock to some degree, it is through a scaffolding process set in motion through an infant's investment in second person interactions that she acquires an increasingly complex sensorimotor, perceptual and emotional repertoire for perceiving and responding to other persons as expressive intentional beings. In the literature, an infant's (gradually expanding) dyadic perceptual responsiveness to others as minded persons is termed *primary intersubjectivity* (Trevarthen 1979). As Gallagher stipulates: 'By primary intersubjectivity, we mean the innate or early developing capacity to interact with others manifested at the level of perceptual experience—we see or more generally perceive in the other person's bodily movements, facial gestures, eye direction, and so on, what they intend and what they feel' (2004, 204). But though

[9] For a paradigmatic sketch of this 'observation-prediction' phenomenology see Dennett 1987, 17

foundational, primary intersubjectivity is only one part of the story when it comes to cashing out social cognition as largely a direct perceptual endeavor. After all, a typically developing infant may be perceptually responsive to the smile of another person and have an implicit understanding of the human face as affording forms of interaction that for instance a rattler does not afford. However, she is still a far cry from being able to directly perceive a smile as expressing, say, a swift moment of solidarity with a co-worker who blundered during an important office meeting.

According to Gallagher, the ability to perceive *that* kind of smile, the ability to perceive immense subtleties in expressive behavior, does not typically depend on the kinds of inferential or simulationist capacities assumed in ToM accounts of social understanding. Instead, it relies upon *secondary intersubjectivity*, a developmental phase that starts around the first year and that connotes the expansion of the infant's world from dyadic forms of social interaction to triadic ones. In secondary intersubjectivity, infants move from attending and responding to the expressive bodies of their caretakers to the objects that those caretakers interact with, thus creating scenes of shared attention and setting in motion the acquisition of socio-cultural practical know-how surrounding shared objects of attention: 'in situations like this, this is what we do with cups,' 'this is what we do with keys,' 'this is what we *don't* do to the kitty.'

This expansion of the infant's world from a dyadic to a triadic environment is furthermore scaffolded by *narrative practices* that build on secondary intersubjectivity (Gallagher 2006) and also by what Gallagher calls *mental institutions* (Gallagher & Crisafi 2008).[10] Mental institutions, such as universities, choirs, baseball teams and legal systems, hold together a body of interrelated values, norms, practices, tools and technologies that enable and 'extend' individual cognition in a multiplicity of ways. There are certain cognitive moves I would not be able to make without being embedded in these institutions (obtaining a college degree would be senseless without an embeddedness in the norms, rules, practices tools and technologies that make up a university). Social cognition, too, is extended through participation in mental institutions. When I sit down in a lecture hall at a university, it is in virtue of my familiarity with this mental institution that many of the actions and expressions of the speaker have a distinct and immediately perceptual sense: that she positions herself in the lecture hall at center stage, the emphasis she places on certain concepts, the pauses she takes as indicating moments of particular relevance. I mention Gallagher's notion of mental institutions here because Krueger and Maiese (2018) have fruitfully put it to use in an effort to develop a more 'inclusive approach' to some of the 'deficiencies' typically attributed to autistic individuals. I will come back to their account in the final section of this paper.

The question to ask now is, how does Gallagher's multi-layered approach to social cognition – with secondary intersubjectivity building off perceptual, embodied, and proprioceptive skills and capacities characteristic of primary intersubjectivity – help explain autistic mindedness? And to what extent can such an explanation be seen as advantageous over the more standard ToM approach from a neurodiversity perspective? One of the issues with a ToM approach to autism, Gallagher points out, is its somewhat single-minded preoccupation with deficits in social cognition understood as a higher-order mind-reading endeavor, when in fact we can identify a range of behavioral, affective, and cognitive tendencies specific to people on the autism spectrum that seem central to understanding autistic mindedness, including 'a variety of sensory and motor behaviors such as oversensitivity to stimuli, and repetitious and odd movements' (Gallagher 20014, 209). Gallagher's 4E interactionism has the resources to integrate a number of these various dimensions of autistic mindedness, since it works with an explicit link between social understanding and sensorimotor skill-development. Discussing observed behaviors in a group of infants all diagnosed as autistic later on in childhood, Gallagher writes:

[10] It is beyond the scope of my argument, though, to focus on Gallagher's account of "narrative competency" and his "implicit framing hypothesis" (Gallagher 2006).

> Movement disturbances were observed in all of the infants … These include problems in lying, righting, sitting, crawling, and walking, as well as abnormal mouth shapes. They involve delayed development, as well as abnormal motor patterns, for example, asymmetries or unusual sequencing in crawling and walking. Just these kinds of sensory-motor processes have been shown to be important in explaining some basic aspects of social cognition. …problems with our own motor or body-schematic system could significantly interfere with our capacities for understanding others. Accordingly, it is possible that developmental problems involving sensory-motor processes may have an effect on the capabilities that make up primary intersubjectivity, and therefore the autistic child's ability to understand the actions and intentions of others (Gallagher 2004, 210-11).

The significance of understanding some of the key autistic challenges in social cognition as involving a lack of direct perceptual access to the expressive bodily behavior of others can be illustrated with one of Oliver Sacks' sketches of Temple Grandin, who speaks of being excluded as a child, from the kind of 'swift' 'magical communication' that characterizes how neurotypicals tend to navigate the social world:

> Something was going on between the other kids, something swift, subtle, constantly changing - an exchange of meanings, a negotiation, a swiftness of understanding so remarkable that sometimes she wondered if they were all telepathic. She is now aware of the existence of these social signals. She can infer them, she says, but she cannot perceive them, cannot participate in this magical communication directly. … This is why she often feels excluded, an alien (Sacks 1995, 273).

Oliver Sacks adds that Grandin 'learned to 'decode" the expressions of others (1995, 269); that she had to ''compute' others' intentions and states of mind, to try to make algorithmic, explicit what for the rest of us is second nature' (1995, 270). Note that what seems to make Grandin's relation to other minds atypical is precisely that she relies heavily on inferential, computational ToM-like tools; that she has to get on without enjoying an immediate perceptual grasp of the intricate ways in which people's facial expressions, tones of voice, and bodily postures make their state of mind manifest. This has led Gallagher and other 4E thinkers to suggest that it is not an absence but precisely a heavy reliance upon a ToM mechanism that enables Grandin and autistics like her to navigate the social world and interpret the behaviors of others (Cf. Gallagher & Vargas 2015; Zahavi & Parnas 2003).[11]

Although it is undeniable that Grandin does not have effortless automatic direct perceptual access to the expressive minded behavior of others, it is not quite right to conclude that she is mind-blind. After all, she is able to perceive others as the kinds of beings who warrant her expensive 'computing process.' It thus seems more accurate here to speak of a partial obscurity. Though generally expressive, an instance of human behavior is typically perceptually underdetermined 'in itself'. What makes expressions determinate are, to a large degree, shared practical contexts, background norms and practices (McGeer 2009, 524-7). Recall the earlier example of the smile thrown at a colleague in solidarity. The ability to quickly recognize the expressive significance of *that* smile draws on an array of shared social and practical background practices surrounding social hierarchies, office settings, and the like. If Gallagher is right, our full initiation into these background practices points back to secondary intersubjectivity, which in turn relies upon sensorimotor skills comprising primary intersubjectivity. On this view, autistic sensorimotor deviations from the norm will make autistically developing children increasingly out of step with their neurotypical environment, hindering the process of enculturation that facilitates direct perceptual cognition. At the same time, autistic children do develop many of the

[11] Grandin's first-personal account of the perceptual indeterminacy of people's expressive behavior is reiterated at a more general level in research on the detection of emotion-expressions in autistics (Cf. Hobson 1986).

sensorimotor skills and capacities we find in neurotypicals, though they are irregular in various respects (developmentally delayed, stylistically idiosyncratic). As such Gallagher's interactionism doesn't present autistic persons as wholly mind-blind. Instead, his approach makes room for the idea that our perceptual access to other minds comes in degrees.

Now, although Gallagher's account is in this sense better equipped than ToMD to take seriously autistic testimonials that reflect at once a separation from and a desire to connect with neurotypicals, it is questionable whether it can make genuine room for the idea of neurodiversity. As we saw with Anderson, this idea resists the widespread tendency to understand autistic mindedness in terms of deficiencies and urges us to understand the phenomenology of autism on its own terms. As I will now show, it is precisely in this respect that Gallagher's account is vulnerable to criticism.

Gallagher's Philosophical Neurotypical Centrism

We have seen that in cashing out social cognition's distinct phenomenology, Gallagher uses terms such as 'automatic' and 'effortless' while emphasizing that 'in *our* everyday encounters in the pragmatic and social contexts that characterize *our* lives, *we* gain a *perceptual grasp* of another's contextualized actions, gestures, and expressions' (2007 354).[12] It is only in 'rare' or 'puzzling cases,' Gallagher adds, that we 'try to get into the other person's mind' by observing their behavior and figuring out which mental state[s] best explain it (2004; 2007; 2008). But who exactly is included in (or excluded from) this picture of human subjects as effortlessly at home in the social world? When Gallagher says that 'ordinarily, in our everyday encounters … we gain a *perceptual grasp* of another's contextualized actions, gestures, and expressions,' we know that Gallagher's *we* does not include Temple Grandin (and others like her) who, as we saw, has to rely precisely on a decoding inferential stance to give determinate meaning to expressive behaviour that otherwise has an opacity to her that it does not tend to have for neurotypicals (Gallagher 2007, 354).

Of course, Gallagher might happily insist on precisely this point; the idea is that his phenomenological approach to social cognition in its typical, direct perceptual form helps explain the abnormalities of autistic mindedness in the context of social cognition. I want *in part* to grant the relevance of such a rejoinder. In fact, a careful phenomenological articulation of typically developed social cognition can benefit persons on the autism spectrum by giving conceptual form to what they already feel on an experiential level (e.g. the kind of alienation Grandin describes). Having one's experiences acknowledged, articulated, labeled, can by itself have enormous emancipatory potential. Still, it is worth asking whether Gallagher's prioritization of the effortlessness of direct perceptual social cognition is enough to make room for the idea of neuro*diversity*. Can it bring in view autism's phenomenology *on its own terms*?

The concern is that by prioritizing the phenomenology of typically developed social cognition and by understanding autistic mindedness in comparison to the typical, we see autistic people in terms of what they lack – of how they fall short in comparison to the typically minded. Eva Kittay, whose work in disability studies is marked by a sustained effort to challenge entrenched assumptions about how the cognitively disabled compare to "normal minds," puts this point as follows: 'When we assert that A is [*or is not*] like B, we take B as the template—its features are salient—and the features of A not found in B lose their salience. That is, if B is characterized by the features x, y, and z, then we come to see A only in terms of its similarity with respect to x, y, and z, even if in other contexts A's features, a, b, and c, are the salient ones'

[12] I italicized 'our' and 'we'.

(2009, 612-13). A similar concern has been raised by Miriam Kyselo (2016).[13] While developing an autopoietic enactive approach to 'disorders of the self,' Kyselo critiques a tendency amongst certain phenomenologists to prioritize the 'perspective [that] belongs to that of the average subject who embodies a habitual sense of self which in a given society counts as acceptable or habitual experience of selfhood.' She adds that 'What … is missing is an understanding of meaning and value from the actual patient's viewpoint' (597).[14] Kyselo's analysis is specifically focused on different approaches to schizophrenia, but I wager that her concern applies equally to Gallagher's approach to autism.[15] Gallagher's manner of proceeding is as follows: to introduce his interactionist account he starts with a rejection of ToM's phenomenology and emphasizes how 'we' always already share contexts of meaning together, how 'we' interact with one another, complete one another's actions, identify each other's gestures and facial expressions effortlessly, with near automaticity. Having painted this phenomenological picture, he then switches to what are largely third-person explanatory accounts of autistic behaviors, discussing 'Movement disturbances … problems in lying, righting, sitting, crawling, and walking, … abnormal mouth shapes. … abnormal motor patterns … unusual sequencing in crawling and walking,' and the 'range of (cascading) disrupted processes' that these disturbances and abnormalities set in motion (Gallagher & Varga 2015, 131). We are given sketches of behaviors just insofar as they deviate from the neurotypical norm. The autistic perspective itself never really announces itself.

Gallagher's approach to autism in terms of deficiency is perhaps clearest in a paper in which he doesn't actually discuss autism qua disorder, but where he coins the term *philosophical autism* to label several 4E theories of perception *as deficient* for failing to acknowledge the central role that sociality plays in the constitution of perceptual meaning (Gallagher 2009). Gallagher convincingly captures that this philosophical autism stems to an important degree from the kinds of examples used to illustrate and lend support to these theories. As he puts it, we are offered 'examples from sports, dance, and ordinary motor responses like turning' (299) and 'we find elements like central nervous systems, sensory organs, skin, muscles, limbs, movements' (300-1). The point is that even though the significance of social interaction is not actively denied, these examples *create a certain picture* of perceivers who 'seemingly move about the world without meeting up with others' (301). I fully agree with Gallagher's assessment that the language we use, the examples we select, the starting-point we chose for our theory-building shape our theories in important ways. My wager so far has been that this also applies to Gallagher's own interactionist approach to autistic mindedness. Where Gallagher accuses certain 4E accounts of perception of philosophical autism, I would suggest that it is in virtue of his examples and his particular phenomenological starting-point that Gallagher sets up a picture of autistic mindedness that reflects a form of what we might term *philosophical neurotypical centrism*.

What I take to be a crucial feature of Gallagher's philosophical neurotypical centrism is the nearly unquestioned philosophical status he seems to attribute perception as putting us – i.e. neurotypicals – in contact with the minded lives of others. Gallagher invites us to see

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[13] I thank an anonymous reviewer for drawing my attention to Kyselo's account.

[14] In line with the autopoietic enactive idea that living beings are self-organizing beings who at once individuate themselves from and connect to their environment, Kyselo understands psychopathology as 'a form of self-organization that exhibits particular struggles in the oscillation between and integration of the two dimensions,' i.e. the dimensions of 'striving for emancipation and independence (distinction) and the striving for connection and openness (participation)' (2016, 611). Kyselo acknowledges that her proposal is tentative in nature. What needs to be spelled out in more detail is precisely when we want to label 'particular struggles' as struggles of a psychopathological nature. Currently, Kyselo's proposal seems broad enough to capture cases that clearly don't count as instances of psychopathology (e.g. a teenager, caught up in an awkward overzealous attempt at emancipatory distinction while at the same time experiencing her deep dependence on others). Admittedly, this is a more general problem about defining psychopathologies that the DSM-V itself struggles with (Cf. Stein et al 2010).

[15] Gallagher is certainly not the only 4E thinker presenting autism in terms of its deficiencies. As Thomas Fuchs puts it explicitly, autism is 'a paradigmatic disorder,' that 'has become a major topic of research in phenomenology' (2015, 195). Fuchs does acknowledge, in passing, that some of the sensorimotor abnormalities in autistic persons "*may* have some positive effects" (2015, 197 my italics).

neurotypicals as 'social-cognition experts' who directly and effortlessly perceive the expressive bodily behavior of others as psychologically meaningful in highly precise, determinate ways. Now although this is *arguably* a fair, phenomenologically accurate characterization of how neurotypicals often (though certainly not always) relate to *each other*, neurotypicals tend to quickly run into the limits of their expertise when it comes to understanding the expressive embodied behavior of people on the autism spectrum.[16] Many of the typical autistic mannerisms, the bodily forms of expression and styles of movement – echolalia, self stims, gait etc. – remain opaque to neurotypicals at the direct perceptual level. Victoria McGeer has pointed out that this breakdown in neurotypical perceptual social cognition has likely played a guiding role in the theoretical disposition to label autistic persons as 'subjectively thin' (2004, 240). It seems to me that this disposition is reinforced when it is built into one's theory that social cognition is typically of a direct perceptual effortless nature. Without understanding the phenomenology of autism on its own terms, without ascribing a central role in our accounts to the perspectives of autistic persons and what their ways of moving and expressing mean for them, an emphasis on social cognition as direct perceptual – an over-assurance in the idea that 'we' will simply and automatically see mindedness expressed in behavior – will set the stage for a confirmation bias in our explanations of autistic expressions of mind as deficient and pathological; if 'we' the perceptual social cognition experts don't directly and effortlessly see it, meaning must not be there.

De Jaegher's Approach to Autism: The Autonomy-Perspective and Participatory Sense-Making

In her essay "Embodiment and Sense-Making in Autism," Hanne De Jaegher raises concerns similar to the one I just discussed. She states that '[o]ften, the particularities of the ways in which people with autism behave are seen as disturbed or disruptive,' adding that this in turn has an effect on the kinds of research questions we do and do not ask: 'Two questions not generally asked in current research are: *why do people with autism move and perceive in the way that they do*, and *what does this have to do with how they engage with and understand the world, others, and themselves*' (2013, 8). In answering these questions, De Jaegher shifts away from Gallagher's approach to autistic mindedness in two ways important for my purposes: 1) she places the perspective of the autistic person – what their embodied cognitive and affective ways of relating to the world means to them – at the center of her account of autistic mindedness, and 2) she offers an inter-individual approach to social cognition that opens up a relational view of some of the 'deficits' typically attributed in full to autistic individuals.

Let's start with the first point. The idea that an account of autistic mindedness ought to prioritize autistic behavior *not* in the first instance in terms of how it contrasts with typically developed behavior, but in terms of what it might mean to the autistic person herself follows directly from De Jaegher's autopoietic enactive starting point. From an autopoietic enactive viewpoint, all living bodily beings are in the business of constituting and maintaining themselves as precarious bounded unified centers of activity. The ongoing activity of bounded self-constitution at once individuates a living body as a self *and* opens it up to an environment that is meaningfully organized in correlation with its self-maintaining activities (Cf. Thompon 2007). Autopoietic enactivists stipulate that it is precisely as autonomous beings who enact a meaningful relation to their environment under precarious conditions that living beings are at heart *cognitive*

[16] There is plenty of evidence that similar breakdowns in perception occur in contexts of race (pain-expressions of laboring or pregnant African-American women are, for instance, dismissed or misinterpreted at a disproportionate rate). Gallagher is admittedly aware of these kinds of concerns. His critique of philosophically autistic accounts of perception includes the charge that they "leav[e] out relevant social factors that involve biography, gender, race or age." (2009, 300). Gallagher does not, however, fold these considerations back into his own account of social cognition as an effortless automatic direct perceptual endeavor.

beings: 'what cognition means in this context … is behavior or conduct in relation to meaning and norms that the system itself enacts or brings forth on the basis of its autonomy' (Thompson, 2007, 126). The enactive term for cognition thus construed is *sense-making*, which at once captures the idea that living organisms actively enact and participate in what matters to them (they make sense or meaning) and that they are in the business of orienting themselves in the world (to cognize the world is to make sense of it). De Jaegher highlights that cognition understood as sense-making has an ineluctably personal dimension:

> The enactive approach to cognition, … uses the notion of *sense-making* to define cognition as the meaningful way in which an agent connects with her world. It brings a dimension of *personal significance* right to the core of cognition. Sense-making is based in the inherent needs and goals that come with being a bodily, self-organizing, self-maintaining, precarious being with a *singular perspective* on the world. Sense-making plays out and happens through the embodiment and situatedness of the cognitive agent: her ways of moving and perceiving, her affect and emotions, and the context in which she finds herself, all determine the significance she gives to the world, and this significance in turn influences how she moves, perceives, emotes, and is situated (2013, 1, my italics).

De Jaegher presents this approach – which foregrounds how a *particular* living being maintains her autonomy in her environment through embodied activities – as able to theorize autism in a manner that moves beyond a narrow focus on deficiencies. Instead it can explain various autistic behaviors often labelled as meaningless or pathological as motivated by an experiential life that is internally coherent and experienced as intrinsically meaningful. As De Jaegher puts it: 'In general, the sensorimotor and affective aspects of autism can be seen as alternative ways of perceiving the world or also as strategies to cope with it … If autistic embodiment is intrinsically linked with autistic sense-making, we can hypothesize that many autistic people will find joy or significance in behaviors and embodied styles of sense-making that are considered 'autistic'' (2013, 9). De Jaegher expands on this idea by pointing to the aesthetic meaning that perceptual experience can have for autistic persons:

> An often-ignored factor in perception is the aesthetic element. There may be a value to some autistic sense-making which is simply that of enjoying or remarking on patterns—patterns in space, in ideas, in numbers, in size, in time. Rich patterns exist everywhere in the world, and many autistic people value them, care about them, even enjoy them. This makes ignoring the pattern or the detail doubly difficult. People with autism not only do not initially or without prompt or necessity perceive holistic meaning, but they may feel that they will lose something salient if they (are made to) try to capture the gist of something (2013, 9).

A powerful testimony insisting on precisely this idea is offered in Amanda Baggs' video 'In my Language' (2007). In this video, Baggs shares the fully immersed active embodied perceptual dialogue she is constantly engaged in with different features of her environment. While humming and rocking her body, Baggs repeatedly runs her fingers across a computer keyboard, circles her hand through running water, twirls a pearl necklace in the air. In doing so, she responds to and brings to life different visual, auditory and tactile patterns around her. Baggs stresses that 'far from being purposeless, the way that I move is an ongoing response to what is around me.' Echoing the concern raised earlier, namely that neurotypicals bring their own normative standards to bear on their interpretation of behaviors characteristic of autistic embodiment, Baggs adds

> Ironically, the way that I move when responding to everything around me is described as being in a world of my own, whereas if I interact with a much more limited set of responses

> and only react to a much more limited part of my surroundings, people claim that I am opening up to true interaction with the world. ... The way that I naturally think and respond to things looks and feels so different from standard concepts or even visualization that some people do not consider it thought at all, but it is a way of thinking in its own right (2007).

Baggs' interactions with her environment are *at least in part* clearly meaningful for her. I say in part because, undeniably, a full commitment to her style of engaging the world thoughtfully also creates profound social and practical challenges. It seems, then, that we need a different way for thinking about a range autistic behaviors typically labelled as meaningless and pathological. Relatedly, we also need a different perspective on some of the genuine challenges that autistic persons and their social environment are confronted with – a perspective that can assign a different place for the deficiencies typically located wholly inside the autistic individual.

For this we can turn to the second methodological point of emphasis in De Jaegher's account. Together with the notion of precarious autonomy, De Jaegher's approach to social cognition generally and to autism specifically foregrounds the formative role of *interaction processes* themselves. In fact, in a collaboration with Ezequiel Di Paolo, De Jaegher presents the emphasis on interaction processes themselves as a subtle but decisive difference between their approach to social cognition and the approach developed by Gallagher (De Jaegher & Di Paolo 2007). De Jaegher and Di Paolo suggest that Gallagher's theory is, in a way, still too individualistic, too narrowly focused on skills and capacities within an agent and not sufficiently radical in its understanding of social interaction as transformative and often constitutive of the socially enacted meanings available to each interacting agent. De Jaegher and Di Paolo have introduced the term *participatory sense-making* (the intersubjective variant of enactivism's term for cognition, i.e. sense-making) to capture this thought:

> *Participatory sense-making* … [is] the coordination of intentional activity in interaction, whereby individual sense-making processes are affected and new domains of social sense-making can be generated that were not available to each individual on her own. […] It is not reducible to individual actions or intentions but installs a relational domain with its own properties that constrains and modulates individual behavior (2007, 497 & 494).

To a large degree, De Jaegher and Di Paolo's account of social cognition in terms of participatory sense-making is compatible with Gallagher's account of social cognition in terms of primary and secondary intersubjectivity.[17] It is often precisely through a mutual sensorimotor attunement to the other's fine-grained bodily expressivity that our actions are coordinated with each other and that new relational domains are enacted. At the same time, with the focus on participatory sense-making comes a shift in how the skills that enable social cognition are theorized. As De Jaegher puts it: 'With this view comes a particular approach to social skill. Social skill is evidenced in interactive performance that cannot be conceived purely as an individual feat. Social skill is the ability to deal with the regularities (and irregularities) of the social domain provided by the actions of others. This flexibility, though partly determined individually, *is also determined by the process of interaction*' (2013, my italics). Think, for instance, of how a stumble early on in a job interview, if responded to unforgivingly by the hiring manager, can create an environment within which the candidate and the hiring manager become increasingly 'out of sync' with one another. Even though the candidate is aware of the

[17] Responding to De Jaegher & Di Paolo's critique, Gallagher (2009) maintains that participatory sense-making [PPS] bears on an aspect of social cognition (how do we enact meanings together?) different from the one he focuses on (how do we understand others as minded in the first place, such that we can go on to enact meanings together?) However, as I understand it, PPS also contributes to our successes and failures in perceiving others as minded and in becoming manifest to others as the minded expressive beings that we are (see my discussion of social skills below).

undesirable trajectory of the interaction, and even though she has access, in principle, to an arsenal of skills for attempting to get the interaction back on the rails, the setting may very well have taken on a life of its own. It would, in this instance, be both inaccurate and unfair to consider the derailed interaction strictly the result of the candidate's individual social skills breaking down.

This approach to social skills as in part activated, augmented, or diminished through our interactions with others opens up a relational approach to some of the 'deficits' in autism. Rather than theorizing autism primarily in terms of sensorimotor deficiencies that lie wholly on the side of the autistic individual, this approach suggests that what we have here are in fact mismatches between different patterns, rhythms, and expectations in embodied interaction. De Jaegher acknowledges that these kinds of mismatches 'often interfere with everyday life,' and that 'autistic sensorimotor and affective particularities' can be 'difficult to deal with, both for the person with autism and their social and familial environment.' Nevertheless, she insists on the importance of considering that '[i]t might be that the behaviors are disruptive as a consequence of their manifesting in a context that can or will not accommodate them.' Without suggesting that all 'such behaviors should simply be accepted,' De Jaegher proposes that 'dealing with them should also start from the meaning they have for the person with autism' (10). De Jaegher is reflectively aware of the pragmatic and ethical consequences of adopting her approach: 'This foundation allows to build new bridges between autistic people and their often non-autistic context, and to improve quality of life prospects' (1).

Of course, the building of 'new bridges between autistic people and their often non-autistic context,' is ultimately achieved in our practical lives. However, the wager of De Jaegher's argument, and of my own argument here as well, is that theory-building is an ineluctable part of this process. How we theorize human mindedness in its various manifestations does not float freely from how we perceive the lives of those whose minds we bring into theoretical view.

The Normativity of Social Cognition: A Critical Note on De Jaegher's Autopoietic Enactive Approach

As we saw in the previous section, autopoietic enactivism understands cognition as 'behavior or conduct in relation to meaning and norms that the system itself enacts or brings forth on the basis of its autonomy' (Thompson, 2007, 126). This suggests that the normative standard by which we are to assess the viability or health of an agent's sense-making is settled primarily in terms of that particular agent's history of environment-interactions and the extent to which her precarious autonomy is preserved throughout those interactions. Di Paolo points out that 'health, from this perspective, is very different from a statistical species-specific correlation of normality and there are consequently many ways of being healthy' (2005, 440). In the context of autism, we saw with De Jaegher that taking up an autonomy-perspective can reveal some autistic expressive behaviors typically labelled as pathological (or 'unhealthy') as intrinsically meaningful for the individual and in that sense 'healthy'. The significance of this perspective was underscored by Baggs, who invited us to see self stimulatory behavior (or 'stims') and other 'sensorimotor or affective particularities' of autistic mindedness as ways for an autistic person to enact and maintain a relationship to their environment that affirms their distinct autonomous perspective on it (Cf. SinClair 2012).

But this more inclusive conception of what it means for someone to be healthy also has its limitations. If we focus exclusively on an agent's precarious autonomy, everything is all and well insofar as autonomy is maintained. For one thing, this raises the question whether an 'autonomy-perspective' on autism can make relevant distinctions between those particularities in mindedness warranting to be celebrated and those that warrant amelioration and/or therapeutic intervention. It is beyond the scope of my argument to go into this question. What I do want to raise is the following issue: if the autonomy-perspective reveals many autistic behavioral idiosyncrasies as reflecting thoughtful ways of responding to the world, we need to explain why,

standardly, they have nevertheless been seen and interpreted *as* deficient and pathological. In this final section I suggest that we need to move beyond De Jaegher's autopoietic enactive points of focus to get this in view.

Of course, in addition to her emphasis on the autonomy-perspective, De Jaegher also stresses the importance of evaluating an agent's sense-making by considering how it is enabled and constrained by inter-individual factors. However, De Jaegher focuses primarily on dyadic real-time interactions and the kinds of mismatches that can occur between autistic persons and their neurotypical interactors. This doesn't strike me as enough either. The problem here is that in dyadic contexts we have mismatches, but we don't have in view *why* those mismatches are typically attributed to deficiencies in one of the dyadic partners (the autistic person). After all, mismatches in timing, in how we 'fall out of step' with one another and fail to bring each other in view, are a reality of all sorts of interactions between human beings (recall the example of the job interview). But though these mismatches may frustrate us, and though they may at times motivate us to break off certain relationships, they do not typically compel us to label the other's embodied expressive behavior as pathological. What we need, I suggest, is an account that explicitly situates individual and participatory sense-making in a wider socio-cultural and material world that bequeaths our perception of others with a normative dimension. To this end, I conclude my discussion of 4E approaches to autistic mindedness with Joel Krueger and Michelle Maiese's (2018) account.

Building off Gallagher's notion of mental institutions, Krueger and Maiese argue that 'the values, norms, beliefs, and practices that make up mental institutions become internalized and sedimented' (2018, 15) in 'habits of mind,' where habits of mind refer to 'our characteristic ways of attending to, interpreting, and engaging with the world' (2018, 13) As we saw earlier with my example of the university lecturer, this also applies to social cognition. My background understanding of the university as a mental institution will shape my perception of others in light of what the situation calls for (it explains my lack of surprise at the lecturer taking up center stage in the room; it casts her jokes, her pauses, in a certain light). Krueger and Maiese bring out the emphatically normative dimension that this instills in social cognition:

> For those operating within a mental institution, 'certain models of expectancy come to be established, and the patterns, which over time emerge from these practices, guide perception as well as action.' …Many aspects of social understanding are … carried by the world, scaffolded by the norms and routines that regulate our embodied interactions and habits of mind, and which have their social significance built into them. … Understanding others involves bringing shared norms to bear, for our sense of what people generally do and what they can be expected to do is linked to our views about what they *ought* to do (2018, 21, my italic).

Now here is the crux, if mental institutions shape our perceptual experience of others in a manner that is normative - if they inform whose behavior we see as conforming to how things ought to be and whose behavior we perceive as failing to do so - then mental institutions not only facilitate social perception for those who jointly participate in a certain mental institution; they also harbor the potential to perniciously shape our perceptions of those who are out of step with the norms dictated by the relevant mental institutions.

An account that explicates the link between the values, norms and practices of mental institutions and the normative expectations built into our perceptual orientation towards others helps explain why neurotypicals are prone to perceive as well as theorize the idiosyncratic behavior of autistic person's as deficient – as a sign things are not how they *ought* to be. As Krueger and Maiese point out: 'ASD habits of mind,' 'often fail to mesh smoothly with neurotypical [mental] institutions,' (13). But of course the failure to 'mesh smoothly' with neurotypical institutions could only be taken as indicative of deficiencies on the side of autistic

individuals if those institutions enjoyed an unquestioned and unquestionable normative status. Krueger and Maiese resist this view, arguing that

> the disturbance of breakdown leading to social impairments in ASD is, in an important sense, a two- way impairment, and not just confined to the head of the individual with ASD … It includes environmental features: neurotypical institutions that lack the flexibility and inclusivity needed to responsively mesh with ASD habits of mind' (29).[18]

We might say that where De Jaegher's account widened the setting for understanding autistic impairments from Gallagher's individual-focused view to a dyadic inter-individual one, Krueger and Maiese in turn widen the scope from a dyadic to a triadic inter-individual one. Of course, De Jaegher doesn't deny the formative role that wider socio-cultural and material institutions play in shaping, enabling, and thwarting social cognition. But explicitly foregrounding and spelling out how mental institutions contour our perceptions of others *in a normative sense* strikes me as deeply important for capturing why and how autistic behaviors are typically seen and theorized as deficient.

That said, efforts to challenge neurotypical mental institutions and habits of mind that feed into our perceptions of autistic person's primarily as deficient will benefit from adopting De Jaegher's autonomy-perspective. This perspective can serve as a methodological guide for understanding the phenomenology of autism on its own terms and for disrupting the sometimes unquestioned standing of neurotypical mental institutions. It is De Jaegher's emphasis on the personal dimension of precarious autonomous sense-making that theoretically underscores the relevance of taking seriously the personal testimonies of persons on the autism spectrum.

Conclusion

The aim of this paper was twofold, namely to (1) bring out the significance of discussing 4E resources for accommodating the idea of neurodiversity and (2) to make explicit how seemingly innocuous choices, such as the theoretical starting point one adopts in articulating one's view of human mindedness, can have significant consequences, not in the least for those whose minds one is attempting to bring in view theoretically. I argued that Gallagher's interactionism, though advantageous when compared to ToMD, is vulnerable to criticism from a neurodiversity perspective. By prioritizing the effortless automatic phenomenology of direct perceptual social cognition and by using this as his entry point into his account of autism, Gallagher brings in view autistic mindedness primarily if not solely in terms of deficiencies attributed to (sensorimotor) abnormalities that reside within the autistic individual. I also warned that an over-assurance in the idea that 'we' will simply and automatically see mindedness expressed in behavior, will set the stage for a confirmation bias in our explanations of autistic expressions of mind: it will steer us towards a characterization of autistic behaviors as deficient and pathological and obscure us from understanding the phenomenology of autism on its own terms. Together, what De Jaegher's and Krueger and Maiese's accounts bring out is that working towards an understanding of autism's phenomenology on its own terms has to be a bi-directional endeavor: it is as much a matter of attending to the autonomous sense-making perspective of the autistic individual as it is a matter of being mindful of how our own neurotypical mental institutions and our own neurotypical expectations in dyadic participatory sense-making are co-constitutive of how we perceive other minds, including those who are 'other' in a heightened sense of that term.

[18] Krueger and Maiese's account also helps explain why challenges experienced by autistic persons at the level of direct perceptual social cognition can lead to a profound sense of social alienation: by not participating fully in what Grandin called the 'magical communication' of subtle bodily cues and expressions, autistic persons can feel at once out of tune with a particular other with whom they interact and excluded from the wider mental institutions sustained and reinforced through the responsiveness to these subtle bodily cues.

I have tried, throughout the paper, to be simultaneously mindful of the genuine challenges that persons on the autism spectrum face, while also suggesting that many of these challenges are not necessarily attributable to deficiencies 'inside' the autistic individual. Of course, this raises the question when, if at all, it is appropriate to still speak of individual deficiencies. Relatedly, it raises the question how we can systematically differentiate between expressions of neurodiversity warranting to be celebrated and crippling deficiencies in need of amelioration and therapeutic intervention. My very preliminary suggestion here is that on a relational account of what autism means no a priori criteria for drawing this distinction can be determined; instead it will likely involve a continual assessment of how changes in the social, material, and conceptual environment can shape and improve how persons on the autism spectrum make sense of and give expression to their autism. The next step in the discussion, I wager, is to explore how the 4E literature can cash out this idea in more detail in order to take a stance on the differentiation between the 'to-be-celebrated' and the 'to-be-ameliorated.' In taking this step I hope that, for now, my contribution here serves as a reminder to take seriously the first-personal testimonies that have helped mobilize the neurodiversity movement and to consider how different bodily expressions and sensorimotor tendencies and sensitivities can be emblematic of different yet meaningful experiential lives that deserve to be understood as valuable in their own right.

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