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Original article

Incorporation in autism spectrum condition

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SUMMARY

Phenomenological approaches to autism have predominantly examined it in terms of social challenges, above all as a diminished intercorporeality, i.e. the ability of bodies of two individuals to extend and form a mutual incorporation. Incorporation refers to the way in which the body connects with other people (mutual incorporation) or with the world, with objects or tools (unidirectional incorporation) through perception and action, such that these become part of one's own body schema. In this paper, we consider autism in relation to the concept of unidirectional and mutual incorporation. The hypothesis is that autistic individuals experience challenges with mutual incorporation, resulting in social difficulties, and that instead they tend to engage in unidirectional incorporation, where there is only one active pole. However, autistic characteristics are wide-ranging and vary with age and individual abilities; hence, some autistic individuals may primarily experience or seek mutual incorporation, even if it may differ from non-autistic individuals. The tendency for unidirectional incorporation manifests itself in special interests, in a preference for perceiving objects rather than individuals and in ritualized daily routines and stereotypical behavior. A description of autism that includes incorporation allows a more comprehensive understanding of the condition, encompassing a wider range of aspects than social interaction and lets us redress a merely deficit-oriented understanding of autism.

Key words: Incorporation, social interaction, perception, phenomenology, sense-making

Introduction

Autism spectrum conditions (ASC) are characterized by deviations in social interaction on the one hand, and by stereotypical behavior and special interests on the other [1]. Until now, phenomenological approaches to ASC have primarily focused on social difficulties and have identified a different way of intercorporeality [2,3]. This means that autistic deviations in social interaction can be traced back to embodied relationships between the self and other people. Hitherto, however, stereotypical behavior and special interests have rarely been analyzed from a phenomenological perspective. Since DSM-5 has strengthened the idea that restricted and repetitive behaviors are a diagnostic criterion for ASC, a new diagnosis has been introduced in the form of "social (pragmatic) communication disorder" [1], which is distinguished from ASC specifically by the criterion of repetitive behavior. Even though the social deviations and stereotypical behavior have often been conceptualized as clinically distinct and researched separately [4], interactions between the two can still be observed, since stereotypical behavior and special interests can be seen as a strategy used by autistic people to better regulate the sensory overstimulation arising from social interaction.

In this article, the various aspects of ASC are explained in terms of Merleau-Ponty's phenomenology of the body [5]. Phenomenology, as a fundamental discipline concerned with the study of subjective experience, investigates central structures within this domain, including corporeality

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and intersubjectivity. Merleau-Ponty put the body at the center of his work and elaborated the various entanglements of the body with its environment, which are often pre-reflective. The body takes on a mediating function between the world and the subject, while at the same time being inseparably connected to it. The body therefore shapes how we perceive the world, but also ourselves. A crucial aspect in this context is the body's ability to transcend its own physical boundaries and to incorporate other people or objects, as it were.

Incorporation refers to the way in which the body integrates with the world, with objects or tools or even other people through perception and action, such that these become part of one's own body schema. In this way, tools or objects with which we interact can become extensions of our bodies. This process can be either unidirectional, involving a single body relating to an object, or mutual, involving an encounter between two people who incorporate each other, in which the roles of active and receptive oscillate [6]. In the active role of incorporation, an individual engages actively, so that her or his body schema extends to the other person or an object, while in the receptive role, the individual adopts a passive attitude, leaving the active role to another person.

Taking up this distinction, our hypothesis is that autistic people have difficulties with mutual incorporation, which leads to social difficulties, and that they tend towards unidirectional or object incorporation instead. The latter manifests itself (1) in special interests; (2) in stereotypical behavior and (3) in the preference for object over person perception, which means that they can sometimes develop a very close relationship with certain objects. The preference for unidirectional incorporation in the social sphere is evident in the autistic person's frequent tendency to monologize, which can entail reduced reciprocity[1]. However, it is important to emphasize that in the social sphere, unidirectional and mutual incorporation are not exclusive poles, but must be understood as a continuum, on which interaction is *more or less* unidirectional or *more or less* mutually incorporating. Autistic characteristics are wide-ranging and vary with age and individual abilities. So there may indeed be autistic individuals who may primarily experience or seek mutual incorporation, even if it may differ from non-autistic individuals. Accordingly, our assumption should not be interpreted as implying that autistic people are incapable of mutual incorporation, but rather that they often tend towards unidirectional incorporation in certain situations. Autism, one can say more generally, has often been considered as a deficiency, and viewed as a basic disturbance of being-with-others, whereas recent approaches to ASC have increasingly pointed to its individual advantages [7,8]. A description of autism that includes incorporation allows a more comprehensive understanding of the condition, encompassing a wider range of aspects than social interaction and lets us redress a merely deficit-oriented understanding of autism.

Incorporation

The body is not just an object in the world, but the medium through which we perceive and interact with the world. It can also transcend its boundaries and partially merge with the environment by incorporating objects or other people into the body schema. This encompasses both innate and acquired sensorimotor abilities and habits that determine how we deal with the environment. Incorporation thus refers to the way in which experience, knowledge and meaning are internalized and embodied. It also has a social and historical dimension, as we incorporate not only bodily experiences but also social and cultural knowledge or know-how.

Unidirectional incorporation can refer to an object, as in the well-known example of the blind man whose stick has become part of his body, its tip become a sensory zone with which he 'feels' his surroundings [5]. In Merleau-Ponty's work, a distinction can be made between "object-incorporation", i.e. the integration of individual objects, and "habit-incorporation" [5,9]. In the latter, the body schema undergoes a process of sedimentation through repeated practice, such that a new ability is acquired. Through our interactions with the world, we accumulate layers of experience that become imprinted in our body memory and influence our future perceptions [10]. This process is spontaneous and pre-reflective. Once specific movements or skills have been acquired, e.g. in a particular sport, they can be performed automatically, even though a certain degree of conscious control is always possible. In the practical performance of everyday life, the body forms an ensemble of habits, perceptions and actions that are automatically activated.

In contrast, *mutual incorporation* represents a crucial phenomenon of social interaction which manifests itself, for instance, in the gaze, the handshake, but ultimately in every exchange of verbal or non-verbal expressions between subjects [6]. Here the lived and felt bodies of the two interactive partners expand, as it were, and form a common intercorporeality. One's own body schema extends to the other person, allowing one to feel the other in one's own body, through what may also be called bodily resonance (Fuchs 2016). This interplay can also develop a life of its own, as it is impossible to predict which direction it will take. Mutual incorporation is already evident in basic social interactions between caregivers and toddlers, as evidenced by imitation in the first year of life [11], and through which an implicit relational knowledge develops.

The two forms of incorporation can be elucidated via

the distinction between "object perception" and "person perception", a distinction developed by the social psychologist Fritz Heider [12]. Even if a person's emotions can be perceived directly through their expressions, other socially relevant information in interactions (in contrast to the perception of objects) remains partly unclear and only vaguely formulable. Nonetheless, in social interactions, non-autistic individuals typically possess the capacity to empathize with others in a pre-reflective manner and to know their thoughts and emotions without requiring any type of 'mindreading' [13]. This is usually a quick and intuitive process that is conveyed verbally and non-verbally. Importantly, according to Heider, person perception and object perception differ in that the predictability of the latter is significantly higher, since objects follow the concept of causality, whereas person perception involves the (unpredictable) intentionality of another person.

Sensorimotor integration and sense-making

Before we discuss incorporation in ASC in more detail, we would like to describe the underlying sensorimotor processes. Although they often remain implicit, they form the basis for all our interactions with the world. Our primary experience and understanding of the world arise from our corporeal engagement with it [5]. Perception is no mere passive reproduction of the environment but an active process involving the selection of certain stimuli.

"Perceiving" (from the Latin per-cipere = to grasp) is only possible for an organism that can move actively and 'hold onto' objects. The formation of sense mediated by the body is neither a mere grasp of a pre-existing sense nor a spontaneous "invention of sense" [5]. Sense (meaning) and the sense-organs of perception are not only etymologically related, but have a reciprocal relationship, as the body relies on the five senses to understand the world and at the same time the world stimulates the senses to recognize its qualities. The body as the pre-reflective subject consistently establishes a frame of reference to the world, thus providing its own form of understanding.

Autistic individuals often display deviations in these sensorimotor processes [14], which must accordingly lead to a change in the perception and understanding both of oneself and the world on a pre-reflective level [15,16]. From early childhood onwards, autistic individuals have difficulties in sensorimotor integration, imitation and affect attunement [3]. Hyper- or hyposensitivity in autistic individuals can manifest itself in every sense-organ [17] and makes it difficult to integrate typically fast-moving and implicit socially significant information [18]. The social world moves too quickly for them, so to say; as social perception is immediate and spontaneous, they cannot think about it in advance, which leads to sensory overload. Since the integration of multi-sensory information [19] and the coordination between motor and sensory functions are reduced [20,21], these abnormalities seem not to be isolated from one another but of a global nature [22].

Even though the motor skills of autistic individuals can vary significantly and, especially in the case of adults, have yet to be adequately studied [23], motor movement difficulties are evident in autistic children as early as the first year of life and are considered to be fundamental to ASC [24,25]. Motor development, in turn, plays a crucial role in building social contact. Due to motor deficits, autistic children are restricted in moving around within their environment, discovering it, coming into contact with other people, and engaging in social interactions [26].

Differences in motor skills also have an impact on social interaction, as the more similar two people are in performing their actions, the more likely it is that they will engage in a motor resonance while observing the other's actions [27,28]. Motor resonance involves an implicit imitation when observing another person perform a movement. Such motor resonance facilitates social interaction, including predicting, interpreting, and imitating another person's actions [29,30]. The motor abnormalities described in ASC therefore make an embodied reciprocal relationship more difficult. Differences in embodiment are also apparent in synchronization, which is less pronounced when one person in a dyad is autistic than in a non-autistic dyad[31].

Alongside sensorimotor deviations, autistic individuals seem to have an altered way of embodiment [32]. In relation to the world, the body takes on a mediating function, which is more effectively performed when the body is less conspicuous; it fades into the background to permit the emergence of other objects. In contrast, autistic persons such as Donna Williams often experience their body as unfamiliar:

"In twenty-seven years, I had touched my own hands many times. They were just lumps of flesh, blood, and bones delineated by type, location, function, and image as something we called 'hands'. There was no emotional attachment to them, no personal belonging with them, no significance to the act of touching hands. It was merely a collision of two such objects in space" [33, p.132].

Donna Williams here describes one possibility of autistic embodiment. The reduced tactile sensation in her hands contributes to the fact that she perceives them less as embodied entities and more as "objects in space". However, if one's own body is perceived as less familiar, it will likely have an effect on one's perception of another's body. Other people's expressions then create a diminished impression on oneself. Since the autistic body is restricted in its medial function and therefore

comes to the fore as something strange, participation in an intersubjectively constituted world can be challenging. Interbodily interaction must therefore take place differently than with non-autistic individuals.

Due to the connection between sense-making and sensory perception, sensorimotor deviations inevitably influence the way autistic individuals make sense in an embodied interaction with the world. Thus two individuals can attribute meaning to the same situation in distinct ways. Autistic individuals create meaning, but they do so in their own bodily style, which may differ from that of non-autistic individuals [16,34]. However, this does not mean that autistic individuals are incapable of understanding the world. Rather, their way of understanding things may involve unique perspectives and strategies. Due to their perceptual peculiarities, however, it is more difficult for them to participate in sense-making shaped by non-autistic people.

Mutual incorporation in autism

In non-autistic individuals, mutual incorporation leads in most cases to a pre-reflective understanding of the other person. But autistic individuals encounter challenges in this regard. More recent phenomenological work therefore takes autism to involve a different way of intercorporeality [2,3], although *a different way of mutual incorporation* may be more accurate. There is substantial evidence of restricted social perceptual capabilities, hindering the individual's ability (to different degrees, depending on the individual) to intuitively comprehend the intentions and emotions of others [13,35].

The success of mutual incorporation is influenced not just by each persons' body schema extending to the other, but also by how expressive the individual is. In non-autistic individuals, this usually happens implicitly, as the emotions and intentions are suitably embodied. There is a dynamic interplay in which one person's expression leads to an impression in the other person and vice versa [36]. In this process, the embodied counterpart is understood pre-reflectively.

For the most part, we are oblivious to this structure by which we engage with one another. This implicit understanding only comes to the fore when the dynamic interplay of mutual incorporation is interrupted, as is often the case in interactions between an autistic and a non-autistic person. For the body schema to be extended to another person´s body, one must first be acquainted with one's own body. Since one's own and another's corporeality are part of a single structure, they can engage in intercorporeality, so that one's own and another's body are perceived as related from the outset. Self-descriptions by autistic individuals (see the quote from Donna Williams above) indicate that they may not perceive their own bodies as familiar, resulting in a restricted capacity to relate to another person's body. The divergence between autistic and non-autistic embodiment restricts mutual incorporation [3]. This disrupts the implicit, body-mediated understanding of the other person, so that autistic and non-autistic individuals are less likely to resonate with each other in shared social interaction.

The limited character of their mutual incorporation becomes apparent in diminished interbodily resonance. Crucially, however, this is also the case in reverse, as autistic people also have difficulties understanding the expressive qualities and thoughts of non-autistic persons [37,38]. Normally, the body functions as an organ both of resonance and of expression [39]. This results in an interbodily resonance in which the body of the other, primarily through eye contact, mimicry of expressions, voice and gestures, can be experienced with one's own. While non-autistic individuals express their mutual affection through the body, in autism the body's ability to respond to other persons and to the environment is limited, even if the wish for such interaction is present.

On the one hand, interbodily resonance is reduced when interacting with autistic persons, since they express emotions through their body language less frequently and for shorter periods of time compared to non-autistic people [40]. They also share facial expressions with others or imitate the expressions of other people less often [41]. This means that they can only make a limited emotional impression on the other person. Autistic individuals often struggle to comprehend non-verbal cues such as body language, facial expressions and eye contact, as others' eyes are either experienced as aversive or less salient [42,43]. This may result in a reduced ability to comprehend others' feelings, since facial expressions are a crucial means of interpersonal communication Mehrabian [44].

Furthermore, the other's body is not perceived holistically [45]. Patients therefore find it difficult to grasp emotions directly in an empathic act, and must instead integrate individual perceptual elements cognitively into a superordinate meaning. This hinders affective engagement, requiring practice in attributing emotions to facial expressions. While it is normally not possible to distinguish between expressive and objective perception in daily life [46], autistic people may experience a disjunction, for example, perceiving another person's distorted face as an object while remaining unable to access the pathic aspect of perception, such as feeling the other's pain. Consequently, their capacity to discern the emotions of others through their expressions is restricted [47].

Even if mutual understanding is usually implicit in normal interaction, in social situations that are ambiguous individuals can adopt a third-person perspective, mak-

ing assumptions about others' mental states in order to comprehend them, as Temple Grandin reports:
"*Since I don´t have any social intuition, I rely on pure logic, like an expert computer program, to guide my behavior. I categorize rules according to their logical importance. It is a complex algorithmic decision-making tree*" [48, p.108].
While using explicit rules in social interactions tends to be the exception for non-autistic people, autistic people rely on such explicit mentalizations more frequently. They employ such strategies to compensate for their reduced interbodily resonance [49] but also for their difficulties in participating in Common Sense, i.e. the unspoken rules of social interaction [50]. As we have seen, in the course of non-autistic development an implicit relational knowledge is formed about how to deal with others, a knowledge stored in the body memory through sedimentation [6]. In ASC, this implicit embedding in a self-evident context of meaning is reduced, so that non-autistic persons often remain a mystery. Autistic individuals take an eccentric position [51] in order to 'rehearse' adequate behavior. This explicit knowledge, however, cannot replace implicit interactive knowing-how, which rests on intercorporeality. Although they may eventually demonstrate appropriate reactions in social interaction, this is often no implicit, emotional reaction but rather a behavioral adaptation that requires conscious effort on their part, is experienced as exhausting and is associated with anxiety and depression [52].
The challenges of socio-emotional reciprocity [1], as characterized by mutual incorporation, may result in monologues among autistic individuals. The autistic Pete Wharmby describes this in the following manner:
"*I was fully obsessed with Warhammer and all I wanted to do was talk about it, and in doing so succeeded to alienate pretty much everyone there with my talk of Dark Elves, magic phases and painting techniques*" [53, p.124].
Some autistic persons tend to express their thoughts and interests, which are sometimes focused on highly specific fields, in a very detailed way and through uninterrupted speech, resulting in limited conversational reciprocity. Monologues can be seen as their attempt to evade the challenges inherent in reciprocal interaction. For this reason, they tend to involve the active role in a conversation being taken by only one of the participants, what makes the autistic person feel more comfortable[54]. As in the case of monologues, autistic persons can either take on this active role or they can leave it to the other person and limit themselves to an observing or receptive role, whereby they mostly listen to the interlocutor without actively engaging in the dialogue. In both cases the reciprocally balanced back and forth of a good conversation is missing.

Unidirectional incorporation in autism

Object perception

Already in the 1940s Leo Kanner had characterized autistic individuals as having a different perception of other persons and objects [55]. Although he regarded their relationships with others as constrained, their perception of objects appeared to him mostly unremarkable. Yet this is in contrast to his own description of an altered way of handling objects in autistic children, such as compulsive turning of the object or other repetitive actions [56]. Empirical evidence and autobiographical reports indicate that autistic individuals may develop a closer attachment to objects, occasionally surpassing their connections with other individuals. Unlike their non-autistic peers, they can have a preference for inanimate things rather than social interactions [57,58].
In phenomenological terms, the perception of and attachment to an object can be regarded as unidirectional incorporation [59]. The degree to which we are affected by the entities in our environment depends upon our specific bodily capabilities and on the specific objects concerned. The atypical sensorimotor characteristics and sense-making in autism may explain the preference for object perception over person perception. Autistic individuals may regard objects that non-autistic individuals find appealing as aversive or relevant only in certain contexts, and vice versa. Often, it may be easier for them to make sense in situations of unidirectional incorporation (as in the case of object perception) than in mutual incorporation:
"*Many people with Asperger´s have an affinity for machines. Sometimes I think I can relate better to a good machine than any kind of person. I´ve thought about why that is, and I´ve come up with a few ideas. One thought is that I control the machines. We don´t interact as equals. No matter how big the machine, I am in charge. Machines don´t talk back. They are predictable*" [60, p.151].
Since objects are subject to physical laws and one relates to them in an active role, autistic people may tend here towards unidirectional incorporation. This renders the situation more predictable for them and rapid multisensory integration is required to a lesser extent than is the case with mutual incorporation. The bodily mediated openness towards certain social domains thus appears to be less open in autistic than in non-autistic persons.
Unidirectional incorporation is accompanied by a stronger focus on objects. Of course, non-autistic people are also capable of this, but it seems to be more pronounced in autistic people. This is evidenced by the observation that autistic individuals exhibit less susceptibility to distractors, including social ones, compared to non-autistic individuals [61,62]. In the latter study, social

distractions appeared to exert less impact on the autistic participants, who could disregard irrelevant facial stimuli under conditions of high perceptual load, whereas the control group was distracted by them. In contrast, there was no group difference when it came to non-social distractions. In phenomenological terms, autistic individuals appear to be better able to narrow their focus on an object [32]. They are less influenced by social distractors and are completely absorbed by the demands of the experiment.

The connection between subject and environment has been described in particular by enactive accounts[1]. Since perception constitutes an active engagement with one's environment[2], autistic embodiment results in a modified perception[3,4]. Based on an enactivist approach, van Es and Bervoets reported the example of an autistic person who is attuned to background noise, resulting in diminished attention to an approaching person and leading to slower or absent reaction to this person. If such missed opportunities accumulate, this can have an impact on the social development of autistic children[5]. This example illustrates the tendency of autistic individuals toward unidirectional incorporation (focusing on background noise) rather than mutual incorporation (interaction with the other person).

As a result, perception fluctuates less between object and horizon, with specific stimuli becoming more prominent [15]. This, of course, may become a hindrance in social contexts, since a normally holistic perception (weak central coherence [45]) breaks down into details and parts [63]. On the other hand, it can also be a strength, enabling autistic individuals to concentrate on certain features or facets of a scenario [64]. This manifests itself in the ability to hyper-systematize [7], in a hyper-attention to details [8] and intense concentration [65]. While these abilities limit social interaction, they can foster originality and individual thoughts [66] liberated from social constraints (Baron-Cohen, 2011); since the mental states of others are not consistently comprehended they are not simply adapted to. Instead of a holistic approach to finding meaning, autistic people can take an approach that may be described as analytical [67]. This is highly detailed, with social or contextual variables neglected, enhancing their capacity to identify patterns or evaluate data.

This perspective is in in line with Goldstein's [68] account of autistic differences in the perception of objects and individuals. Autistic children exhibit responses to stimuli that they can handle 'appropriately', meaning those that provide them more possibilities for reaction. Objects are simply better suited than are other people for generating appropriate sense-making. In this way, autistic persons can attain a state of flow in which they are completely absorbed in the respective activity [54]:

"*Hyperfocus often helps, once I've got interested in a topic or task. This works well for research, when I can happily read or think about a topic for hours, days. I definitely experience flow states when thinking like this more than my non-autistic colleagues*" [69, p.27].

Depending on the context, such hyperfocusing can be both advantageous and disadvantageous: while an individual may engage with a subject for extended periods of time, he or she may also struggle to disengage from it when required. This narrow focus in ASC has also been referred to as 'monotropism' (single attraction), indicating that an action or train of thought cannot easily be overridden by external stimuli [53].

The unidirectional incorporation associated with the focus on specific domains is also evident from the special interests that are widespread in autism [70]. The autistic Temple Grandin describes this as follows:

"*I am told by my nonautistic friends that relationship with other people are what most people live for, whereas I get very attached to my projects and to certain places*" [48, p.161].

Special interests are defined by an intense fixation on a narrow selection of different subjects. This thorough involvement can result in significant expertise in a specific domain and also provide a topic for discourse with like-minded others, facilitating the formation of social connections. On the other hand, such interests can be so absorbing that they reduce contact with other people and limit the range of conversation.

Stereotypical behavior

In addition to difficulties in social interaction, autism is characterized by stereotypical behavior. Such behavior can help contribute to establishing structure and predictability. Deviating from these routines, on the other hand, can often give rise to insecurity or even fear [1]. Stereotypical behavior can be understood through the lens of Merleau-Ponty's [5] concept of sedimentation, as it provides a framework for interpreting how lived experiences, habitual actions, and bodily knowledge interact over time, which can be applied to understanding behavior in ASC.

Sedimentation refers to the accumulation of experiences, actions and meanings, as well as their integration in embodied consciousness. Consequently, these become part of the individual's reference to the world. The habits formed by sedimentation are not actively reconsidered by the individual, yet they affect our behavior in various situations and shape our perceptions overall. These sediments are usually not static or inert but are continually restructured through interactions with the environment and retained as embodied knowledge. Sedimentation can enable and facilitate further actions, although it may also impose constraints by hindering our capacity to perceive or behave differently due to entrenched patterns.

Stereotypical behavior such as daily routines in autism can now be understood as acquired habits that have become integrated with the embodied engagement with the world. In non-autistic individuals, there appears to be a balance between the constraining effects of sedimentation and the capacity for spontaneous adaptability; by contrast, the entrenched habits of autistic individuals significantly restrict flexible adaptation. Autistic people do not intentionally follow routines; instead, these routines have become part of their bodily interaction with the world:

"*Having a strong routine is not some kind of highly abstract need, a need that is in some way just an oddity (and an annoying one at that) – it is an absolute necessity if we are ever going to handle everything that life throws at us on a daily basis. Having a routine is a little like putting life on autopilot, enabling us to focus our attention on the unusual and unpredictable problems*" [53].

Certainly, a restructuring of routines is feasible for the autistic person; however, it is considerably more rigid and requires more time. The rigid structure of habitual patterns may be attributed to the sensorimotor peculiarities and function as a coping mechanism for navigating the world. These can establish stability in an unpredictable and stressful world.

Summary and conclusion

In this paper, we have looked at ASC from the perspective of incorporation, aiming to shed new (phenomenological) light on what autism involves. Such an approach enables the identification of stereotypical behavior and special interests that have been mostly overlooked in phenomenological investigations, while also adopting a perspective that is not solely focused on deficits. Following Merleau-Ponty, we can speak on the one hand of the incorporation of an object or another person in the current act, or on the other hand of the incorporation of a habit, in which the body acquires certain habits. We have attempted to demonstrate that autistic individuals exhibit a propensity for *unidirectional* incorporation, whereas *mutual* incorporation presents a particular challenge for them, even though there may be autistic individuals who also seek mutual incorporation. This could be related to the sensorimotor peculiarities in autism and the corresponding atypical sense-making.

Due to its fast pace and the need to react spontaneously to other people, autistic individuals may have difficulties with mutual incorporation. However, this is a reciprocal process, as non-autistic people also have difficulty in entering into a process of mutual incorporation with autistic persons. Conversely, autistic individuals may find unidirectional integration easier to accomplish, as they can take the active role, rendering the process more predictable for them. However, it seems that autistic people not only have a similar capacity for unidirectional incorporation as non-autistic people, but that they can engage more deeply in it. This manifests itself in their special interests, as they may become intensely engaged with a subject and frequently attain a level of knowledge surpassing that of neurotypical individuals. A stronger focus on unidirectional incorporation can explain many autistic strengths, such as hypersystematizing and hyperattention. Conversely, it can result in stereotypical behavior, exemplified by a ritualized daily routine, where the balance between the restrictive and enabling function of sedimentation has shifted in favor of the former.

The concept of autism presented in this paper, taking into account unidirectional and mutual incorporation, can also be applied to the therapeutic process. At the beginning of therapy, the frequent tendency toward unidirectional incorporation should have priority, for example, by ensuring that the therapy room remains unchanged between sessions and that the therapist acts as a constant, structuring figure in order to avoid possible distraction by environmental stimuli. Stereotypical behavior such as daily routines, which can be understood as habits formed by sedimentation, are firmly implemented in autistic people and part of their bodily interaction with the world. Therefore, it is crucial to carefully consider what behaviors are acceptable and which should be modified. For this reason, they can only be modified slowly in the course of therapy. After establishing a secure relationship, the therapist can begin to place a stronger focus on mutual incorporation by making his or her own subjectivity visible or by explaining intersubjective phenomena, such as emotions.

Conflict of interest statement

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Author's Contribution

TS: Conceptualization, Writing – Original Draft Preparation. TF: Conceptualization, Writing – Original Draft Preparation.

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References

1 Association AP. Diagnostic and statistical manual of mental disorders (DSM-5®). American Psychiatric Pub; 2013.

2 Gallagher S. Understanding interpersonal problems in autism: Interaction theory as an alternative to theory of mind. Philosophy, Psychiatry, & Psychology. 2004;11(3):199-217. https://doi.org/10.1353/ppp.2004.0063

3 Fuchs T. Pathologies of intersubjectivity in autism and schizophrenia. Journal of Consciousness Studies. 2015;22(1-2):191-214.

4 Sasson NJ, Touchstone EW. Visual attention to competing social and object images by preschool children with autism spectrum disorder. Journal of autism and developmental disorders. 2014;44:584-592. https://doi.org/10.1007/s10803-013-1910-z

5 Merleau-Ponty M. Phenomenology of perception. Routledge; 2005.

6 Fuchs T, De Jaegher H. Enactive intersubjectivity: Participatory sense-making and mutual incorporation. Phenomenology and the cognitive sciences. 2009;8(4):465-486. https://doi.org/10.1007/s11097-009-9136-4

7 Greenberg DM, Warrier V, Allison C, Baron-Cohen S. Testing the empathizing–systemizing theory of sex differences and the extreme male brain theory of autism in half a million people. Proceedings of the National Academy of Sciences. 2018;115(48):12152-12157. https://doi.org/10.1073/pnas.1811032115

8 Fitch A, Fein DA, Eigsti I-M. Detail and gestalt focus in individuals with optimal outcomes from autism spectrum disorders. Journal of Autism and Developmental Disorders. 2015;45:1887-1896. https://doi.org/10.1007/s10803-014-2347-8

9 Colombetti G. Affective incorporation. In: Simmons JA, Hackett E, eds. Phenomenology for the twenty-first century. Palgrave Macmillan; 2016:231-248.

10 Fuchs T. Leibgedächtnis und Unbewusstes – Zur Phänomenologie der Selbstverborgenheit des Subjekts. In: S.Treyz TF, F. Seyler, ed. Methode und Subjektivität. Verlag Karl Alber; 2008:33-50.

11 Meltzoff AN, Murray L, Simpson E, et al. Re- examination of Oostenbroek et al.(2016): Evidence for neonatal imitation of tongue protrusion. Developmental Science. 2018;21(4):e12609. https://doi.org/10.1111/desc.12609

12 Heider F. Psychologie der interpersonalen beziehungen [The psychology of interpersonal relations](G. Deffner, Trans.). Stuttgart, Germany: Klett(Original work published 1958). 1977;

13 Schnitzler T, Fuchs T. Autism as a Disorder of Affective Empathy. Psychopathology. 2024;57(1):53-62. https://doi.org/10.1159/000533655

14 Van Es T, Bervoets J. Autism as gradual sensorimotor difference: From enactivism to ethical inclusion. Topoi. 2022;41(2):395-407. https://doi.org/10.1007/s11245-021-09779-6

15 Boldsen S. Autism and the sensory disruption of social experience. Frontiers in Psychology. 2022;13:874268. https://doi.org/10.3389/fpsyg.2022.874268

16 De Jaegher H. Embodiment and sense-making in autism. Frontiers in integrative neuroscience. 2013;7:15. https://doi.org/10.3389/fnint.2013.00015

17 Thye MD, Bednarz HM, Herringshaw AJ, Sartin EB, Kana RK. The impact of atypical sensory processing on social impairments in autism spectrum disorder. Developmental cognitive neuroscience. 2018;29:151-167. https://doi.org/10.1016/j.dcn.2017.04.010

18 Gepner B, Mestre D. Rapid visual-motion integration deficit in autism. Trends in cognitive sciences. 2002;6(11):455. https://doi.org/10.1016/s1364-6613(02)02004-1

19 Stevenson RA, Siemann JK, Woynaroski TG, et al. Evidence for diminished multisensory integration in autism spectrum disorders. Journal of autism and developmental disorders. 2014;44(12):3161-3167. https://doi.org/10.1007/s10803-014-2179-6

20 Gowen E, Stanley J, Miall R. Movement interference in autism-spectrum disorder. Neuropsychologia. 2008;46(4):1060-1068. https://doi.org/10.1016/j.neuropsychologia.2007.11.004

21 Whyatt CP, Craig CM. Motor skills in children aged 7–10 years, diagnosed with autism spectrum disorder. Journal of autism and developmental disorders. 2012;42(9):1799-1809. https://doi.org/10.1007/s10803-011-1421-8

22 Kern JK, Trivedi MH, Grannemann BD, et al. Sensory correlations in autism. Autism. 2007;11(2):123-134. https://doi.org/10.1177/1362361307075702

23 Koehler JC, Georgescu AL, Weiske J, et al. Brief report: Specificity of interpersonal synchrony deficits to autism spectrum disorder and its potential for digitally assisted diagnostics. Journal of autism and developmental disorders. 2022;52(8):3718-3726. https://doi.org/10.1007/s10803-021-05194-3

24 Mari M, Castiello U, Marks D, Marraffa C, Prior M. The reach–to–grasp movement in children with autism spectrum disorder. Philosophical Transactions of the Royal Society of London Series B: Biological Sciences. 2003;358(1430):393-403. https://doi.org/10.1098/rstb.2002.1205

25 Leary MR, Hill DA. Moving on: autism and movement disturbance. Mental Retardation-Washington. 1996;34(1):39-53.

26 Fazlioglu Y, Gunsen MO. Sensory Motor Development in Autism. In: Mohammadi M-R, ed. A Comprehensive Book on Autism Spectrum Disorders. InTechOpen; 2011:345-371.

27 Friston K, Mattout J, Kilner J. Action understanding and active inference. Biological cybernetics. 2011;104(1-2):137-160. https://doi.org/10.1007/s00422-011-0424-z

28 Cross ES, Hamilton AFdC, Grafton ST. Building a motor simulation de novo: observation of dance by dancers. Neuroimage. 2006;31(3):1257-1267. https://doi.org/10.1016/j.neuroimage.2006.01.033

29 Kilner J, Hamilton AFdC, Blakemore S-J. Interference effect of observed human movement on action is due to velocity profile of biological motion. Social neuroscience. 2007;2(3-4):158-166. https://doi.org/10.1080/17470910701428190

30 Aglioti SM, Cesari P, Romani M, Urgesi C. Action anticipation and motor resonance in elite basketball players. Nature neuroscience. 2008;11(9):1109. https://doi.org/10.1038/nn.2182

31 Georgescu AL, Koeroglu S, Hamilton AdC, Vogeley K, Falter-Wagner CM, Tschacher W. Reduced nonverbal interpersonal synchrony in autism spectrum disorder independent of partner diagnosis: a motion energy study. Molecular autism. 2020;11(1):1-14. https://doi.org/10.1186/s13229-019-0305-1

32 Grohmann TD. A phenomenological account of sensorimotor difficulties in autism: Intentionality, movement, and proprioception. Psychopathology. 2018;50(6):408-415. https://doi.org/10.1159/000481949

33 Williams D. Somebody somewhere: Breaking free from the world of autism. Three Rivers Press; 1994.

34 Williams GL, Wharton T, Jagoe C. Mutual (mis) understanding: Reframing autistic pragmatic “impairments” using relevance theory. Frontiers in psychology. 2021;12:616664. https://doi.org/10.3389/fpsyg.2021.616664

35 Salice A, Henriksen MG. Disturbances of shared intentionality in schizophrenia and autism. Frontiers in psychiatry. 2021;11:570597. https://doi.org/10.3389/fpsyt.2020.570597

36 Fuchs T. Intercorporeality and interaffectivity. In: C. Meyer JS, S. Jordan, ed. Intercorporeality: Emerging Socialities in Interaction. Oxford University Press; 2016:194-209.

37 Heasman B, Gillespie A. Perspective-taking is two-sided: Misunderstandings

between people with Asperger's syndrome and their family members. Autism. 2018;22(6):740-750. https://doi.org/10.1177/1362361317708287

38 Milton DE. On the ontological status of autism: the 'double empathy problem'. Disability & Society. 2012;27(6):883-887. https://doi.org/10.1080/09687599.2012.710008

39 James W. What is an Emotion? Simon and Schuster; 2013.

40 Trevisan DA, Hoskyn M, Birmingham E. Facial expression production in autism: A meta-analysis. Autism Research. 2018;11(12):1586-1601. https://doi.org/10.1002/aur.2037

41 Vivanti G, Hamilton A. Imitation in autism spectrum disorders. In: Volkmar FR, Rogers SJ, Paul R, Pelphrey KA, eds. Handbook of Autism and Pervasive Developmental Disorders, Fourth Edition. John Wiley & Sons; 2014.

42 Senju A, Johnson MH. Atypical eye contact in autism: models, mechanisms and development. Neuroscience & Biobehavioral Reviews. 2009;33(8):1204-1214. https://doi.org/10.1016/j.neubiorev.2009.06.001

43 Tanaka JW, Sung A. The "eye avoidance" hypothesis of autism face processing. Journal of autism and developmental disorders. 2016;46(5):1538-1552. https://doi.org/10.1007/s10803-013-1976-7

44 Birdwhistell RL. Communication without words. Ekistics. 1968:439-444.

45 Frith U. Autism: Explaining the Enigma. Blackwell; 1989.

46 Fuchs T. Leib, Raum, Person: Entwurf einer phänomenologischen Anthropologie. Klett-Cotta; 2000.

47 Schnitzler T, Korn C, C. Herpertz S, Fuchs T. Emotion recognition in autism spectrum condition during the COVID-19 pandemic. Autism. 2024;28(7):1690-1702. https://doi.org/10.1177/13623613231203306

48 Grandin T. Thinking in pictures: And other reports from my life with autism. Vintage; 2006.

49 Zahavi D, Parnas J. Conceptual problems in infantile autism research: Why cognitive science needs phenomenology. Journal of Consciousness Studies. 2003;10(9-10):53-71.

50 Thoma S, Fuchs T. A phenomenology of sensus communis–Outline of a phenomenological approach to social psychiatry. Phenomenology and the social context of psychiatry Social relations, psychopathology, and Husserl's philosophy London: Bloomsbury Publishing. Bloomsbury Publishing; 2018:137-159.

51 Plessner H. Levels of organic life and the human: An introduction to philosophical anthropology. Fordham Univ Press; 2019.

52 Hull L, Levy L, Lai M-C, et al. Is social camouflaging associated with anxiety and depression in autistic adults? Molecular autism. 2021;12(1):1-13. https://doi.org/10.1186/s13229-021-00421-1

53 Wharmby P. What I want to talk about: How autistic special interests shape a life. Jessica Kingsley Publishers; 2022.

54 McDonnell A, Milton D. Going with the flow: reconsidering 'repetitive behaviour'through the concept of 'flow states'. In: Jones G, Hurley E, eds. Good Autism Practice: autism, happiness and wellbeing. BILD; 2014:38-47.

55 Kanner L. Autistic disturbances of affective contact. Nervous child. 1943;2(3):217-250.

56 Williams E, Costall A, Reddy V. Children with autism experience problems with both objects and people. Journal of autism and developmental disorders. 1999;29:367-378. https://doi.org/10.1023/a:1023026810619

57 Klin A, Jones W, Schultz R, Volkmar F. The enactive mind, or from actions to cognition: lessons from autism. Philosophical Transactions of the Royal Society of London Series B: Biological Sciences. 2003;358(1430):345-360. https://doi.org/10.1098/rstb.2002.1202

58 Gale CM, Eikeseth S, Klintwall L. Children with autism show atypical preference for non-social stimuli. Scientific reports. 2019;9(1):10355. https://doi.org/10.1038/s41598-019-46705-8

59 Schmitz H. Der Leib. de Gruyter; 2011.

60 Robison JE. Look me in the eye: My life with Asperger's. Random House; 2007.

61 Dowd AM, McGinley JL, Taffe JR, Rinehart NJ. Do planning and visual integration difficulties underpin motor dysfunction in autism? A kinematic study of young children with autism. Journal of autism and developmental disorders. 2012;42(8):1539-1548. https://doi.org/10.1007/s10803-011-1385-8

62 Remington A, Campbell R, Swettenham J. Attentional status of faces for people with autism spectrum disorder. Autism. 2012;16(1):59-73. https://doi.org/10.1177/1362361311409257

63 Boldsen S. Toward a phenomenological account of embodied subjectivity in autism. Culture, Medicine, and Psychiatry. 2018;42(4):893-913. https://doi.org/10.1007/s11013-018-9590-y

64 Chapman R. Neurodiversity and the social ecology of mental functions. Perspectives on Psychological Science. 2021;16(6):1360-1372. https://doi.org/10.1177/1745691620959833

65 Murray D, Lesser M, Lawson W. Attention, monotropism and the diagnostic criteria for autism. Autism. 2005;9(2):139-156. https://doi.org/10.1177/1362361305051398

66 Happé F, Vital P. What aspects of autism predispose to talent? Philosophical Transactions of the Royal Society B: Biological Sciences. 2009;364(1522):1369-1375.

67 Vogeley K. Soziale Kognition und soziales Bewusstsein. 2009.

68 Goldstein K. Abnormal mental conditions in infancy. The Journal of Nervous and Mental Disease. 1959;128(6):538-557.

69 Cope R, Remington A. The strengths and abilities of autistic people in the workplace. Autism in Adulthood. 2022;4(1):22-31. https://doi.org/10.1089/aut.2021.0037

70 Klin A, Danovitch JH, Merz AB, Volkmar FR. Circumscribed interests in higher functioning individuals with autism spectrum disorders: An exploratory study. Research and Practice for Persons with Severe Disabilities. 2007;32(2):89-100. https://doi.org/10.2511/rpsd.32.2.89