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Introduction: Different? Not Different?

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How do individuals with autism spectrum disorders (ASD), including high-functioning individuals with ASD and individuals with Asperger's syndrome (AS), differ from a comparison group without ASD? Do they differ in terms of neural substrates, cognitive abilities, linguistic skills, or social communicative functioning, made manifest in "abnormalities in the *system* of self-in-relation-to-other," as suggested by Hobson (this issue, p. 6)? Could language, or more specifically, the ability to understand or use nonliteral language (or lack thereof), be revealing in this respect?

According to Hobson (1991, this issue), language reflects humans' interpersonal communicative engagement. Developing sensitivity to pragmatics (i.e., to context and hence to nonliteral language and thought), crucially depends on affective, interpersonal engagements. More specifically, Hobson suggests that breakdowns in the development of critical forms of social experience arise through difficulties in identifying with other people's alternative orientations, leading to wide-ranging restrictions in the children's stance-adjustment. From this perspective, it is social–communicative malfunctioning, then, that prompts atypical linguistic behaviors, found among individuals with ASD as well as among individuals with other disabilities (not involving neurological impairments) such as congenital blindness.

But is it really the case that individuals with ASD are insensitive to contextual information and fail to make sense of nonliteral language? Giora, Gazal, Goldstein, Fein, and Stringaris (this issue) examine these issues by looking at the salient–nonsalient continuum rather than at the literal–nonliteral divide. According to the graded salience hypothesis (Giora, 1997, 2003), novelty rather than nonliterality matters; late contextual effects make a difference as well. Indeed, Giora et al. found that individuals with Asperger's syndrome (AS) fared worse than control participants overall (probably as a result of limited exposure to communicative interactions). However, both clinical and comparison groups exhibited similar *patterns* of behavior. Both groups performed better on familiar than on novel items, regardless of degree of nonliterality; both groups further benefited from contextual information which improved performance on low-familiar/low-apt metaphors (which, outside of a supportive context, made least sense); and both groups attributed nonliteral interpretations to negative rather than to affirmative utterances, although both were potentially ambiguous between literal and nonliteral interpretations.

But what if, when engaging in language processing, individuals with ASD exhibit different brain activity, compared to control participants without ASD? Would these differences be a determinant affecting different behaviors? Previous studies by Faust and her colleagues showed

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that among individuals without disabilities, the left hemisphere (LH) is specialized in performing on literal and conventional metaphoric expressions—expressions involving systemized, rule-based semantic relations (Baron-Cohen, 2003). In contrast, the right hemisphere (RH) is better adept at performing on novel metaphors—expressions involving new, non-systemized semantic combinations, tantamount to rule violation (Arzouan, Goldstein, & Faust, 2007a, 2007b; Faust, 2012; Faust & Mashal, 2007; Mashal & Faust, 2008; Mashal, Faust, & Hendler, 2005; Mashal, Faust, Hendler, & Jung-Beeman, 2007; Pobric, Mashal, Faust, & Lavidor, 2008).

Gold and Faust (this issue), studied individuals with Asperger's syndrome (AS). As in their previous studies, stimuli were literal, conventional metaphoric, novel metaphoric, and meaningless word pairs presented in isolation. Measures tapped both behavioral and brain responses. Results showed that, unlike control participants without AS, participants with AS did not display hemispheric asymmetry. Whereas the control group replicated previous findings, exhibiting LH superiority for literal and conventional metaphoric expressions and RH superiority for novel metaphors, the experimental group engaged the two hemispheres almost indistinguishably, showing no significant RH advantage for novel metaphors. Behaviorally, however, both groups exhibited similar patterns of behavior: novel metaphors were more difficult to interpret than familiar ones.

Colich et al. (this issue) looked into the processing of ironic and literal utterances among high-functioning children and adolescents with ASD and matched controls without ASD. Colich et al., too, applied neural (imaging) and behavioral (response time) methods, thus allowing a further examination of a possible dissociation between behavioral and neural responses.

At the neural level, for both groups, processing literal and ironic remarks involved an extended cortical network in the LH as well as in RH homologue areas. A closer look, however, reveals that while both groups did not vary on processing literal utterances, they did on ironic remarks. Specifically, compared to controls, participants with ASD showed greater activation in RH homologues of language areas in the LH and in regions known to be involved in mentalizing and social cognition. Regardless, both groups exhibited similar patterns of behavior. Although response times to both literal and ironic utterances were significantly faster among participants with ASD compared to controls, both groups performed equally well when determining whether a speaker's remark was literal or ironic. Additionally, both groups took longer to process ironic compared to literal remarks. Despite recruiting different brain regions when processing ironic utterances, then, high-functioning children and adolescents with ASD and matched controls without ASD performed similarly at the behavioral level. Different brains, then, do not necessarily affect different *patterns* of behavior.

A clarifying view on the issue of difference is introduced by Gernsbacher and Pripas-Kapit (this issue). The upshot of their commentary is "that persons who have more difficulty comprehending language will also have more difficulty comprehending figurative language" (p. 97). Reviewing the literature that is (unevenly) cited and the literature that is not attended to in this issue, Gernsbacher and Pripas-Kapit pose an incisive challenge to the views prevalent in the field and largely assumed by the contributions to this special issue. Although most of the findings related to figurative language comprehension and ASD are based on poorly controlled studies, evidence coming from appropriately controlled studies show that differences in figurative language ability stem from differences in language ability, which do not distinguish individuals with ASD from individuals without ASD. Thus, when well controlled studies compare two participant groups that differ in language ability, they show that they also differ in figurative language

ability, regardless of whether these participants are individuals with or without ASD. Similarly, when researchers control for language comprehension, "differences between autistic and non-autistic participants disappear (Capps, Kehres, & Sigman, 1998; Norbury, 2005; Tager-Flusberg & Sullivan, 1994)" (Gernsbacher & Pripas-Kapit, this issue, p. 97).

This review of the literature, including the articles in this issue, makes it difficult to reject the possibility that, among other things, we, as researchers, might lack theory of mind of the Other, which also shapes our research and its conclusions. Our "a priori assumptions . . . can lead to [our] own and the public's misinterpretations, both literally and figuratively" (Gernsbacher & Pripas-Kapit, this issue, p. 101).

"We have good reason to feel tentative about our limited understanding of atypicalities in language and thought among individuals with autism and Asperger syndrome" (Hobson, this issue, p. 4). Hopefully this special issue sheds some light and casts some doubts on the issues in question.

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