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LETTER TO THE EDITOR

An even more radical change is needed in our autism research strategy: Comments on Mottron (2021)

Mottron's commentary (2021a) set the stage for a courageous discussion, as Frith (2021) puts it, detailing the fundamental problems in the current diagnosis of ASD. Among the issues that hamper progress in research on autism, Mottron lists heterogeneity, lack of specificity, the quantitative properties of the specifiers and the problematic nature of co-morbid ASD. Nevertheless, although somewhat hesitant about the status of autism as a natural category, Mottron does not go as far as suggesting that we give up the categorical definition of ASD.

Even if not explicitly stated, issues that concern the categorical status of ASD lurk behind multiple recent publications. Current research reports of overlap in symptomatology between ASD and other neurodevelopmental disorders (NDDs), within-category, extreme heterogeneity, lack of category-specific developmental course, shared common and rare mutations between ASD and other NDD, true pleiotropy and mixed neuroimaging results in people with ASD. Recent work in neurobiology and genetics of childhood disorders presented evidence of a common factor, labeled the factor p, underlying diagnostically diverse developmental disorders, among them ASD (ex. Allegrini et al. 2020). Thus, doubts are accumulating and the data seem to call for a re-conceptualization of ASD.

The impediments to research of the current conceptualization of ASD has been known for a while, yet the plea for trans-diagnostic research agenda (i.e. Levy & Ebstein, 2009; Waterhouse & Gillberg, 2014) has not had an effect on research practices on NDD in general, and on ASD in particular. NIH RDoC initiative (Insel et al., 2010) has had some impact in directing research away from clinically defined syndromes, but so far has failed to introduce a paradigm shift in research practices on NDD, including ASD. Is the time ripe for a radical change in our research strategy?

Mottron (2021a) proposal focusing on prototypical cases of autism, although revolutionary, still leaves one foot within the cozy consensus. I propose we aim at a full paradigm shift and consider the following approach. The recurrence of social communication/interaction disorders and that of restricted/repetitive patterns of behavior seen in many childhood disorders, their dimensionality across populations and their over-inclusiveness and diverse behavioral manifestations equates them to meta-terms such as language impairment or cognitive level. In other words, the developmental profiles that we label ASD do not map onto a diagnostic category. Rather, they are the behavioral manifestations of the interactive processes among the meta-domains.

Similar to the specifiers, the current defining modules of ASD are best conceptualized as recurrent, childhood disruptive phenomena with myriad manifestations, arising in the context of diverse neurobiological conditions and environmental backgrounds. Importantly, there has been little or no research into interactions between domains. This is still an unknown terrain likely to provide new, perhaps revolutionary insights.

The potential interactions and dependencies among the components of the meta terms – in today's terminology, specifiers alongside the current defining parameters of ASD - may well account for what Mottron refers to as prototypical cases as well. In fact, Mottron's definition of ASD as "a variation in the way humans hierarchize, group and process information structure and domains" (2021b, p. 3) favors such an account.

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