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Autore	Michael Green
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Sommario/riassunto	<p>Research on visual perception in schizophrenia has a long history. However, it is only recently that it has been included in mainstream efforts to understand the cognitive neuroscience of the disorder and to assist with biomarker and treatment development (e.g., the NIMH CNTRICS and RDoC initiatives). Advances in our understanding of visual disturbances in schizophrenia can tell us about both specific computational and neurobiological abnormalities, and about the widespread computational and neurobiological abnormalities in the illness, of which visual disturbances constitute well-studied, replicable, low-level examples. Importantly, far from being a passive sensory registration process, visual perception is active, inferential, and hypothesis-generating, and therefore can provide excellent examples of breakdowns in general brain functions in schizophrenia. Despite progress made in understanding visual processing disturbances in schizophrenia, many challenges exist and many unexplored areas are in need of examination. For example, the directional relationships between perceptual and cognitive disturbances (e.g., in attention, memory, executive function, predictive coding) remain unclear in many cases, as do links with symptoms, including visual hallucinations. The effect of specific visual disturbances on multisensory integration in</p>

schizophrenia has also not been explored. In addition, few studies of vision in schizophrenia have used naturalistic stimuli, including real-world objects, and almost no studies have examined processing during interaction with objects or visual exploration, which can provide important data on functioning of the perception for action pathway. Relatedly, studies of visual processing in schizophrenia have also not been conducted within contexts that include emotional stimulation and the presence of reinforcers - characteristics of many real-world situations - and the consequences of this are likely to be an incomplete view of how and when perception is abnormal in the condition. An additional important area involves treatment of visual disturbances in schizophrenia. Two major questions regarding this are: 1) can visual processing be improved in cases where it is impaired (and by what types of interventions affecting which cognitive and neurobiological mechanisms)? and 2) what are the clinical and functional benefits of improving specific visual functions in people with schizophrenia? Other important and understudied questions concern: 1) the extent to which indices of visual functioning can serve as biomarkers such as predictors of relapse, treatment response, and/or recovery; 2) the potential role of visual functioning in diagnosing and predicting illness; 3) the extent to which some visual perception disturbances are diagnostically specific to schizophrenia; and 4) the extent to which visual disturbances are truly manifestations of disease, as opposed to aspects of normal variation that, in combination with disease, serves to modify the clinical presentation. This Frontiers Research Topic explores some of these, and other issues facing this exciting interface between vision science and schizophrenia research. We include papers that span the entire range of different Frontiers paper types, including those that are data driven (using psychophysics, electroencephalography, neuroimaging, computational and animal models, and other methods), reviews, hypotheses, theories, opinion, methods, areas of impact, and historical perspectives.
