Cerebral organoids: How can we know if cells collected as 'mini-brains' are conscious?

[Editor's note: Mike Klymkowsky is a Professor of Molecular, Cellular & Developmental Biology at the University of Colorado Boulder.]

The fact that experiments on people are severely constrained is a major obstacle in understanding human development and disease. Some of these constraints are moral and ethical and clearly appropriate and necessary given the depressing history of medical atrocities. Others are technical, associated with the slow pace of human development.

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Madeline Lancaster, Jurgen Kn?blich, and colleagues devised an approach by which [differentiated human cells] could be induced to form what they termed "cerebral organoids"...

The production of cerebral organoids from reprogrammed human somatic cells has [...] attracted the attention of the media. While "mini-brain" is certainly a catchier name, it is a less accurate description of a cerebral organoid, itself possibly a bit of an overstatement, since it is not clear exactly how "cerebral" such organoids are.

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The reasonable question, then, must be whether a cerebral organoid, which is a relatively simple system of cells (although itself complex), is conscious. It becomes more reasonable as increasingly complex systems are developed, and such work is proceeding apace.

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While a future concern, in a world full of more immediate and pressing issues, it will be interesting to listen to the academic, social, and political debate on what to do with mini-brains as they grow in complexity and perhaps inevitably, towards consciousness.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: Is it time to start worrying about conscious human 'mini-brains'?