

# Schizophrenia, When the Murmuration Stops

Nicholas Pediaditakis

Psychiatry, ECU Brody School of Medicine, Greenville, NC, USA

Email: nicholaspediaditakis@gmail.com

**How to cite this paper:** Pediaditakis, N. (2024) Schizophrenia, When the Murmuration Stops. *Open Journal of Psychiatry*, 14, 491-494.

<https://doi.org/10.4236/ojpsych.2024.146029>

**Received:** August 24, 2024

**Accepted:** October 11, 2024

**Published:** October 14, 2024

Copyright © 2024 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

---

## Abstract

This article explores the concept of schizophrenia as a collapse of coordination and smoothness in brain function. The absence of murmuration leads to symptoms such as illogical verbal function, social disconnectedness, and inappropriate responses to environmental demands. Current treatment options are limited to electroshock therapy and medications like Clozaril, which have significant drawbacks. Future potential cures may involve genetic engineering, but this approach poses social, philosophical, and moral challenges.

## Keywords

Schizophrenia, Major Mental Disorders, Murmuration, Psychotropic Drugs

---

## 1. Introduction

An often overlooked and rarely mentioned faculty of our brain coordinates all our functions. Every act and movement normally express themselves in a blended, coordinated harmony, ensuring subtlety, smoothness, elegance, and synchrony. [1] [2] These qualities make us the admirable species we are, as described by Hamlet's soliloquy in Shakespeare's play: "*What a piece of work is a man! How noble in reason, how infinite in faculties, in form and moving, how express and admirable in action, how like an angel in apprehension, how like a god!*" [3] This can be compared to the murmuration of enormous flocks of starlings when tens of thousands fly together in the evening just before roosting in awe-inspiring patterns, exhibiting synchrony, smoothness, and elegance. [4] [5] Witnessing such a display imparts a sense of wonder, as if an unseen conductor guides their every movement. Similarly, healthy human mental faculties operate in a coordinated and harmonious way, much like a murmuration of our own. This coordinating elegance is shared by other living systems notable for their complexity, such as primates. However, in a person with schizophrenia, this normal "murmuration" of brain function stops—the subtlety and elegance of movement and thought are lost,

often replaced by spastic, awkward motions and zombie-like stances. There is a phase shift after which the murmuration is replaced by disjointed expressions unable to support the previously mentioned elegance and synchrony. The term “schizophrenia,” derived from Greek, means “torn mental faculties,” reflecting correctly a collapse of coordination and smoothness in functions

## 2. When the Murmuration Stops

The symptoms associated with disordered function and the absence of synchrony are particularly evident in catatonic phenomena, [6] [7] where the patient may freeze in all expressions. For instance, in a catatonic patient, if an examiner raises the patient’s arm, it may remain there despite the assumed discomfort (*i.e.*, waxy flexibility) as the patient waits passively for the instruction to put the arm down. Other examples are echolalia and echopraxia, where the patient repeats words or imitates movements offered by the examiner, echoing the latter’s behavior. The lack of murmuration often results in illogical verbal function (*i.e.*, word salad), a mismatch of thoughts and feelings, social disconnectedness (*i.e.*, autism in the Greek sense, meaning a lack of social interest), and inappropriate responses to environmental demands.

## 3. Treatments Confronting Schizophrenia

Currently, we do not understand the algorithms that create the murmuration of starlings or the normal murmuration of the human brain. Proposed algorithms for starlings’ murmuration in the literature lack clarity, [4] [5] and similarly, at present, we cannot restore brain synchrony except occasionally and partially with electroshock therapy or a medication like Clozaril, which can be dangerous due to its side effects. [8] The phase shift of murmurations in the brain can also be compared to atrial fibrillation in the heart’s rhythm, where again electroshock can sometimes restore normal function, at least initially.

Antipsychotic medications today only reduce delusions and hallucinations, which may be the brain’s compensatory efforts to address the lost function. The underlying temperamental defect of a future patient conferring vulnerability in expressing schizophrenia remains the same even after successful electroshock therapy. This lopsided temperament is characterized mainly by a lack of sociality, which normally ensures cooperation, altruism, bonding, and group identity. This deficiency in sociality confers vulnerability to the expression of schizophrenia, for which we currently have no cure. This defect is now considered genetic in origin, creating future vulnerability in the expression of schizophrenia, which is at present predictable only with statistical methods. Schizophrenia usually manifests during late adolescence, possibly triggered by hormonal pressures, peer pressure, and the demand for autonomy. [9]

### Future Treatment for Schizophrenia

A potential future cure for schizophrenia could lie in genetic engineering, similar

to treatments for sickle cell anemia using CRISPR. Since certain gene loci are associated with major mental disorders (*i.e.*, schizophrenia, attention deficit disorder, anxiety, obsessive-compulsive disorder, and bipolar disorder), we might eventually identify the genes responsible for sociality and then, through CRISPR, repair the defect. However, this is only a thought. This approach, if ever successful, would face significant social and moral challenges, as it involves altering the fundamental nature of humans.

We can also imagine a successful effort to protect vulnerable patients with deficient social traits from expressing schizophrenia. This hoped-for intervention, too, is fraught with difficulties.

#### 4. Result and Conclusion

The hope for a cure may lie in repairing the defective genome, possibly through genetic engineering like CRISPR. However, this endeavor is rife with social, philosophical, and moral challenges. Ironically, if we ever correct the defective genome that creates vulnerability for the expression of schizophrenia, we may also deprive society of creative individuals who lack social traits, and such a deficiency fosters creativity. [10] [11] Diseases of the brain have historically been addressed with fear and prejudice. Only a few decades ago, the official statistical manual of the American Psychiatric Association defined major, functional mental disorders as reactions, implying that early childhood experiences confer vulnerability (e.g., the “Mama did it” theory) to a major mental disorder. It may be that a device will eventually be created to restore and then maintain the murmuration of the brain, similar to the pace setters used currently for atrial fibrillation (another disturbance of the murmuration of heart rhythm). The more we explore this baffling disorder, the more conundrums we face.

#### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

#### References

- [1] Hövel, P., Viol, A., Loske, P., Merfort, L. and Vuksanović, V. (2018) Synchronization in Functional Networks of the Human Brain. *Journal of Nonlinear Science*, **30**, 2259-2282. <https://doi.org/10.1007/s00332-018-9505-7>
- [2] Padiaditakis, N. (2020) Some Thoughts Regarding the Narrative of the Current Nosological Schema and Their Ramifications for Major Mental Disorders with a Focus on Schizophrenia. *Open Journal of Psychiatry*, **10**, 64-68. <https://doi.org/10.4236/ojpsych.2020.102008>
- [3] Wikipedia (2023) What a Piece of Work Is a Man. [https://en.wikipedia.org/wiki/What\\_a\\_piece\\_of\\_work\\_is\\_a\\_man](https://en.wikipedia.org/wiki/What_a_piece_of_work_is_a_man)
- [4] Goodenough, A.E., Little, N., Carpenter, W.S. and Hart, A.G. (2017) Birds of a Feather Flock Together: Insights into Starling Murmuration Behaviour Revealed Using Citizen Science. *PLOS ONE*, **12**, e0179277. <https://doi.org/10.1371/journal.pone.0179277>

- [5] Jones, C.J. (2018) Watching the Murmurations: Contribution to a Panel Discussion on the Seismic Shifts in Ruling Principles. *Psychological Perspectives*, **61**, 32-38. <https://doi.org/10.1080/00332925.2018.1422920>
- [6] Kaplan, H.I., Sadock, B.J. and Sadock, V.A. (2003) Synopsis of Psychiatry: Behavioral Sciences, Clinical Psychiatry. Lippincott Williams & Wilkins.
- [7] Tandon, R., Heckers, S., Bustillo, J., Barch, D.M., Gaebel, W., Gur, R.E., *et al.* (2013) Catatonia in DSM-5. *Schizophrenia Research*, **150**, 26-30. <https://doi.org/10.1016/j.schres.2013.04.034>
- [8] Correll, C.U., Agid, O., Crespo-Facorro, B., de Bartolomeis, A., Fagiolini, A., Seppälä, N., *et al.* (2022) Correction: A Guideline and Checklist for Initiating and Managing Clozapine Treatment in Patients with Treatment-Resistant Schizophrenia. *CNS Drugs*, **36**, 1015. <https://doi.org/10.1007/s40263-022-00946-w>
- [9] Cross-Disorder Group of the Psychiatric Genomics Consortium (2013) Identification of Risk Loci with Shared Effects on Five Major Psychiatric Disorders: A Genome-Wide Analysis. *The Lancet*, **381**, 1371-1379. [https://doi.org/10.1016/S0140-6736\(12\)62129-1](https://doi.org/10.1016/S0140-6736(12)62129-1)
- [10] Sass, L.A. and Schulberg, D. (2001) Introduction to the Special Issue: Creativity and the Schizophrenia Spectrum. *Creativity Research Journal*, **13**, 1-4. [https://doi.org/10.1207/s15326934crj1301\\_1](https://doi.org/10.1207/s15326934crj1301_1)
- [11] Pediaditakis, N. (2014) The Association between Major Mental Disorders and Geniuses. *Psychiatric Times*, **31**, 1-4.