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To January 2, 2023
Editor,
Journal of Mathematical Biology,

Initial submission of manuscript titled: "Unifying the communicable disease spreading paradigm with Gompertzian growth"

Respected Editor,

We hereby submit a manuscript where we seek to connect the communicable disease paradigm with the recently observed mortality patterns of the initial Coronavirus pandemic in March-April 2020 that have been shown by many to exhibit Gompertzian growth. In the manuscript, we show that this type of growth pattern is incompatible with traditional communicable disease spreading models, i.e. the SIR (Susceptible-Infected-Recovered) model family of Kermack and McKendrick. Instead, the observed patterns can be explained by a simpler model without the need for a disease propagating stage, but rather through a ubiquitous stressor which elicits an instantaneous and mutual stress response, amounting to a 2-parameter model. The mathematical thesis is based on a simple Stochastic Differential Equation where the stress response is a random process, interpretable both at the macroscopic and the microscopic level. We also show a remarkable connection between coherent behavior previously relegated to microscopic quantum domains, now exhibited in national mortality patterns. In light of this, we equate one of the model parameters in the traditional disease models with the level of *coherency* of growth, where coherency has been rigorously defined in the physics literature (see manuscript).

The findings of this paper call for a fundamental and interdisciplinary discussion of our accepted knowledge on communicable diseases, as the observations constitute a classic Kuhnian "anomaly" suggesting a paradigm shift away from that of a purely communicable paradigm to a hybrid where the environment plays a bigger role.

If you do decide to review this paper you may find the enclosed list of possible referees helpful. Some of them are listed in the references of the manuscript. Due to the conclusions of our paper, I request that this paper receives more reviews than your average, and at least 3 reviews.

Thank you for your consideration.

Sincerely yours,

Matz Andreas Haugen

Enclosed :
List of referees

List of possible referees

1. Tom Britton, Dean of Mathematics and Physics, Stockholm University, tom.britton@math.su.se
2. Mark Lewis, marklewis@uvic.ca, Department of Mathematics and Statistics, University of Victoria
3. Alexandru Hening, Department of Mathematics at Texas A and M University, ahening@tamu.edu
4. K-Y. Lam, Mathematics, the Ohio State University, Columbus, lam.184@osu.edu
5. X. Zou, Western University, London, Ontario, xzou@uwo.ca
6. S. Petrovskii, Mathematical Sciences, University of Leicester, sp237@le.ac.uk
7. Pierre Magal, Institut de Mathématiques de Bordeaux, Université de Bordeaux, pierre.magal@u-bordeaux.fr
8. Vladimir N. Binhi, vnbin@mail.ru, Prokhorov General Physics Institute of the Russian Academy of Sciences, 38 Vavilov St., 119991 Moscow, Russia Is familiar with the biological effects due geomagnetic disturbances and fields.
9. Andrei B. Rubin, rubin@biophysics.msu.ru, Faculty of Biology, Lomonosov Moscow State University, Leninskie Gory 1/12, 119234 Moscow, Russia Is familiar with the biological effects due geomagnetic disturbances and fields.
10. Viacheslav V. Krylov, I.D. Papanin Institute for Biology of Inland Waters Russian Academy of Sciences, Borok, Russian Federation, krylovviacheslav@mail.ru Is intimately familiar with geomagnetic disturbances' effect on biology.
11. Marcin Molski, mamolski@amu.edu.pl, Adam Mickiewicz University, physics, Gompertz and quantum systems. Has done work on connecting the gompertz model to quantum coherent systems.
12. Francesco Piazza, Francesco.Piazza@cnrs-orleans.fr, Max Planck Institute for the Physics of Complex Systems, physics, SIR models. Has written one of the central papers modeling covid disease propagation from the SIR perspective. We have based our methods on their paper.
13. Robert M May, robert.may@zoo.ox.ac.uk, Professor of Zoology, University of Oxford.

Other possible reviewers:
1. Joel Miller
2. Mark Chaplain
3. Vishwesha Guttal
4. Natalia Komorova
5. Shigui Ruan
6. Simon Levin
7. Helen Wearing
8. James Watmough
9. Jane Heffernan
10. Jing-an Cui
11. Julien Arino