

## ***Interactive comment on “GAIA 5.0 – A five-dimensional geometry for the 3D visualization of Earth’ climate complexity” by Renate C.-Z.-Quehenberger et al.***

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Thank you very much for your feedback and your intention to help to improve our publication.

Your comments & questions help us to restructure the article in order to address the readers of Geosciences journal. So we'll start with the state of the art of meteorological models and our visualization of ECMWF data. After that we will outline the higher-dimensional geometry and its application to the Earth system – inspired by models in quasi-crystallography – which has a cognitive philosophical aspect & mathematical geometrical part with a suggestion for a possible new models derived from it.

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1) concerning Line 33 – Charles Percy Snow is usually quoted in SciArt literature, for addressing the gap between the two cultures – namely the sciences and the humanities – what he considered as a major hindrance to solving the world’s problems.. What I intended to say is that it took some decades to establish SciArt as a discipline. But actually I find Bernal’s lecture [1] which is addressing the ignorance arising from a lack of education more important. He addressed the weakness of scientific education, especially in England in the interwar period, which is still valid today: it offers more and more precise and progressive approximate insights into an extremely limited field and leaves out everything that defines students as people, the knowledge of Society and its history, philosophy, art, religion and morality.

2) Unfortunately, some explanations for the ‘hyper-Euclidian model of the hypersphere’ explaining the 4th dimension as imaginary movement of 3D spaces in contrary to the ‘pseudo-4-dimensional Minkowski-spacetime paradigm’ were cut out from the originally intended article due to brevity; we will explain shortly the core issues and attached below as supplement.

We intend to explain again shortly in the paper what this cognitive framework means for Earth sciences. Thank you again for your efforts as referee.

Ref.: [1] John Desmond Bernal: Science and the Humanities, lecture delivered on the 26th November 1946 at Birkbeck College, Woodchester, Stroud: Arthurs Press, Bernal, 1946)

Please also note the supplement to this comment:

<https://gc.copernicus.org/preprints/gc-2020-27/gc-2020-27-AC2-supplement.pdf>

Interactive comment on Geosci. Commun. Discuss., <https://doi.org/10.5194/gc-2020-27>, 2020.

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