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Preliminary Note

The following mathematical conjecture follows a fascinating metaphysical vision of Johannes Kepler[1] also because it is verified by spherical wave systems resulting from sonic shot-peening of a stimulated acoustical closed hollow body[2] in time-space reality.

Conjecture about 3-Sphere Space

3-Sphere space can be approximately mathematically described as a continuous sequence of 2-Spheres layered over each other characterized in that the values of density and extension from 2-Sphere to 2-Sphere always differ and at the same time, the product of density and extension for every 2-Sphere of the sequence is always constant.
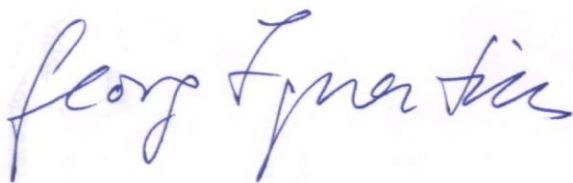
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[1] *"In this way, the whole form of quantities came into existence and with it, the differences between the straight und the crooked and also the most wonderful form of all: the spherical surface. While making these namely, the Wise Creator playfully created the image of his Adorable Trinity. According to this, the central point is the original source of the spherical body, the surface the image of the innermost point and the way to find the same and furthermore that which tangibly occurs by the point infinitely egressing up to a certain uniformity of all individual actions of egression, whereupon the point conveys to itself in such an expansion that **point und surface should be equal in inverse proportionality to the density**. Thus absolute equality exists on all sides between point and surface, the closest Oneness, the most wonderful harmony, connection, relationship, proportion and equality of mass; **and although obviously they are three: center, surface and interspace, they are really one, so that not one could be missing, not even in thought, without destroying the whole."** (Frankfurt 1604, pp. 6-7, quoted after the translation in W. Pauli,* Der Einfluss archetypischer Vorstellungen auf die Bildung naturwissenschaftlicher Theorien bei Kepler, *in C.G. Jung and W. Pauli,* Naturerklärung und Psyche, *Rascher 1952, p. 125, as well as E.P. Fischer,* Die aufschimmernde Nachtseite der Wissenschaft, *CH Lengwil 1995, p.72) (English and highlighting by Ignatius)*

[2] Cf. Kugelstrahler 0. Ordnung */ Trendelenburg F.:* Einführung in die Akustik */ Berlin 1961/ in dtv-Lexikon der Physik / München / März 1971*

The Conjecture is based on the following precepts:

1. The physical bubble (e.g. soap bubble) is an embodiment of the border case of a closed inhomogeneous elastic deformation.

2. The physical bubble internally and externally limited by two contrary surfaces, namely by the convexly curved "upper" surface and the concavely curved "lower" surface.

3. The "upper" surface of the bubble is subject, as a whole, to uniform tensile stress e.g. uniformly extended and the "lower" surface is subject to compression-stress.

4. The upper and lower surfaces of a physical bubble can be topologically understood as 2-Spheres which are directly interdependent i.e. with no upper surface there is no lower surface and with no lower surface there is no upper surface.

5. **The physical bubble is a 3-Sphere.**

6. The straight line between the lower surface and the upper surface of a physical bubble traverses the space of the 3-Sphere and is to be understood as the space-dimension of a 3-Sphere.

7. The 3-Sphere space is a stress field which is held in a stable balance by two opposing states of elastic tension, namely compression stress and tensile stress.

8. Compression stress and tensile stress represent force and counterforce in a closed state of elastic deformation.

9. The space dimension of 3-Spheres can extend from $\rightarrow 0$ "short" to $\rightarrow \infty$ "long".

10. The 3-Sphere space can be mathematically described as a continuous sequence of layers of different 2-Spheres, whose specific surface areas continuously grow from the "lower" surface to the "upper" surface.

11. When the surface of every so defined 2-Sphere is divided by the same divisor, surface parts are generated, which show increasing dimensions from "inside" to "outside". However when all the surfaces are contracted to mass-points, these will all be completely identical in mass.

12. A metaphysical 3-Sphere is adequate (homeomorphic) to a physical 3-Sphere.

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