

# The Golden Ratio (1.62) as a dimensionless biological constant

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Regarding the significance of the Golden Ratio, 1.62, in phenomena as described by Boeyens and Thackeray<sup>1</sup> in 2014, I also – in a 1998 publication<sup>2</sup> – demonstrated its significant and unifying role in physical and biological reality. It was demonstrated that the Golden Ratio is an inherent, dimensionless biological constant composing the dimensional physical constants of physics. In that article, it was also shown that this biological constant reflects a regenerative, adaptive or accommodating process operating through all scales of reality, from the sub-quantum, through the biological, to the cosmological level of organisation, and in so doing, giving a fractal unity to such realities, uniting quantum reality with cosmological reality, hence quantum reality with the reality of general relativity. Through a simple mathematical analysis, it was also found and noted that this dimensionless biological constant denotes a near infinitesimal, regenerative feature of space-time. Also described was how the dimensionless biological constant defined reality or space-time as having a vortical or spiral morphology. In 1949, the mathematician Kurt Gödel, in solving in a new way the differential field equations from general relativity, showed the universe as having a spiral or vortical space-time geometry through the rotation of matter.<sup>3</sup>

In a subsequent article, published online in February 2015 ([www.michaellieber.com](http://www.michaellieber.com)), I further elaborated on the role of the Golden Ratio as a biological constant in structuring regeneratively and self-similarly the different levels of reality. Among the many related subjects covered, it was shown how this constant might have united the general relativity theory of Einstein with the innovative quantum mechanics described by the physicist Paul Dirac. From the standpoint of biology, it was also noted how this biological constant reflects processes in evolution. In viewing these two articles, it becomes clear how this dimensionless biological constant reflects and defines an underlying unity within reality.

The findings of Boeyens and Thackeray<sup>1</sup> give significant support to the conclusions and implied predictions that I presented in 1998. It is encouraging that others are pursuing and describing the significant role that the Golden Ratio has in unifying universal processes and states, thereby giving us a deeper, holistic understanding of our universe. Such may lead to a testable, universal view of reality – perhaps to a type of biological, unified, field theory.

## References

1. Boeyens JCA, Thackeray JF. Number theory and the unity of science. *S Afr J Sci.* 2014;110(11/12), Art. #a0084, 2 pages. <http://dx.doi.org/10.1590/sajs.2014/a0084>
2. Lieber M. The living spiral. A dimensionless biological constant gives a new perspective to physics. *Rivista di Biologia – Biology Forum.* 1998;91:91–118.
3. Gödel K. An example of a new type of cosmological solutions of Einstein's field equations of gravitation. *Rev Mod Phys.* 1949;21(3):447. <http://dx.doi.org/10.1103/RevModPhys.21.447>



Source: Boeyens and Thackeray<sup>1</sup>

Examples of the Golden Ratio found in nature: (from left to right) the Whirlpool Galaxy, a Nautilus shell, Hurricane Katrina and an ammonite.

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