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TOWARDS A UNIFICATION OF PHYSICS, CHEMISTRY, AND BIOLOGY THROUGH TORSION FIELDS AND THE KLEIN BOTTLE LOGIC

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We present a proposal for unification of quantum chemistry, biochemistry, cell biology, embryological differentiation, genetics, evolution, physiology and cognition, in terms of the physics of torsion fields and the associated logophysics of paradoxical structures such as the Klein bottle and the Hyper Klein bottle. We discuss the heterarchy of reentrant systems principle associated to the latter, and the multivalued Klein logic and its relation with cognition and quantum fields. We discuss Klein bottle self-penetration as a constitutive logophysical principle, fundamental to the periodic table for stable nuclides and as a principle of biological self-organization. We discuss the role of quantum potentials and the torsion geometry of quantum

chemistry, and the relations with shape and conformation of molecules as a new paradigm for chemistry in terms of topology and spacetime geometry. We apply this to formulate a novel principle for allosterics, related to the proposal by J. Benveniste. We discuss the role of torsion geometries and this topological allosterics with electromagnetic potentials and the Aharonov-Bohm phenomena in cell biology and ordered domains. We discuss the relations with regards to a new paradigm for nanobiology related to the properties of non-bulk water by G. Pollack, and discuss the physicalist conceptions of G. Ling and R. Gordon. We introduce the torsion geometry of differentiation waves in embryogenesis, as a biomechanical model associated to the cell splitter, the action of a Time operator and its Klein bottle logic (Kbl) and discuss its relations with cell state determination. We propose a 4-state topological model for the codification of the embryological differentiation in terms of the Kbl of the genetic code. We contrast the ensuing fractal self-referential non-linear bauplan of embryological development with the dual state differentiation linear tree proposed by Richard Gordon in his theory of evolution associated to the purported dual-state embryological differentiation produced by differentiation waves. We construct the genetic code in terms of the Klein bottle logic, and present novel Hyper Klein bottle and torus topologies related to the subalphabets of the genetic code. We establish a relation with the Dirac algebra of quantum mechanics, and discuss the relation between the degeneracy of the genetic code and the action of a Time operator, with the transformations of the algebraic structures of the genetic code. We present a proposal for evolutionary theory, based on our previous findings and the existence of biological periodicities.
