E8 for Psychological Types and Physics

By John C. Gonsowski

Abstract

James Reynierse says: "You have it exactly right when you refer to the symmetry of type beginning with the Pair interactions. My colleague and fellow researcher John Harker and I have frequently discussed these relationships in terms of the natural symmetry of type… showing a circumplex structure for the MBTI is interesting and instructive…". E8 and its subalgebras are mapped to MBTI types and Enneagram numbers. In the process, analogies with the use of E8 symmetry in physics are explored. Down at D3, a Process Circumplex is constructed from MBTI type pair interactions and a relationship is shown between Enneagram Triads and the MBTI Feeling and Thinking types. The Enneagram's Law of 7 provides hexagonal structure for the Circumplex while the Law of 3 provides triangular structure. At D4, additional Enneagram Triads relate to the MBTI's Introversion and Extraversion Types. For the F4 8-dim vector, an analogy is constructed between the Circumplex's inward and outward two-fold Enneagram quaternities and the internal and external dimensions of spacetime. The external spacetime/outward quaternity relates to the X-Y-Z-T spacetime basis vectors for gravity rotations and boosts and the internal spacetime/inward quaternity relates to the Standard Model electroweak bosons. For the F4 spinors, the analogy constructed is between two additional sets of two-fold quaternities and orbifolded matter/antimatter spinor components. F4 with its Spacetime-Matter-Antimatter Triality is related to Enneagram triple octaves and to the Sri Yantra footprint with interpenetrating triangles. E8 superimposes 8 vertices at each F4 two-fold quaternity location which for the physics analogy adds for quantization, 8 momentum operators for spacetime and 8 particle types for matter/antimatter. This E8 quantization may underlie quantum consciousness.

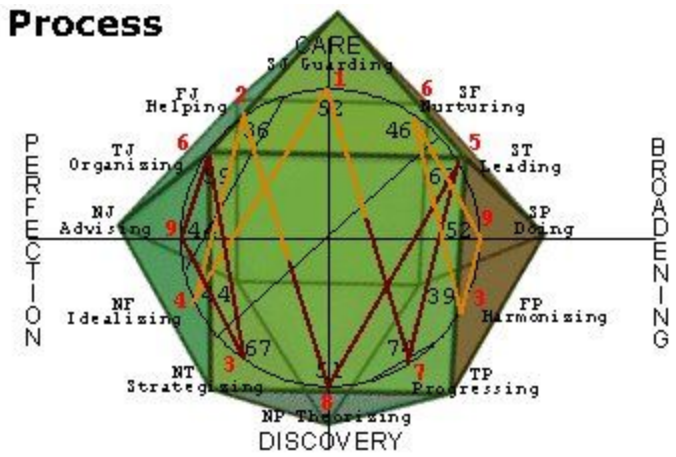
Introduction

James Reynierse [1] says: "You have it exactly right when you refer to the symmetry of type beginning with the Pair interactions. My colleague and fellow researcher John Harker and I have frequently discussed these relationships in terms of the natural symmetry of type… showing a circumplex structure for the MBTI is interesting and instructive…". E8 and its subalgebras [2] are mapped to MBTI [3] types and Enneagram numbers [4]. In the process, analogies with the use of E8 symmetry in physics are explored. Down at D3 [5], a Process Circumplex is constructed from MBTI type pair interactions and an analogy is shown between Enneagram Triads [6] and the MBTI Feeling and Thinking types. The Enneagram's Law of 7

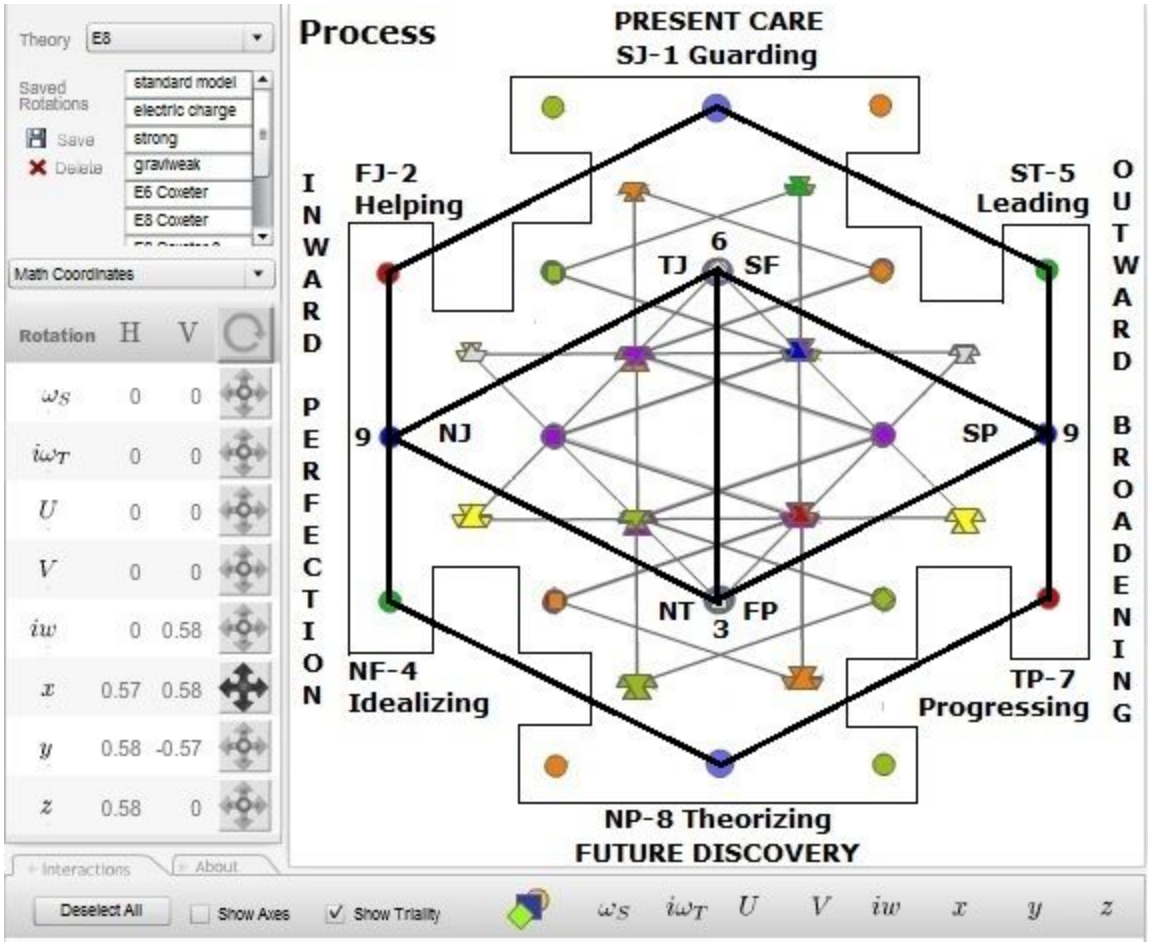
provides hexagonal structure for the Circumplex while the Law of 3 provides triangular structure [8]. At D4 [9], additional Enneagram Triads relate to the MBTI's Introversion and Extraversion Types. For the F4 8-dim vector [11], an analogy is constructed between the Circumplex's inward and outward two-fold Enneagram quaternities [12] and the internal and external dimensions of spacetime [13]. The external spacetime/outward quaternity relates to the X-Y-Z-T spacetime basis vectors for gravity rotations and boosts [23] and the internal spacetime/inward quaternity relates to the Standard Model electroweak bosons [10]. For the F4 spinors [11], the analogy constructed is between two additional sets of two-fold quaternities and orbifolded [14] matter/antimatter spinor components [17]. F4 with its Spacetime-Matter-Antimatter Triality [11] is related to Enneagram triple octaves [15] and to the Sri Yantra [16] footprint with interpenetrating triangles. E8 [11] superimposes 8 vertices at each F4 two-fold quaternity location which for the physics analogy adds for quantization [17], 8 momentum operators for spacetime and 8 particle types for matter/antimatter. This E8 quantization may underlie quantum consciousness [18].

D3

Data and theories [4] relating the MBTI to the Enneagram were examined and twelve MBTI pairs were plotted on to a cuboctahedron, the root vector polytope for D3 [5]. Enneagram numbers, fitting with the data and theories, were assigned for the Law of 7 [8] (1-4-2-8-5-7) such that these points were on a hexagon. The order of the points around the hexagon is 1-2-4-8-7-5. This ordering [19] is for the powers of two (1, 2, 4, 8, 16, 32) turned via 16 = 1+6 = 7, 32 = 3+2 = 5, etc. into a repeating pattern (1, 2, 4, 8, 7, 5). This pattern is related to the commonly known pattern where multiples of 3 have the sum of their digits divisible by 3. The remaining points form two Law of 3 [8] (3-6-9) patterns on two equilateral triangles.



The perfection and broadening quadrants for this Circumplex relate to the inward and outward quadrants of the Capability Snapshot [20]. The Capability Snapshot's present and future quadrants relate to the care and discovery quadrants on this Circumplex. Using Garrett Lisi's Elementary Particle Explorer [21], the following projection of the Circumplex shows the law of 7 hexagon and two law of 3 triangles more easily:



The points of the Circumplex can be arranged into a 3x3 matrix:

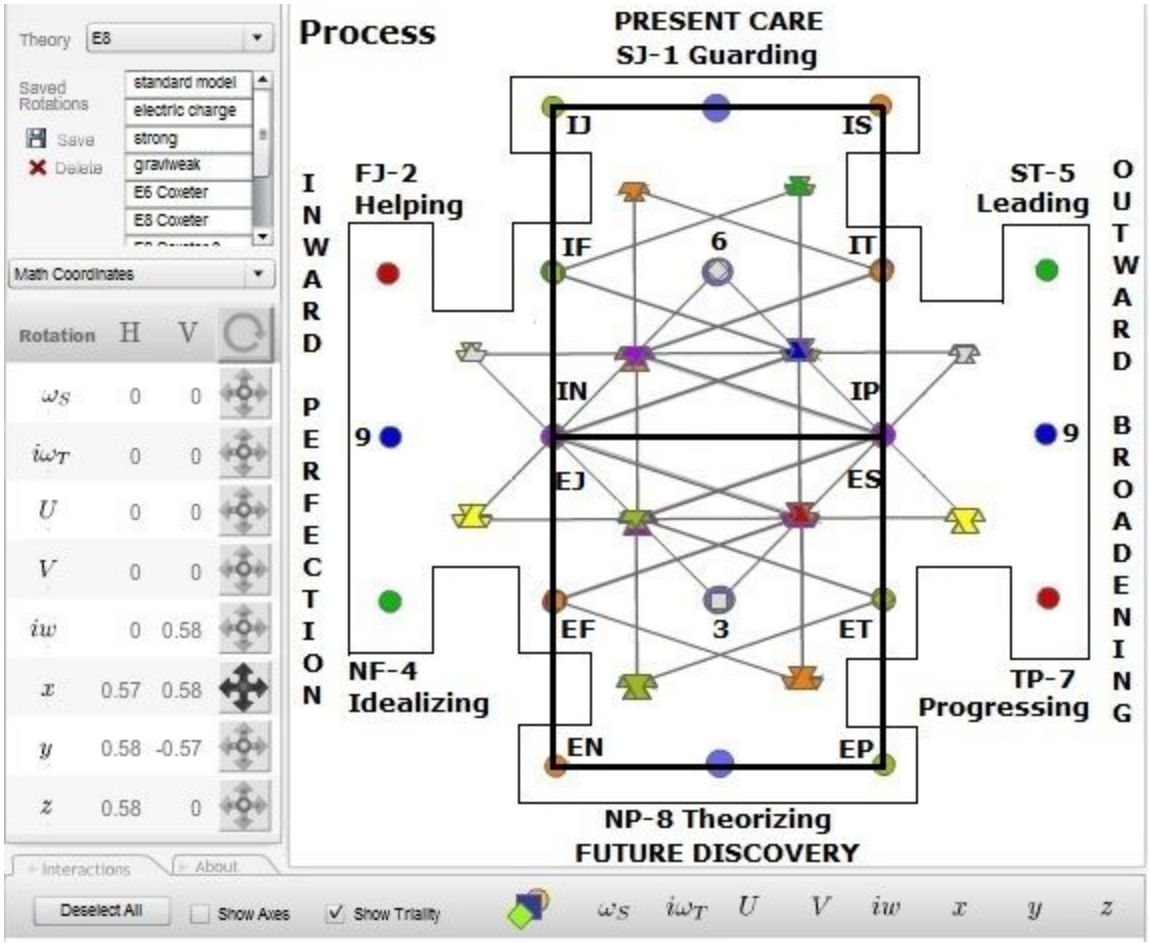
5-6-7 (ST-TJ-TP with MBTI Thinking) Thinking Triad [6]
2-3-4 (FJ-FP-NF with MBTI Feeling) Feeling Triad [6]
8-9-1 (NP-SP-SJ MBTI Thinking/Feeling Neutral) Instinctive Triad [6]

Since there are two Law of 3 triangles, an extra point can be added to each triad to create quads:

ST-TJ-TP-NT Thinking Quad
FJ-FP-NF-SF Feeling Quad
NP-SP-SJ-NJ Instinctive Quad

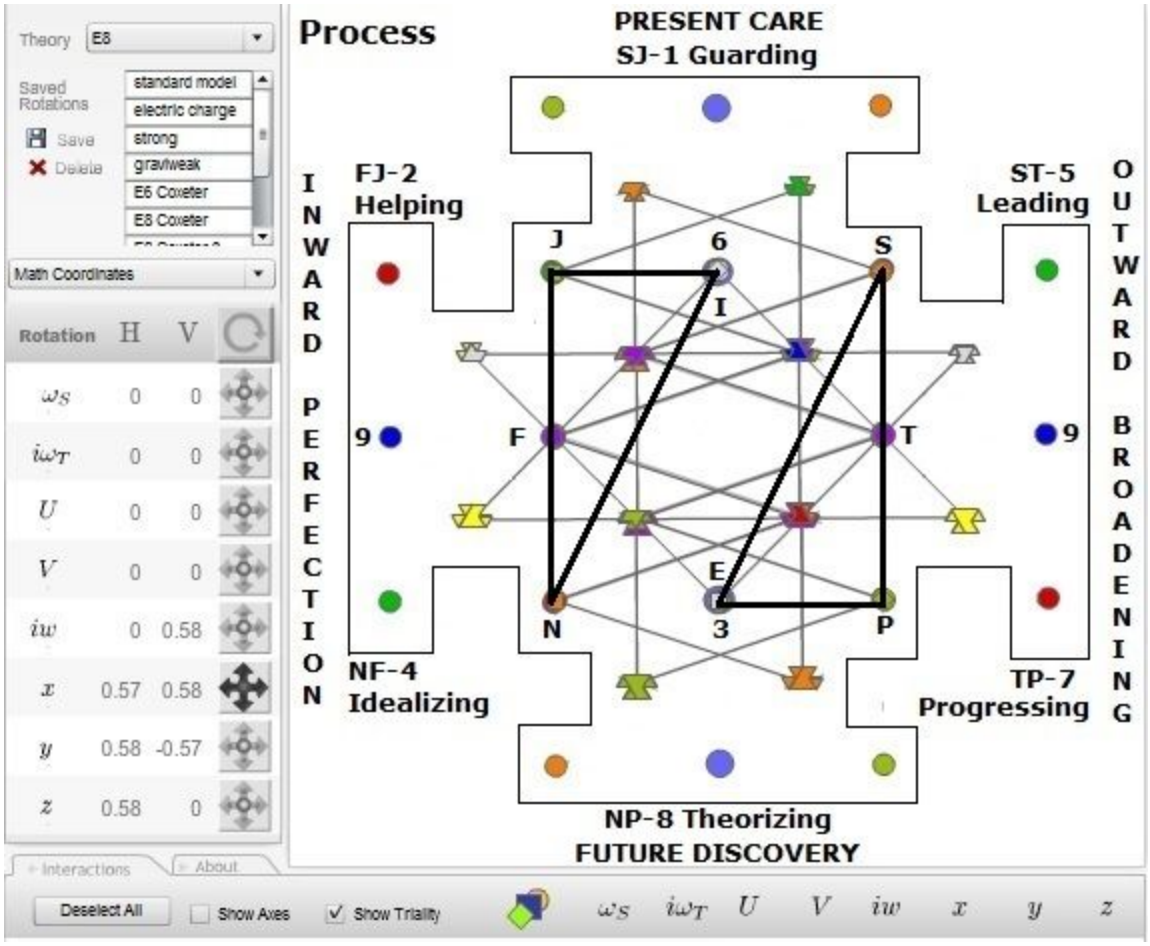
D4

D4 [7] assigns the MBTI's Introversion (I) to the 1-2-6 Compliant Triad [6] and assigns Extraversion (E) to the 3-7-8 Assertive Triad [6]. The 4-5-9 Withdrawn Triad is neutral with respect to Introversion/Extraversion [6].



F4 Vector

The first eight points of the Enneagram are "depicted as a two-fold quaternity, or 'double-mandala', made of two mandalas drawn respectively on two planes that are at right angles to each other" [12]. These two quaternities represent an 8-dim vector that plots on to the F4 polytope [11].

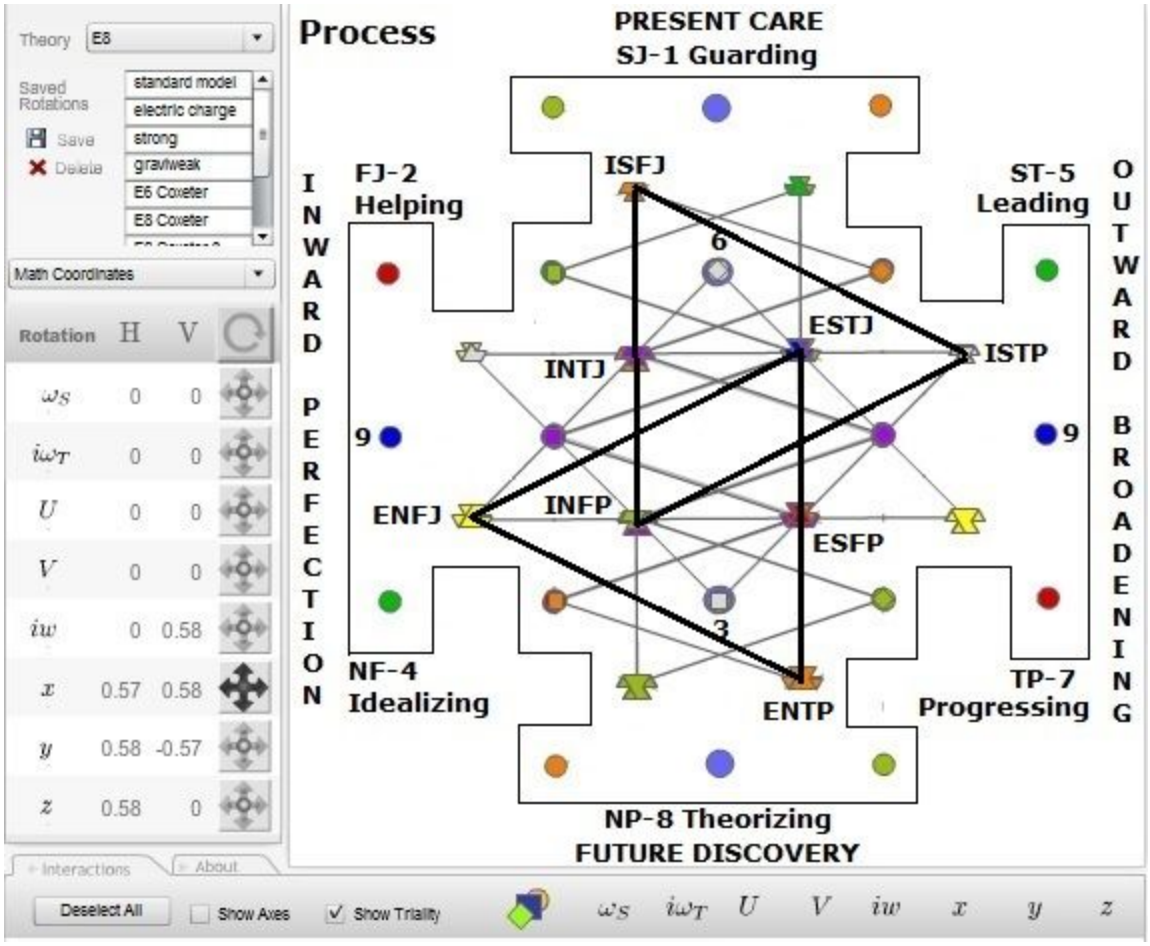


The analogy in physics for two-fold quaternities at right angles to each other is the idea of spacetime having four internal symmetry space dimensions in addition to the four large physical external dimensions [13]. The idea of "right angles" relates to Einstein's 1938 Kaluza Klein work where a small internal spacetime dimension transforms a large spacetime dimension into a cylinder with a small circumference [24]. This Circumplex's inward and outward Capability Snapshot quadrants match to the internal and external dimensions of spacetime. The I and E vertices match to the time-like part of spacetime and line up along the Capability Snapshot's Present - Future axis. The external spacetime/outward quaternity relates to the X-Y-Z-T spacetime basis vectors for gravity rotations and boosts [23]. The external spacetime gravity rotations XY, XZ, ZY relates to the outward quaternity two factor

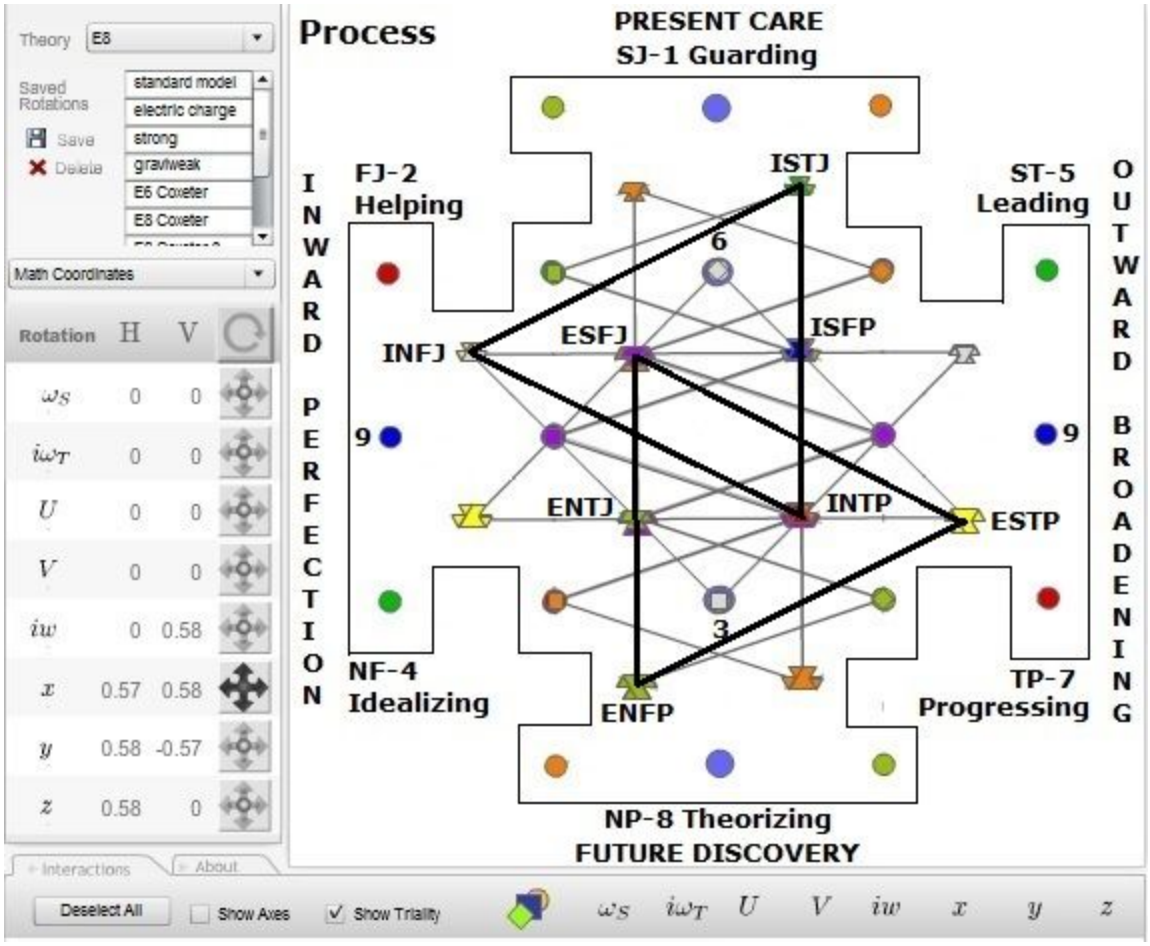
types SP, ST, TP column on the D3 graphic above. The external spacetime gravity boosts TX, TY, TZ relate to the outward quaternity two factor types ES, EP, ET column on the D4 graphic above. For the internal spacetime electroweak bosons [10], the two related inward quaternity columns are IF, IJ, IN from the D4 graphic and FJ, NF, NJ from the D3 graphic. Mixed use of external and internal spacetime for color/anticolor gluons [10], the translations for Einstein's metric [23] and the conformal gravitons [7] of unimodular relativity [22] relate to column plus one quaternities with the same shape as the inward/outward quaternities. The translation related quaternity is SF, FP, FT (center of the graphic), EF. The conformal quaternity is IS, IP, IT, IE (center of the graphic). The color gluon quaternity is NS (center of the graphic), NP, NT, EN. The anticolor gluon quaternity is SJ, PJ (center of graphic), TJ, EJ.

F4 Spinors

Additional two-fold quaternity patterns are added using F4 [11].

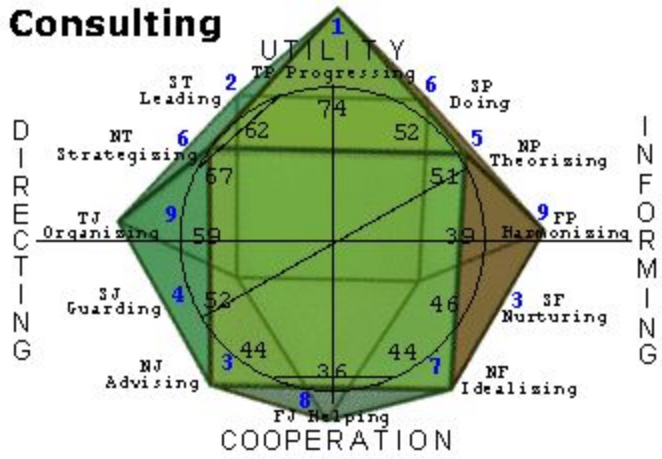


The physics analogy these two-fold quaternities are the orbifolded [14] matter/antimatter spinor components [17]. The F4 spinor two-fold quaternity above relates to matter and this second F4 spinor two-fold quaternity relates to antimatter.



Triality

Combining the F4 vector and spinors forms a Triality [11] of spacetime, matter and antimatter. This Triality is related to P.D. Ouspensky's construction of the Enneagram as three octaves via 120 degree rotations [15] and to the Sri Yantra [16] footprint with interpenetrating triangles. The lighter interpenetrating triangles above depict the Triality by connecting one spacetime, one matter, and one antimatter vertex. Triality can be seen in non-linear form [25] down at the D3 level. This non-linear Triality creates two additional D3 cuboctahedra via mappings to "interchange 3 elements of the triangular faces" of the D3 cuboctahedron's law of 3 patterns. The additional D3 cuboctahedra form a Development Circumplex and a Consulting Circumplex.



The Maintenance, change, unity, and challenge descriptors relate to the dependent, achievement, affiliation and power quadrants of the OCI [26]. Directing, informing, utility and cooperation are descriptors used by David Keirsey [27]. These descriptors relate to the data, ideas, things and people quadrants of the RIASEC [28].

E8

E8 [11] superimposes 8 vertices at each F4 two-fold quaternity location which for the physics analogy adds for quantization [17], 8 momentum operators for spacetime and 8 particle types for matter/antimatter. This E8 quantization may underlie quantum consciousness [18].

References

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