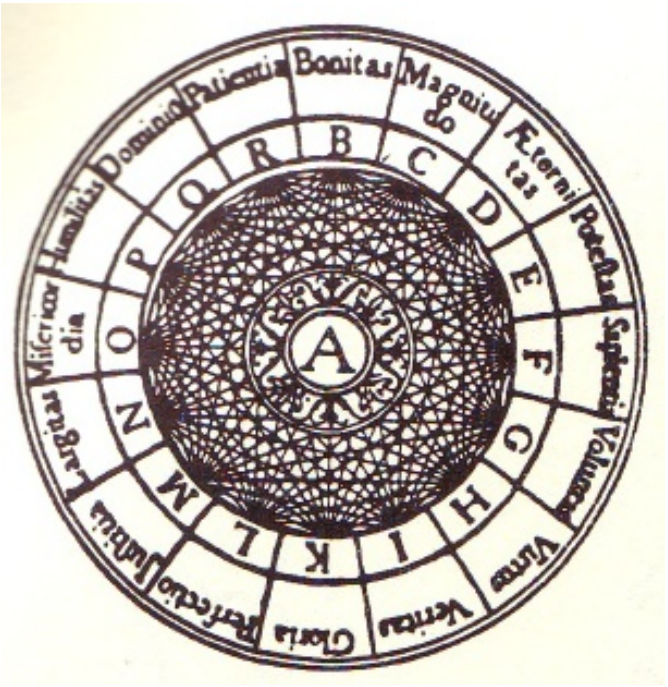
# LULL: from 256 Odu of IFA to 256 Cellular Automata

# Ramon Llull Connected Ancient Wisdom to 21st Century Science




**Ramon Llull (ca 1232 to 1315) developed his 16-vertex A-wheel by studying Arabic language and culture.**

**The Arabic divination system Ilm al Raml is based on 16 elements.**

**Llull showed 120 lines connecting distinct pairs of the 16 vertices.**

**They were all the distinct pairs ( 16x16 - 16 = 256 - 16 = 240 ) but considering that order does not matter ( line from A to B is considered the same as line B to A ) so that**

**the total number of distinct pairs (disrearding order) is 240/2 = 120 .**

**The 16 vertex elements and 120 line pairs correspond to the 16 vectors and 120 bivectors of the real Clifford Algebra Cl(16).**

**Cl(16) = Cl(8 (x) Cl(8)**

**each Cl(8) is 16x16 = 256-dimensional**

and

**since any very large Clifford Algebra Cl(8N) can be factored into the tensor product**

**Cl(8N) = Cl(8) ... (x) ... (N times tensor product) ... (x) ... Cl(8)**

**you can take the completion of the union of all the tensor products and get a generalized Hyperfinite II1 von Neumann Algebra factor that represents a realistic Unified Physics Model including Gravity and the Standard Model,**

so, effectively,

# Llull's A-wheel is a Seed that grows into a realistic Unified Physics Model including Gravity and the Standard Model.

# Where did Llull's A-wheel Seed come from?

**Llull probably developed his A-wheel from the 16-element Arabic divination system Ilm al Raml.**

**Ilm al Raml came to Arabs from African IFA.**

**IFA has 2^8 = 16x16 = 256 Odu**

**based on 16 Orishas**

- 0 Ogbe (light of creation) - Orunmila (wisdom Tao)
- 1 Osa (creativity) - Oya (wind)
- 2 Otura (unity of everything) - Osain (forest spirits)
- 3 Owonrin (rain) - Oshun (rivers) (He Xiangu)
- 4 Irete (fate) - Babalu Aye (healer) (TieGuai Li)
- 5 Ofun (taboo) - Eshu Legba (trickster)
- 6 Edi (womb) - Obatala (hermaphrodite father of humanity)
- 7 Okanran (lightning) - Chango (thunder)
- 8 Ogunda (sword) - Ogun (iron) (Lu Dongbin)
- 9 Iwori (consciousness) - Eshu Legba (messenger)
- 10 Ose (victim of abuse) - Osun (guardian angel)
- 11 Oturopon (trap) - Ochosi (hunter)
- 12 Irosun (fire) - Aganyu (volcano)

- 13 Ika (forest land) - Yemaya (ocean)
- 14 Obara (rainbow) - Inle (two intertwined snakes, medicine)
- 15 Oyeku (dark of earth) - Ibeyi (twins Yin-Yang)

## Pairs of the 16 Orishas give 16x16 = 256 Odu

## What are the structural relationships among the 256 Odu,

## corresponding to each of the two 256-dimensional Cl(8) of Llull's Cl(16) = Cl(8) (x) Cl(8) ?

Since the graded structure of each Cl(8) is 256 = 1 + 8 + 28 + 56 + 70 + 56 + 28 + 8 + 1 we have

Cl(8) (x) Cl(8) = ( 1 + 8 + 28 + 56 + 70 + 56 + 28 + 8 + 1 ) (x) ( 1 + 8 + 28 + 56 + 70 + 56 + 28 + 8 + 1 ) =

= 1 + 16 + 120 + 560 + 1,820 + 4,368 + 8,008 + 11,440 + 12,870 + 11,440 + 8,008 + 4,368 + 1,820 + 560 + 120 + 16 + 1 = 65,536 = Cl(16)

and

for vectors, 1x8 + 8x1 = 8 + 8 = 16

for bivectors, 1x28 + 8x8 + 28x1 = 28 + 64 + 28 = 120

for spinors, sqrt(65,536) = sqrt(256x256) = sqrt(256) x sqrt(256) = 16 x 16

for half-spinors, Cl(16) has 128 + 128 and Cl(8) has 8 + 8

so

each Cl(8) has 8 +half-spinors and 8 -half-spinors

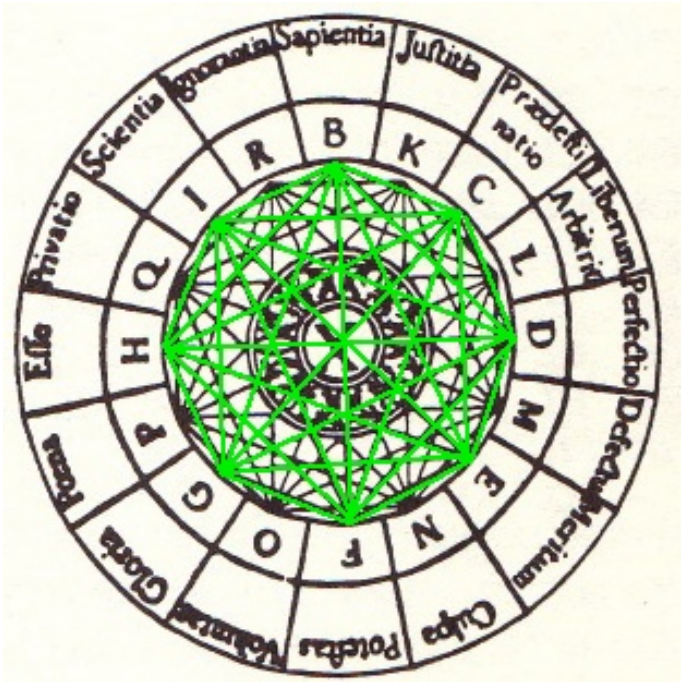
and

### by Triality for Cl(8)

### the 8 Cl(8) vectors = the 8 Cl(8) +half-spinors = the 8 Cl(8) -half-spinors

## Llull's X-wheel has 8 vertices (green) for vectors of one Cl(8)

# and 8 vertices (black) for vectors of the other Cl(8)




**For each Cl(8), Llull shows 28 lines between distinct pairs of vertices (disregarding order)**

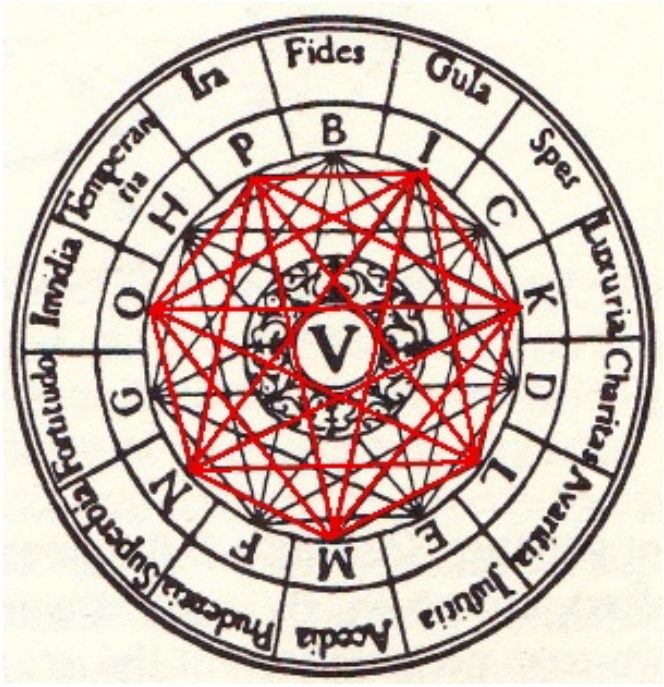
**corresponding to the 28 bivectors of that Cl(8).**

**The 8 dimensions of each Cl(8) vector space correspond to the 8-dimensional Octonions with basis { 1 , i , j , k , E , I , J , K } .**

**The 7 imaginary Octonion basis elements { i , j , k , E , I , J , K } correspond to the 7 dimensions of the unit 7-sphere S7 in Octonionic space.**

**Llull's V-wheel has 7 vertices (red) for the vector space 7-sphere S7 of one Cl(8)**

**and 7 vertices (black) for the vector space 7-sphere S7 of the other Cl(8)**




**For each Cl(8), Llull shows 21 lines between distinct pairs of vertices (disregarding order)**

**corresponding to 21 new independent dimensions created by taking the Lie Group Product of points on S7.**

**Unlike the 3-sphere S3 in Quaternionic space with basis { 1 , i , j , k } for which the Lie Group Product of any two points is also a point on S3,**

**the Lie Group Product of any two points on S7 is NOT necessarily also a point on S7, but may lie in any of 21 newly formed independent dimensions,**

**so that**

**the Lie Group Product for S7 produces the 7+21 = 28-dimensional Lie Group Spin(8) of the bivectors for each Cl(8).**

# At this point ,

# Llull has described the basic ingredients for a high-energy (around Planck Energy) physics model with:

## Clifford Algebra Cl(8) = Cl(1,7) = 16x16 Real Matrix Algebra

## 8 first-generation fermion particles

**8 first-generation fermion antiparticles**

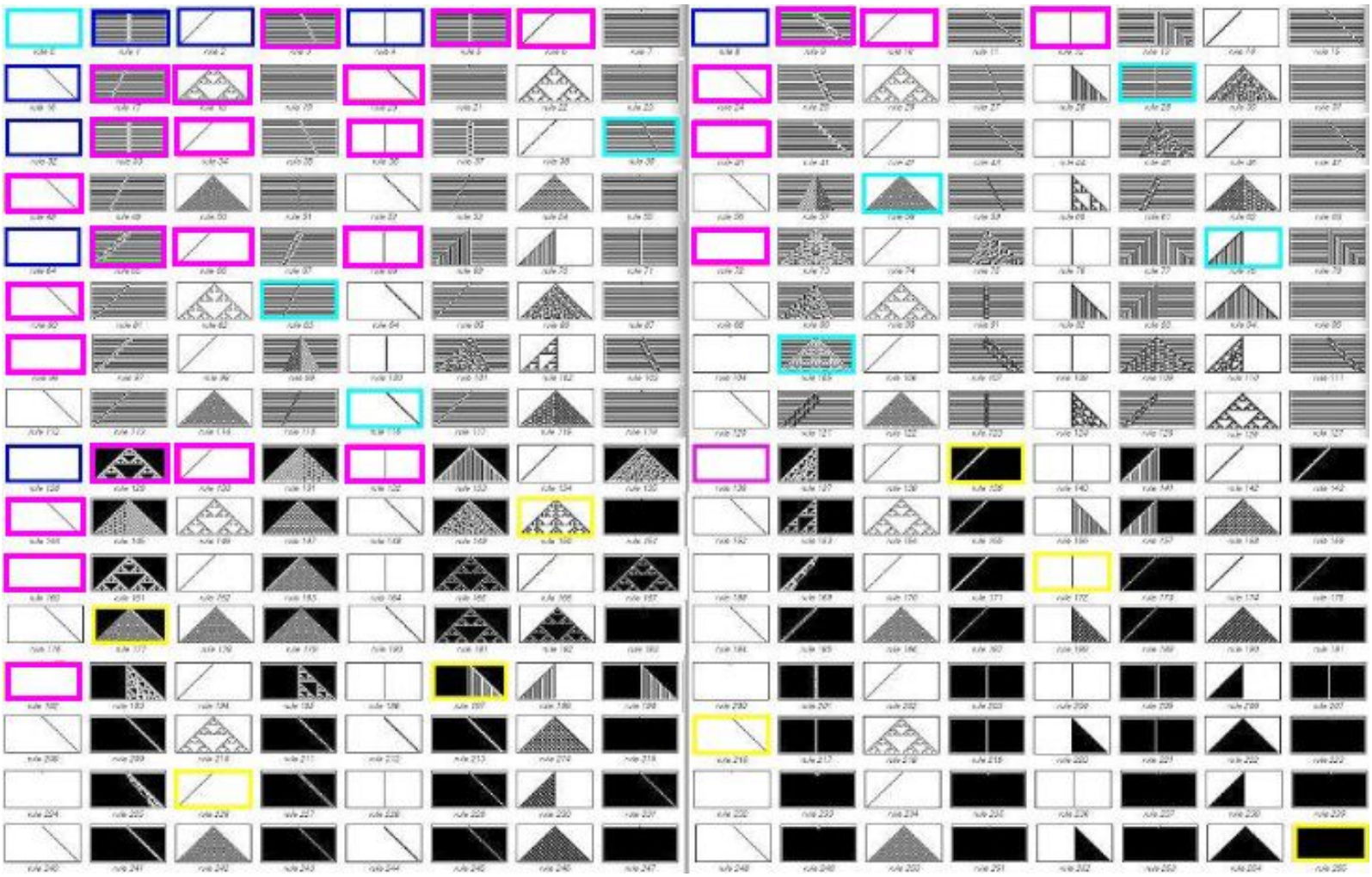
**8-dimensional spacetime RP1 x S7**

**28 Spin(8) = Spin(1,7) gauge bosons**

**a Lagrangian integrated over the 8-dimensional spacetime with fermion and gauge boson terms**

**a Many-Worlds Sum-Over-Histories Path Integral Quantum Theory.**

# To visualize this 16x16 = 256 element structure, use the correspondence with the 256 Cellular Automata



**with**

**blue for the 8 spacetime dimensions**

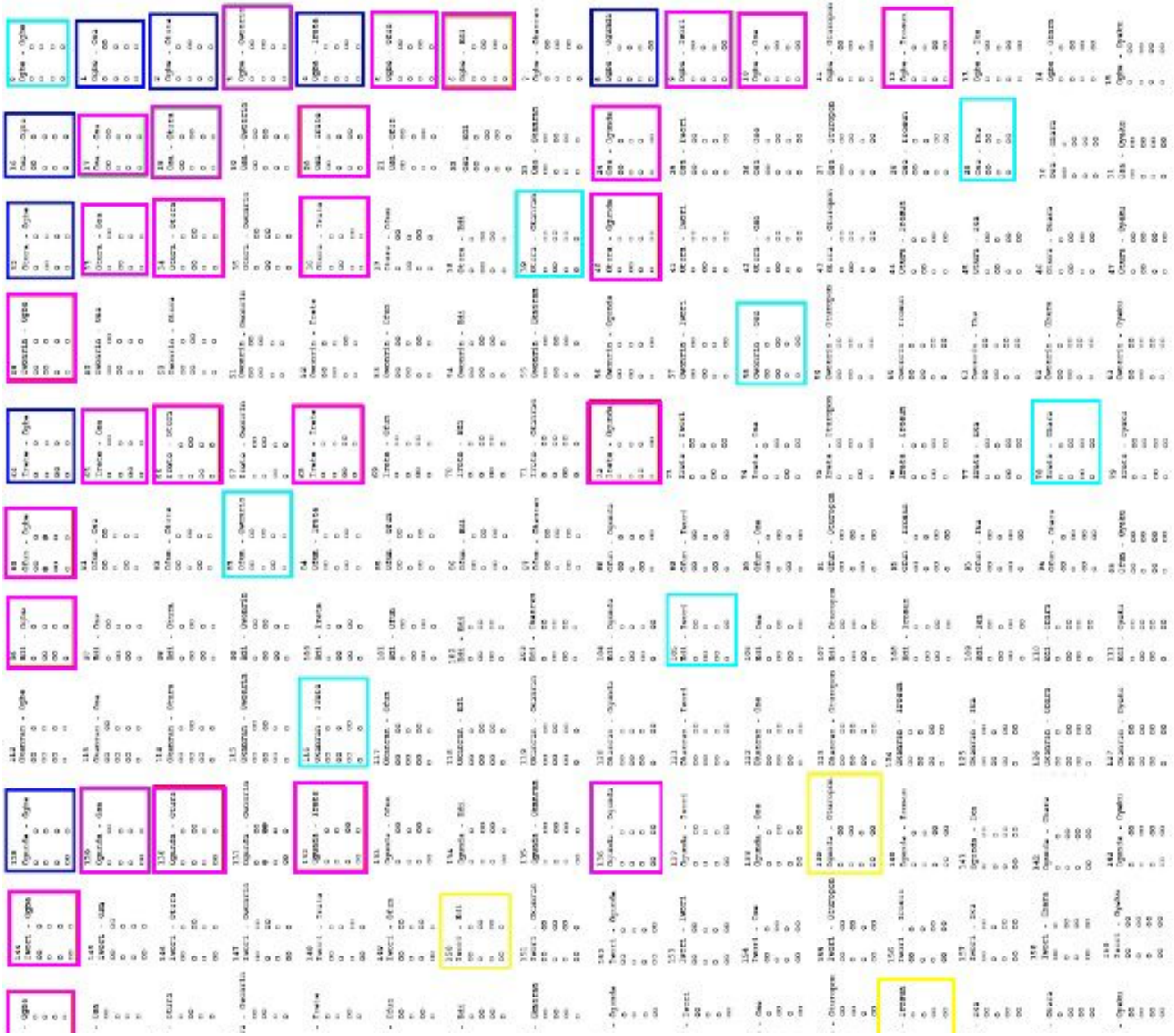
**cyan for the 8 +half-spinor first generation fermion particles**

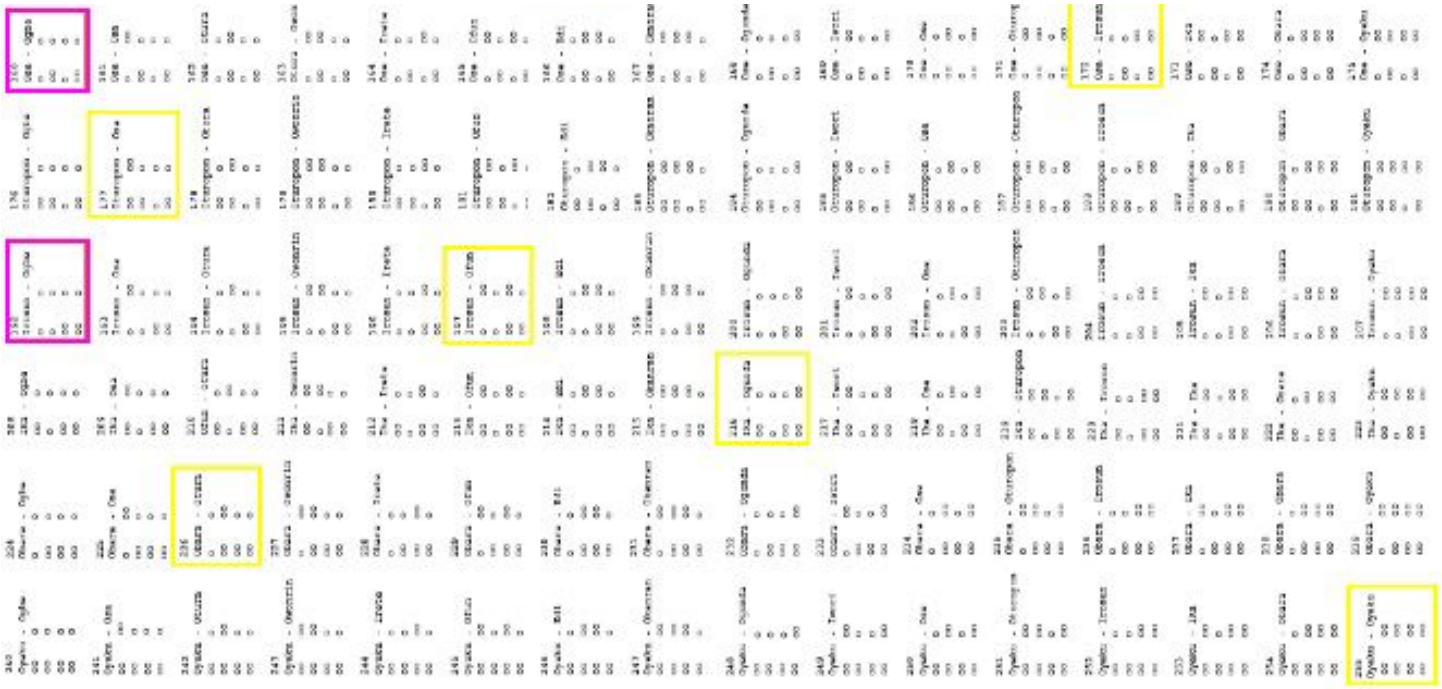
**yellow for the 8 -half-spinor first generation antiparticles**

**magenta for the 28 Spin(8) gauge bosons.**

# The 256 Cellular Automata, in turn, correspond to the 256 Odu of IFA, so, with the same color coding, the structure of Llull's 8-dimensional Science can be seen in terms of the 256 Odu of IFA:

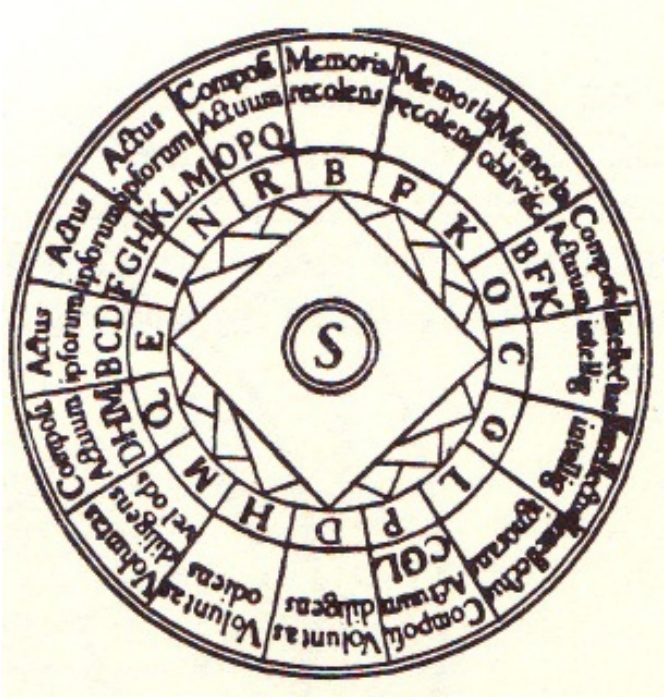
(click here or on the image to see a larger scale rotated 90 degrees)





# How is Llull's 8-dimensional Science Structure related to our 4-dimensional Physical Spacetime ?

**At low (compared to Planck) energies, a 4-dimensional Quaternionic subspace Freezes Out of high-energy 8-dimensional spacetime. Its Quaternionic basis { 1 , i , j , k } corresponds to the 4 vertices of the S-square of Llull's S-wheel.**




**When the Quaternionic Structure is introduced, the 16x16 Real Matrix Algebra of Cl(8) = Cl(1,7) is transformed into the 8x8 Quaternionic Matrix Algebra of Cl(2,6).**

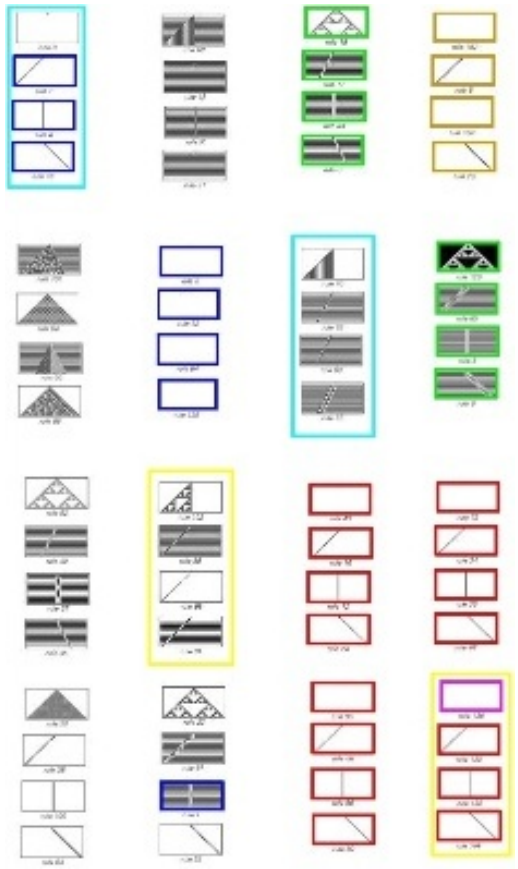
**Full Spinors of the 8x8 Quaternionic Matrix Algebra of Cl(2,6) have 8 Quaternion dimensions or 32 Real dimensions,**

**and so are incompatible with the 16-Real-dimensional Full Spinors of the 16x16 Real Matrix Algebra of Cl(1,7) = Cl(8).**

**To get a Quaternionic Clifford Algebra with 16-Real-dimensional Full Spinors, in the form of 4 Quaternion dimensions, reduce**

**from Cl(2,6) = 8x8 Quaternionic Matrix Algebra**

**to the 4x4 Quaternionic Matrix Algebra of Cl(2,4).**



**with**

**blue for the 4 spacetime dimensions and the 4 internal symmetry space dimensions**

**cyan for the 8 +half-spinor first generation +half-spinor fermion particles**

**yellow for the 8 -half-spinor first generation -half-spinor fermion antiparticles.**

**The fixed Quaternionic subspace corresponds to 4-dimensional Physical Spacetime with structure RP1xS3, with the remaining 4 dimensions of 8-dimensional Spacetime corresponding to a 4-dimensional Internal Symmetry Space with structure CP2.**

**Since the 28-dimensional gauge group Spin(1,7) no longer has a unified 8-dimensional RP1xS7 Spacetime on which to act, its 28 generators break down into 28 generators capable of acting on 4-dimensional RP1xS3 Physical Spacetime and 4-dimensional CP2 Internal Symmetry Space:**

**magenta for the U(1) propagator phase that is defined with respect to the fixed Quaternionic 4-dimensional spacetime subspace corresponding to the S-square of Lull's S-wheel**

**gold for the 4 U(2) electroweak gauge bosons**

**green for the 8 SU(3) color gluon gauge bosons**

**red for the 15 SU(2,2) = Spin(2,4) Conformal Group graviphoton gauge bosons that act on 4-**

**dimensional Physical Spacetime by:**

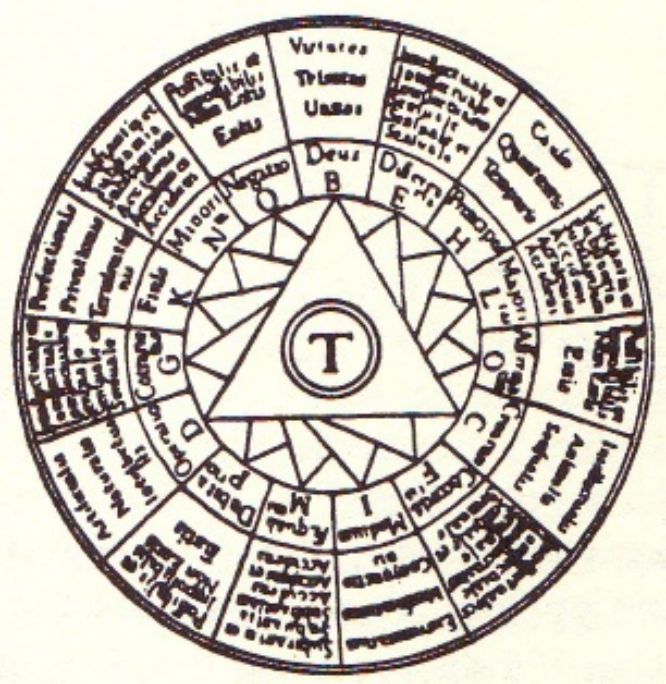
**4 Translations,**

**6 Lorentz Transformations,**

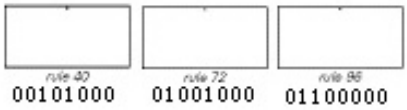
**4 Special Conformal Transformations and1 Dilation.**

**They produce Gravity through a generalized MacDowell-Mansouri mechanism,**

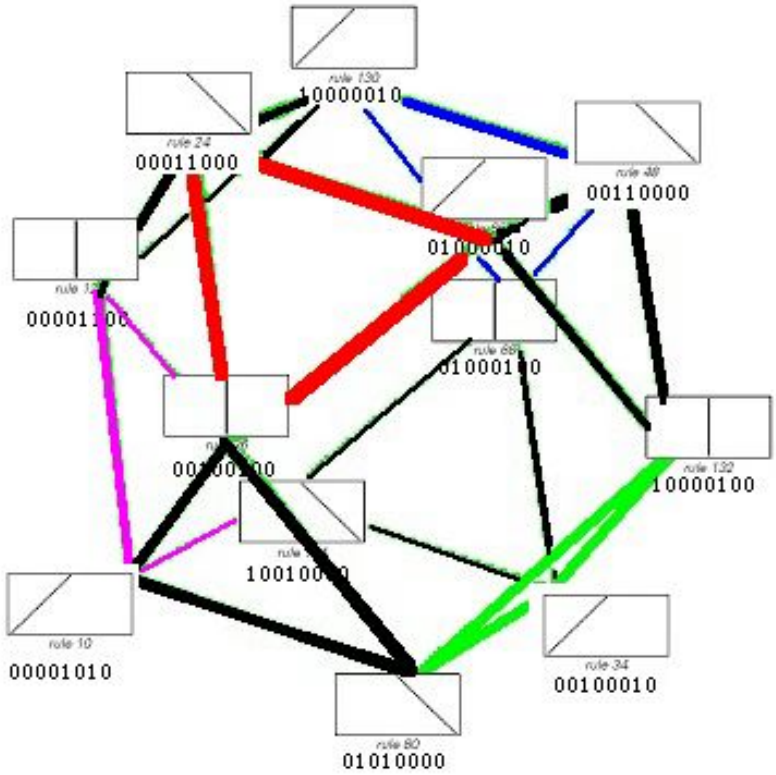
**and are shown by Llull in his T-wheel**




**The 3 vertices of the T-triangle in Llull's T-wheel correspond to a 3-dimensional Cartan subalgebra of the 15-dimensional Conformal Group SU(2,2) = Spin(2,4) and 3 Quaternionic Real (blank) Cellular Automata.**



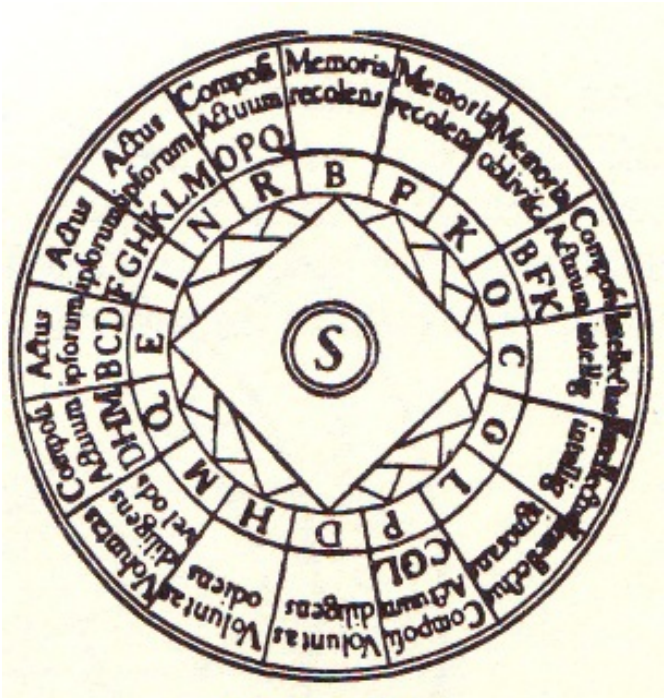

**The other 4 triangles in Llull's T-wheel correspond to 4 sets of associative triples ( / | \ ) of Cellular Automata and to the 12 vertices of the Cuboctahedron Root Vector Polytope of the Conformal Group SU(2,2) = Spin(2,4)**




and

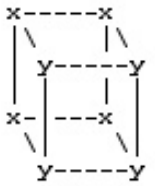
**the other 4 triangles (red, blue, green, and magenta in the figure below) have 4x3 = 12 vertices corresponding to the 12 vertices of the cuboctahedron root vector polytope of the Conformal Group SU(2,2) = Spin(2,4)**

## Returning to Llull's S-wheel

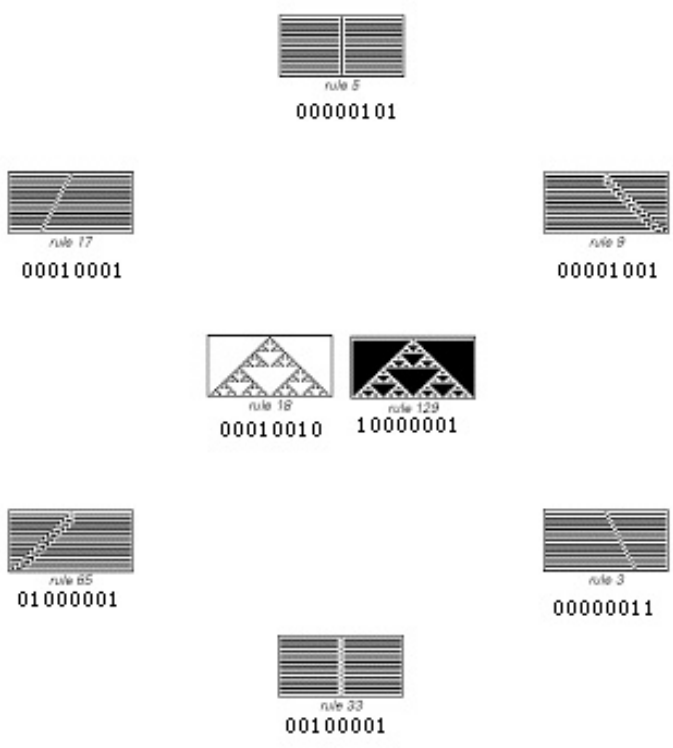


**the remaining 3 squares of Llulls' S-wheel form the SU(3)xSU(2)xU(1) Standard Model:**

**Two of the 3 squares can be considered as the vertices of a cube:**

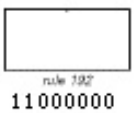


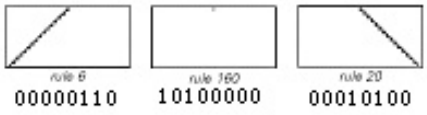
**Now look at the cube along a diagonal axis, and project all 8 vertices onto a plane perpendicular to that axis, giving the root vector diagram of SU(3)**




**Since each gluon links 4-dim spacetime to color internal symmetry space, the gauge group SU (3) acts globally on CP2 Internal Symmetry Space, as can be seen by the fibration CP2 = SU (3) / U(2)**

**The third of the remaining squares, that is the final square, corresponds to the 4 Cellular Automata**






**that correspond to the 3 SU(2) weak bosons and the U(1) electromagnetic photon.**

**Since SU(2)xU(1) = U(2), and since CP2 = SU(3) / U(2), they act locally on CP2 Internal Symmetry Space.**

## If you start with the Lagrangian over 8-dimensional Spacetime, and freeze out a Quaternionic subspace as described above,

## you get a Lagrangian over 4-dimensional Physical Spacetime that allows you to calculate:

- • Me-neutrino = Mmu-neutrino = Mtau-neutrino = 0 (tree-level)
    - Higher-order corrections give:
        - Mneutrino1 = 0

          Mneutrino2 = 9 x 10^(-3) eV

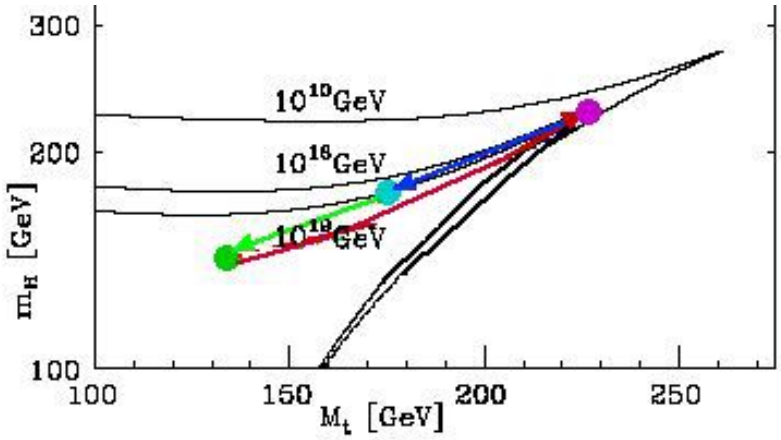
          Mneutrino3 = 5.4 x 10^(-2) eV

          Neutrino mixing matrix:

| | nu_1 | nu_2 | nu_3 |
|---|---|---|---|
| nu_e | 0.87 | 0.50 | 0 |
| nu_m | -0.35 | 0.61 | 0.71 |
| nu_t | 0.35 | -0.61 | 0.71 |

- • Me = 0.5110 MeV
- • Md = Mu = 312.8 MeV (constituent quark mass)
- • Mmu = 104.8 MeV
- • Ms = 625 MeV (constituent quark mass)

- • Mc = 2.09 GeV (constituent quark mass)
- • Mtau = 1.88 GeV
- • Mb = 5.63 GeV (constituent quark mass)
- • Mt = 130 GeV (constituent Truth Quark mass) as the ground state of a 3-state T-quark - Higgs - Triviality Boundary System




**NJL state with Tquark mass = 130 GeV and Higgs mass = 146 GeV in the stable region far from the triviality and vacuum stability bounding curves and therefore closely related to other quarks in the stable region and therefore to single-Tquark events involving such things as T-Bbar events**

**8-dim Kaluza-Klein state with Tquark mass 172-175 GeV = and Higgs mass = 176-188 GeV, which state is closely related to the Higgs and T-Tbar condensates, and hence to T-Tbar events**

**BHL state with Tquark mass = 218 +/- 3 GeV and Higgs mass = 239 +/- 3 GeV at the Triviality Bound - Vacuum Stability Critical Point.**

and

Kobayashi-Maskawa matrix:

| | d | s | b |
|---|---|---|---|
| u | 0.975 | 0.222 | 0.00249 -0.00388i |
| c | -0.222 -0.000161i | 0.974 -0.0000365i | 0.0423 |
| t | 0.00698 -0.00378i | -0.0418 -0.00086i | 0.999 |

and

- • W+ mass = W- mass = 80.326 GeV
- • Z0 mass = 91.862 GeV
- • Higgs mass = 145.8 GeV
- • weak force - Higgs VEV = 252.5 GeV (assumed, since ratios are calculated)

as well as ratios of force strength constants:

- • Gravitational G = (Ggravity)(Mproton)^2 = 5 x 10^(-39) (assumed, since ratios are calculated)
- • electromagnetic fine structure constant = 1/137.03608
- • Gfermi = (Gweak)(Mproton)^2 = 1.02 x 10^(-5)
- • color force strength = 0.6286 (at 0.245 GeV) - perturbative QCD running gives
- • color force strength = 0.167 (at 5.3 GeV)
- • color force strength = 0.121 (at 34 GeV)
- • color force strength = 0.106 (at 91 GeV)

If Nonperturbative QCD and other things are taken into account, then the color force strength = 0.123 (at 91 GeV).

Dark Energy : Dark Matter : Ordinary Matter

Ratio

0.75 : 0.21 : 0.04

( for details of the physics model and the calculations, and for references and source material, see my web site at www.valdostamuseum.org/'hamsmith/ or mirror site at www.tony5m17h.net/ the contents of which are hereby incorporated herein by this parenthetical reference )

## So, following Llull's path leads to a Unified Physics Model that meets Einstein's Criterion:

**"... a theorem which at present can not be based upon anything more than upon a faith in the simplicity, i.e., intelligibility, of nature:**

**there are no arbitrary constants ...**

**that is to say,**

**nature is so constituted that it is possible logically to lay down such strongly determined laws that within these laws only rationally completely determined constants occur**

**(not constants, therefore, whose numerical value could be changed without destroying the theory). ..."**

and

# Ramon Llull was a Nexus between the Ancient Wisdom of the 256 Odu of IFA and a Unified Model of 21st Century Physics.

**His Lullian Wheels were only one of the ways by which he sought to transmit Ancient Wisdom to the People of his Future.**

**Within a century or two after Llull's death, his followers in what is now known as Italy produced the 78-card Tarot Deck of Cards.**

**Just as the practices of Divination had preserved in Africa**

(and in the Mediterranean through 16-element Ilm al Raml, and in China through the 64-element I Ching, and in Japan through 128-element Futomani Book of Shinto Divination, and in India through the 24+192 = 240-element First Sukt of the Rig Veda)

**the Ancient Wisdom of the 256 Odu of IFA,**

**the 78-Card Tarot Game/Divination**

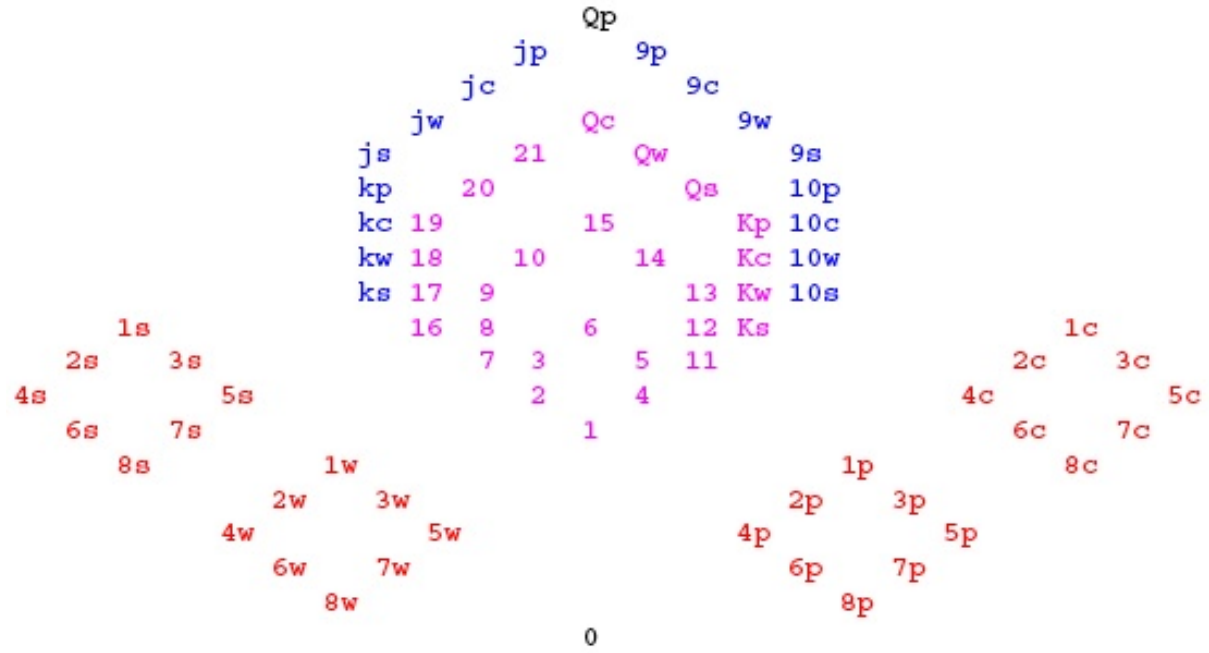
(and the common 52-Card Game Deck that descended from Tarot, which 52 Cards correspond to the 52-dimensional exceptional Lie Algebra F4 of which the 78-dimensional exceptional Lie Algebra E6 is a complexification)

**would spread throughout the Global Society that began to be formed in the 1400-1500s and so preserve Fundamental Details of the Ancient Wisdom seen by Ramon Llull.**

In this Tarot spread

( s=swords, w=wands, p=pentacles, c= cups and k=knave(page), j=Knight(Jack), K=King, Q=Queen, and

0=Fool, 1=Magician, 2=Popess, 3=Empress, 4=Emperor, 5=Pope, 6=Lovers, 7=Chariot, 8=Justice, 9=Hermit, 10=WheelofFate, 11=Strength, 12=HangedMan, 13=Death, 14=Temperance, 15=Devil, 16=Tower, 17=Star, 18=Moon, 19=Sun, 20=Judgment, 21=World)




- The 28 magenta 28 are the 28 Spin(8) adjoint bivectors of Cl(8).
- The 16 blue are the 8 vectors of Spin(8) and Cl(8) and their 8 dual/conjugates.
- The 32 red are the 16 spinors (8 +halfspinors and 8 -halfspinors) of Spin(8) and Cl(8) and their 16 dual/ conjugates.
- The 2 black are diagonal degrees of freedom in the 26-dim traceless J3(O)o part of the J3(O) Jordan algebra.

**Considered all together, the 78 Tarot Cards correspond to the 78 elements of the exceptional Lie Algebra E6, which has a 5-graded structure with dimensionalities**

**8 + 16 + (28+1+1) + 16 + 8**

**that represents the Llullian Realistic Unified Physics Model.**

**If you regard strings as world-lines of particles in the Quantum Path Integral Sum-Over-Histories in the Many-Worlds, then an E6 String Theory produces a generalized Bohm Quantum Potential, with Sarfatti-type Back-Reaction, that is useful in describing Penrose-Hameroff Quantum Consciousness.**

## In acting as a Nexus connecting Ancient Wisdom with 21st Century Physics,

## Ramon Llull expressed what Einstein (in the New York Times Magazine on November 9, 1930 pp 1-4) called cosmic religious feeling:

**"... It is very difficult to elucidate ... cosmic religious feeling ... to anyone who is entirely without it …**

**The individual feels the futility of human desires and aims and the sublimity and marvelous order which reveal themselves both in nature and in the world of thought.**

**Individual existence impresses him as a sort of prison and he wants to experience the universe as a single significant whole.**

**... the cosmic religious feeling is the strongest and noblest motive for scientific research.**

**What a deep conviction of the rationality of the universe and what a yearning to understand … Kepler and Newton must have had to enable them to spend years of solitary labor in disentangling the principles of celestial mechanics!**

**Those whose acquaintance with scientific research is derived chiefly from its practical results easily develop a completely false notion of the mentality of the men who, surrounded by a skeptical world, have shown the way to kindred spirits scattered wide through the world and through the centuries. …**

**It is cosmic religious feeling that gives a man such strength. …".**

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Frank Dodd (Tony) Smith, Jr.

April 2007

( for further material and details, and for references and source material, see my web site at www.valdostamuseum.org/'hamsmith/ or mirror site at www.tony5m17h.net/ the contents of which are hereby incorporated herein by this parenthetical reference )

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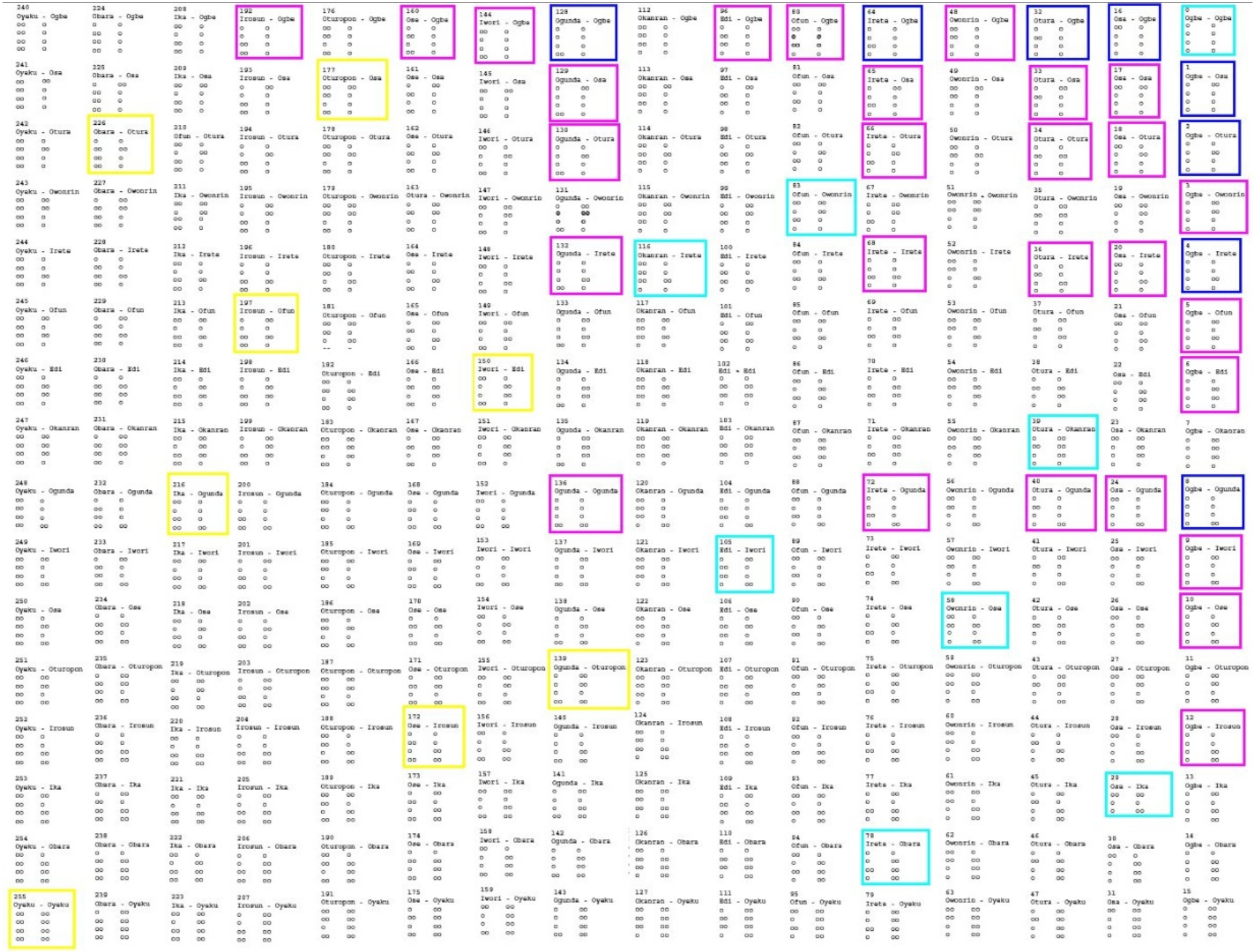
240 Oyeku - Ogbe
224 Obara - Ogbe
208 Ika - Ogbe
192 Irosun - Ogbe
176 Oturopon - Ogbe
160 Ose - Ogbe
144 Iwori - Ogbe
128 Ogunda - Ogbe
112 Okanran - Ogbe
96 Edi - Ogbe
80 Ofun - Ogbe
64 Irete - Ogbe
48 Owonrin - Ogbe
32 Otura - Ogbe
16 Osa - Ogbe
0 Ogbe - Ogbe
241 Oyeku - Osa
225 Obara - Osa
209 Ika - Osa
193 Irosun - Osa
177 Oturopon - Osa
161 Ose - Osa
145 Iwori - Osa
129 Ogunda - Osa
113 Okanran - Osa
97 Edi - Osa
81 Ofun - Osa
65 Irete - Osa
49 Owonrin - Osa
33 Otura - Osa
17 Osa - Osa
1 Ogbe - Osa
242 Oyeku - Otura
226 Obara - Otura
210 Ofun - Otura
194 Irosun - Otura
178 Oturopon - Otura
162 Ose - Otura
146 Iwori - Otura
130 Ogunda - Otura
114 Okanran - Otura
98 Edi - Otura
82 Ofun - Otura
66 Irete - Otura
50 Owonrin - Otura
34 Otura - Otura
18 Osa - Otura
2 Ogbe - Otura
243 Oyeku - Owonrin
227 Obara - Owonrin
211 Ika - Owonrin
195 Irosun - Owonrin
179 Oturopon - Owonrin
163 Otura - Owonrin
147 Iwori - Owonrin
131 Ogunda - Owonrin
115 Okanran - Owonrin
99 Edi - Owonrin
83 Ofun - Owonrin
67 Irete - Owonrin
51 Owonrin - Owonrin
35 Otura - Owonrin
19 Osa - Owonrin
3 Ogbe - Owonrin
244 Oyeku - Irete
228 Obara - Irete
212 Ika - Irete
196 Irosun - Irete
180 Oturopon - Irete
164 Ose - Irete
148 Iwori - Irete
132 Ogunda - Irete
116 Okanran - Irete
100 Edi - Irete
84 Ofun - Irete
68 Irete - Irete
52 Owonrin - Irete
36 Otura - Irete
20 Osa - Irete
4 Ogbe - Irete
245 Oyeku - Ofun
229 Obara - Ofun
213 Ika - Ofun
197 Irosun - Ofun
181 Oturopon - Ofun
165 Ose - Ofun
149 Iwori - Ofun
133 Ogunda - Ofun
117 Okanran - Ofun
101 Edi - Ofun
85 Ofun - Ofun
69 Irete - Ofun
53 Owonrin - Ofun
37 Otura - Ofun
21 Osa - Ofun
5 Ogbe - Ofun
246 Oyeku - Edi
230 Obara - Edi
214 Ika - Edi
198 Irosun - Edi
182 Oturopon - Edi
166 Ose - Edi
150 Iwori - Edi
134 Ogunda - Edi
118 Okanran - Edi
102 Edi - Edi
86 Ofun - Edi
70 Irete - Edi
54 Owonrin - Edi
38 Otura - Edi
22 Osa - Edi
6 Ogbe - Edi
247 Oyeku - Okanran
231 Obara - Okanran
215 Ika - Okanran
199 Irosun - Okanran
183 Oturopon - Okanran
167 Ose - Okanran
151 Iwori - Okanran
135 Ogunda - Okanran
119 Okanran - Okanran
103 Edi - Okanran
87 Ofun - Okanran
71 Irete - Okanran
55 Owonrin - Okanran
39 Otura - Okanran
23 Osa - Okanran
7 Ogbe - Okanran
248 Oyeku - Ogunda
232 Obara - Ogunda
216 Ika - Ogunda
200 Irosun - Ogunda
184 Oturopon - Ogunda
168 Ose - Ogunda
152 Iwori - Ogunda
136 Ogunda - Ogunda
120 Okanran - Ogunda
104 Edi - Ogunda
88 Ofun - Ogunda
72 Irete - Ogunda
56 Owonrin - Ogunda
40 Otura - Ogunda
24 Osa - Ogunda
8 Ogbe - Ogunda
249 Oyeku - Iwori
233 Obara - Iwori
217 Ika - Iwori
201 Irosun - Iwori
185 Oturopon - Iwori
169 Ose - Iwori
153 Iwori - Iwori
137 Ogunda - Iwori
121 Okanran - Iwori
105 Edi - Iwori
89 Ofun - Iwori
73 Irete - Iwori
57 Owonrin - Iwori
41 Otura - Iwori
25 Osa - Iwori
9 Ogbe - Iwori
250 Oyeku - Ose
234 Obara - Ose
218 Ika - Ose
202 Irosun - Ose
186 Oturopon - Ose
170 Ose - Ose
154 Iwori - Ose
138 Ogunda - Ose
122 Okanran - Ose
106 Edi - Ose
90 Ofun - Ose
74 Irete - Ose
58 Owonrin - Ose
42 Otura - Ose
26 Osa - Ose
10 Ogbe - Ose
251 Oyeku - Oturopon
235 Obara - Oturopon
219 Ika - Oturopon
203 Irosun - Oturopon
187 Oturopon - Oturopon
171 Ose - Oturopon
155 Iwori - Oturopon
139 Ogunda - Oturopon
123 Okanran - Oturopon
107 Edi - Oturopon
91 Ofun - Oturopon
75 Irete - Oturopon
59 Owonrin - Oturopon
43 Otura - Oturopon
27 Osa - Oturopon
11 Ogbe - Oturopon
252 Oyeku - Irosun
236 Obara - Irosun
220 Ika - Irosun
204 Irosun - Irosun
188 Oturopon - Irosun
172 Ose - Irosun
156 Iwori - Irosun
140 Ogunda - Irosun
124 Okanran - Irosun
108 Edi - Irosun
92 Ofun - Irosun
76 Irete - Irosun
60 Owonrin - Irosun
44 Otura - Irosun
28 Osa - Irosun
12 Ogbe - Irosun
253 Oyeku - Ika
237 Obara - Ika
221 Ika - Ika
205 Irosun - Ika
189 Oturopon - Ika
173 Ose - Ika
157 Iwori - Ika
141 Ogunda - Ika
125 Okanran - Ika
109 Edi - Ika
93 Ofun - Ika
77 Irete - Ika
61 Owonrin - Ika
45 Otura - Ika
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13 Ogbe - Ika
254 Oyeku - Obara
238 Obara - Obara
222 Ika - Obara
206 Irosun - Obara
190 Oturopon - Obara
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14 Ogbe - Obara
255 Oyeku - Oyeku
239 Obara - Oyeku
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207 Irosun - Oyeku
191 Oturopon - Oyeku
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15 Ogbe - Oyeku