How long is a piece of string?

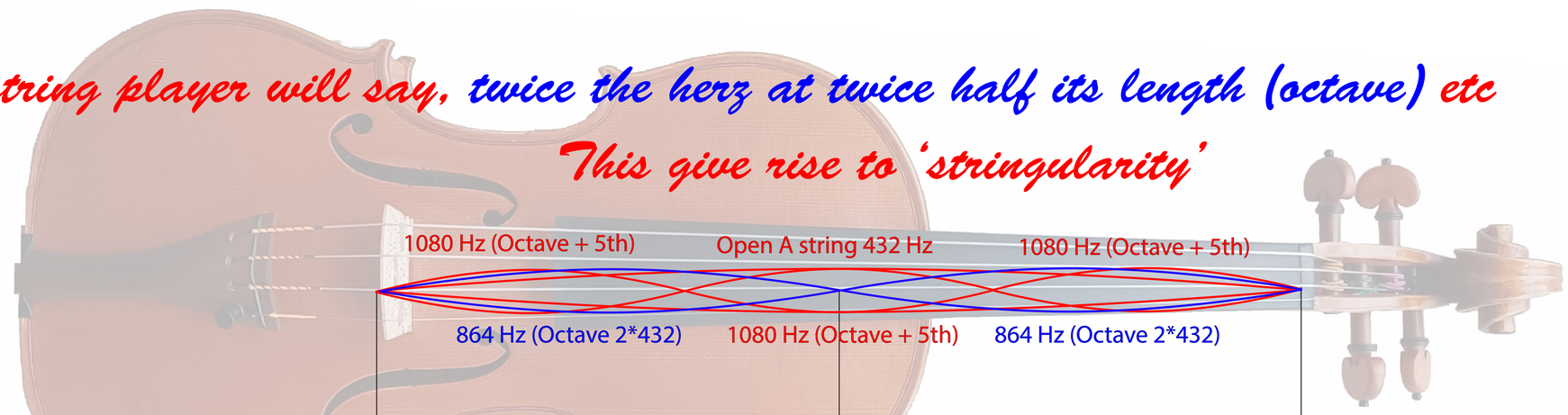
φ Phi & '*stringularity*'; fundamental source of the Hz rates, ratios & resonance of harmonics.

An orderly design that is certain, super-symmetrical, sequential, cardinal, catalystic, intelligent or '*cognitive force majeure*'.

At any scale, harmonics are whole numbers, alternating EVEN & ODD numbers, from 1 Hz through to 128 Hz over seven octaves (doublings) in the Harmonic Series. This total is a full equal temperament set, where 7 perfect octaves equal twelve equal temperament fifths.

A string player will say, twice the herz at twice half its length (octave) etc

This give rise to 'stringularity'



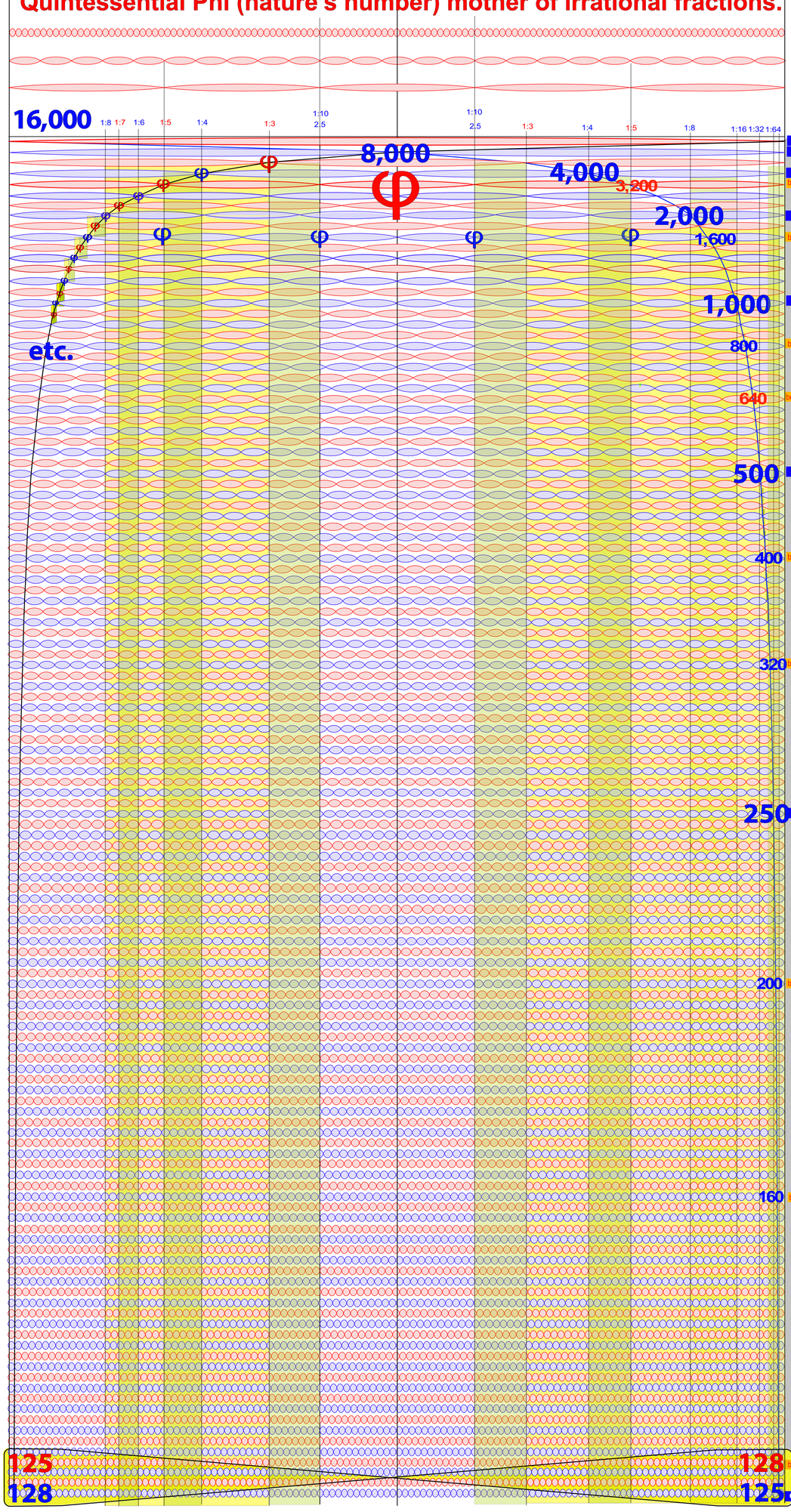
Mendeleyev's periodic table of elements indicates that for each atom, one more 'orbiting' electron is added. ODD EVEN, this procedure shows from Hydrogen at atomic number 1, to Oganesson at 118 (so far), matches the one-stepped increases in Hz per unit time of the harmonic series.

Phi proportions through steps 4 5 6, 6 7 8, 8 9 10 Hz etc appear all the way to 125 126 127 128 Hz, constantly producing ~ Phi and following the 'octaves', the 'Phi-Curve' from 16,000 to 125/128, which structures its irrational numbers with the rational numbers of the harmonic series.

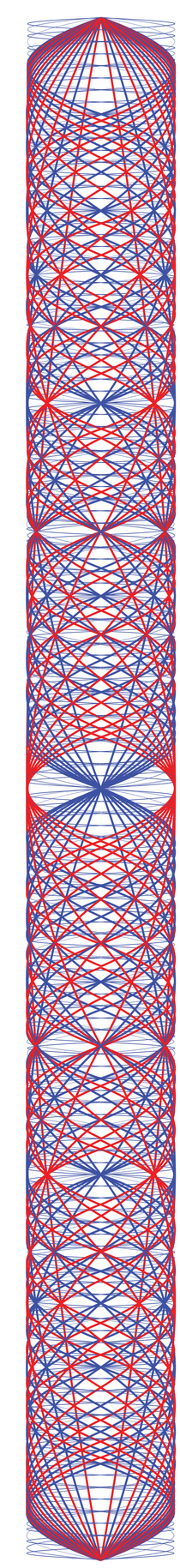
Higgs Boson; 5 cubed = 125
5 squared = 025
5 root = 005

Periodic Table of elements - electrons per atom

odd		even		Hz
1	Hydrogen			1:1
		Helium	2	1:2
3	Lithium			1:3
		Beryllium	4	1:4
5	Boron			1:5
		Carbon	6	1:6
7	Nitrogen			1:7
		Oxygen	8	1:8
9	Fluorine			1:9
		Neon	10	1:10
11	Sodium			1:11
		Magnesium	12	1:12
13	Aluminium			1:13
		Silicon	14	1:14
15	Phosphorus			1:15
		Sulphur	16	1:16
17	Chlorine			1:17
		Argon	18	1:18
19	Potassium			1:19
		Calcium	20	1:20
21	Scandium			1:21
		Titanium	22	1:22
23	Vanadium			1:23
		Chromium	24	1:24
25	Manganese			1:25
		Iron	26	1:26
27	Cobalt			1:27
		Nickel	28	1:28
29	Copper			1:29
		Zinc	30	1:30
31	Gallium			1:31
		Germanium	32	1:32
33	Arsenic			1:33
		Selenium	34	1:34
35	Bromine			1:35
		Krypton	36	1:36
37	Rubidium			1:37
		Strontium	38	1:38
39	Yttrium			1:39
		Zirconium	40	1:40
41	Niobium			1:41
		Molybdenum	42	1:42
43	Technetium			1:43
		Ruthenium	44	1:44
45	Rhodium			1:45
		Palladium	46	1:46
47	Silver			1:47
		Cadmium	48	1:48
49	Indium			1:49
		Tin	50	1:50
51	Antimony			1:51
		Tellurium	52	1:52
53	Iodine			1:53
		Xenon	54	1:54
55	Caesium			1:55
		Barium	56	1:56
57	Lanthanum			1:57
		Cerium	58	1:58
59	Praseodymium			1:59
		Neodymium	60	1:60
61	Promethium			1:61
		Samarium	62	1:62
63	Europium			1:63
		Gadolinium	64	1:64
65	Terbium			1:65
		Dysprosium	66	1:66
67	Holmium			1:67
		Erbium	68	1:68
69	Thulium			1:69
		Ytterbium	70	1:70
71	Lutetium			1:71
		Hafnium	72	1:72
73	Tantalum			1:73
		Tungsten	74	1:74
75	Rhenium			1:75
		Osmium	76	1:76
77	Iridium			1:77
		Platinum	78	1:78
79	Gold			1:79
		Mercury	80	1:80
81	Thallium			1:81
		Lead	82	1:82
83	Bismuth			1:83
		Polonium	84	1:84
85	Astatine			1:85
		Radon	86	1:86
87	Francium			1:87
		Radium	88	1:88
89	Actinium			1:89
		Thorium	90	1:90
91	Protactinium			1:91
		Uranium	92	1:92
93	Neptunium			1:93
		Plutonium	94	1:94
95	Americium			1:95
		Curium	96	1:96
97	Berkelium			1:97
		Californium	98	1:98
99	Einsteinium			1:99
		Fermium	100	1:100
101	Mendelevium			1:101
		Nobelium	102	1:102
103	Lawrencium			1:103
		Rutherfordium	104	1:104
105	Dubnium			1:105
		Seaborgium	106	1:106
107	Bohrium			1:107
		Hassium	108	1:108
109	Meitnerium			1:109
		Darmstadtium	110	1:110
111	Roentgenium			1:111
		Copernicum	112	1:112
113	Nihonium			1:113
		Flerovium	114	1:114
115	Moscovium			1:115
		Livermorium	116	1:116
117	Tennessine			1:117
		Oganesson	118	1:118
119				1:119
			120	1:120
121				1:121
			122	1:122
123				1:123
			124	1:124
At 125, the Higgs Boson is the cube of 5				1:125
			126	1:126
127				1:127
	An Equal Temperament Full Set at 128			1:128



	rational	ir/rational	
Octave 0	1.00000	16000.00000	Octave 0
Octave 1	2.00000	8000.00000	Octave 1
	3.00000	5333.33333	irrational
Octave 2	4.00000	4000.00000	Octave 2
both rational	5.00000	3200.00000	both rational
	6.00000	2666.66667	irrational
	7.00000	2285.71429	
Octave 3	8.00000	2000.00000	Octave 3
	9.00000	1777.77778	irrational
both rational	10.00000	1600.00000	both rational
	11.00000	1454.54545	
	12.00000	1333.33333	irrational
	13.00000	1230.76923	
	14.00000	1142.85714	
	15.00000	1066.66667	
Octave 4	16.00000	1000.00000	Octave 4
	17.00000	941.17647	irrational
	18.00000	888.88889	
	19.00000	842.10526	
both rational	20.00000	800.00000	both rational
	21.00000	761.90476	IRRATIONAL
	22.00000	727.27273	
	23.00000	695.65217	
	24.00000	666.66667	
both rational	25.00000	640.00000	both rational
	26.00000	615.38462	
	27.00000	592.59259	IRRATIONAL
	28.00000	571.42857	
	29.00000	551.72414	
	30.00000	533.33333	
	31.00000	516.12903	
Octave 5	32.00000	500.00000	Octave 5
	33.00000	484.84848	
	34.00000	470.58824	IRRATIONAL
	35.00000	457.14286	
	36.00000	444.44444	
	37.00000	432.43243	
	38.00000	421.05263	
	39.00000	410.25641	
both rational	40.00000	400.00000	both rational
	41.00000	390.24390	
	42.00000	380.95238	IRRATIONAL
	43.00000	372.09302	
	44.00000	363.63636	
	45.00000	355.55556	
	46.00000	347.82609	
	47.00000	340.42553	
	48.00000	333.33333	
	49.00000	326.53061	
both rational	50.00000	320.00000	both rational
	51.00000	313.72549	
	52.00000	307.69231	
	53.00000	301.88679	IRRATIONAL
	54.00000	296.29630	
	55.00000	290.90909	
	56.00000	285.71429	
	57.00000	280.70175	
	58.00000	275.86207	
	59.00000	271.18644	
	60.00000	266.66667	
	61.00000	262.29508	
	62.00000	258.06452	
	63.00000	253.96825	
Octave 6	64.00000	250.00000	Octave 6
	65.00000	246.15385	
	66.00000	242.42424	
	67.00000	238.80597	IRRATIONAL
	68.00000	235.29412	
	69.00000	231.88406	
	70.00000	228.57143	
	71.00000	225.35211	
	72.00000	222.22222	
	73.00000	219.17808	
	74.00000	216.21622	
	75.00000	213.33333	
	76.00000	210.52632	
	77.00000	207.79221	
	78.00000	205.12821	
	79.00000	202.53165	
both rational	80.00000	200.00000	RATIONAL
	81.00000	197.53086	
	82.00000	195.12195	
	83.00000	192.77108	
	84.00000	190.47619	IRRATIONAL
	85.00000	188.23529	
	86.00000	186.04651	
	87.00000	183.90805	
	88.00000	181.81818	
	89.00000	179.77528	
	90.00000	177.77778	
	91.00000	175.82418	
	92.00000	173.91304	
	93.00000	172.04301	
	94.00000	170.21277	
	95.00000	168.42105	
	96.00000	166.66667	
	97.00000	164.94845	
	98.00000	163.26531	
	99.00000	161.61616	
both rational	100.00000	160.00000	RATIONAL
	101.00000	158.41584	
	102.00000	156.86275	
	103.00000	155.33981	
	104.00000	153.84615	
	105.00000	152.38095	
	106.00000	150.94340	
	107.00000	149.53271	
	108.00000	148.14815	
	109.00000	146.78899	
	110.00000	145.45455	
	111.00000	144.14414	
	112.00000	142.85714	
	113.00000	141.59292	
	114.00000	140.35088	
	115.00000	139.13043	
	116.00000	137.93103	
	117.00000	136.75214	
	118.00000	135.59322	
	119.00000	134.45378	
	120.00000	133.33333	
	121.00000	132.23140	
	122.00000	131.14754	
	123.00000	130.08130	
	124.00000	129.03226	
both rational	125.00000	128.00000	RATIONAL
	126.00000	127.98413	
	127.00000	126.98425	
Octave 7	128.00000	125.00000	Octave 7



Add one harmonic per each additional electron. Here it is 1-16, then just 32, 64, 128 Hz.

125 128 & 128 125

Where both odd/even combinations are *rational*, means they are whole numbers & they are not *irrational* fractions.

This strengthens the notion behind this exposition, namely that *uncertainty* is a function of this underlying *certainty* & not vice versa.

http://www.gci.org.uk/Documents/Logical_Beginnings.pdf