## Earth/matriX

# The Periodic Table of the Elements, 21-Scandium and the Symmetry in Numbers

#### Charles William Johnson

The first twenty elements of the periodic table of the elements are generally referred to as the regular elements. As of element 21-Scandium that supposed regularity breaks down.

In my studies of the periodicity of the elements regarding the protonic, electronic and neutronic counts it would appear that the elements reflect a regularity that can be predicted on many different levels. And, as I have shown regarding the neutron count of the elements, even that count reflects a periodicity with a similar degree of predictability as the protonic and electronic counts.

Nonetheless, it would appear that element 21-Scandium represents a definite breaking point in the structure of the elements regarding their different counts. Element 21-Scandium has 21 protons, 21 electrons and 24 neutrons.

#### 24 / 21 = **1.142857143**

For those who believe that much of nature enshrouds definite patterns of communication, this could be one such example. A circle contains 360 degrees as historically defined.

360 divided by pi (3.141592654) yields **114.591559** (the **diametian**). The diameter of a 360-degree circle contains the relational length of 114.591559 degrees.

Were pi to be represented as 3.15 as in ancient times, then:

#### 360 / 3.15 = **1.142857143**

There are three options to consider in the reasoning about this relationship. Firstly, one may wonder whether it is simply a random coincidence and nothing more. Or, secondly, whether it is by design, with some purpose of choice and communication. Or, thirdly, one may simply consider the 1.142857 ratio to represent relations of spacetime/movement; in that this is the way matter-energy behaves. One might further consider along these lines, the relationship within organic chemistry defined by the relation of 7-Nitrogen and 8-Oxygen: 8 / 7 = 1.142857. The element 21-Scandium is but a projection or multiple of

the same/similar relationship between Nitrogen and Oxygen. In a like manner that the relation of Nitrogen | Oxygen defines organic chemistry, so the 1.142857 relationship of Scandium determines much of inorganic chemistry.

From this perspective, given the significant relationship of the diameter of a circle to the circumference of a circle (pi), the relationship between the protonic/electronic count of an element to the neutronic count may harbor a similar significance of spacetime. The 24n:21p relationship appears to be reflecting an extremely significant ratio found throughout matter-energy, and that this relationship appears at the level of 21-Scandium on the progression of elements may be of significance for identifying relationships of symmetry within the progression of elements.

### The First Twenty Representative Elements

Examine the relationships of the protons (p), electrons (e) and neutrons (n) for the first twenty elements. This will offer a basis for the following analysis and the idea that the periodic table of the elements begins in a limited and conditional sense at element 21-Scandium.

Element Atomic Number	Neutrons	Protons	Ratio
1-Hydrogen	0	1	0
2-Helium	2	2	1
3-Lithium	4	3	1.3333
4-Boron	5	4	1.25
5-Beryllium	6	5	1.2
6-Carbon	6	6	1.0
7-Nitrogen	7	7	1.0
8-Oxygen	8	8	1.0
9-Fluorine	10	9	1.1111
10-Neon	10	10	1.0
11-Sodium	12	11	1.0909
12-Magnesium	12	12	1.0
13-Aluminum	14	13	1.0769
14-Silicon	14	14	1.0
15-Phosphorus	16	15	1.0666
16-Sulfur	16	16	1.0
17-Chlorine	18	17	1.0588
18-Argon	22	18	1.2222
19-Potassium	20	19	1.0526
20-Calcium	20	20	1.0

#### The Neutron Count of the First Twenty Elements Divided by the Neutron Count

Throughout the series of books, essays and extracts (www.theschemata.com), I have been emphasizing the significance of the neutron count for the elements. This is especially so with regard to this baseline relationship within the first twenty elements as shown above. The nucleonic equilibrium attained reflected in elements 2, 6, 7, 8, 10, 12, 14, 16, and 20 form a baseline pattern that established different kinds of symmetry discussed in my work, *The Schemata of the Elements*.

#### A Starting Point for the Progression of Elements: 21-Scandium

This apparent struggle for regularity within the first twenty representational elements breaks at element 21-Scandium, when the ratio of the atomic number and the neutron count produces a number that is found in nature, as in the ratio of the diameter of a circle to its circumference:

21-Scandium	24n	21p	1.142857

The total proton-electron-neutron count for the element 21-Scandium is 66.

24n / 20n = 1.2

20-Calcium	20n	20p	1.0
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The element 20-Calcium has 60 sub-particles (20p + 20e + 20n).

66pen / 60pen = 1.1

66 x 1 = 66pen ( 21- Scandium has 66pen)

 $66 \ge 2 = 132 (40$ -Zirconium has 131pen)

 $66 \ge 3 = 198 (58$ -Cerium has 198pen)

66 x 4 = 264 ( 76-Osmium has 266 pen )

 $66 \ge 5 = 330 (92$ -Uranium has 330pen)

These numbers begin to reveal a certain kind of symmetry. Consider that element 57-Lanthanum represents a **protonic midpoint** to the limiting elements of 21-Scandium and 92-Uranium.

21 | 57 | 92

[92 - 21 = 71 / 2 = 35.5 + 21 = 56.5 or, 92 - 35.5 = 56.5]

The combined pen midpoint is similar:

21-Scandium has 66pen