

# **'Stringularity' & 'Phi'**

## **Fundamental to any 'Theory of Everything'**

*" . . . a successful Theory Of Everything (TOE) will emerge by taking wholeness as the starting point and fitting the parts into it rather than vice versa. Obviously any TOE must include consciousness as an aspect of "everything" . . .*

**Deepak Chopra**  
***"How Consciousness Became the Universe"***



**Phoenix Design**

*"In the conditions of runaway growth and climate change that we now face, the political challenge is to find a way of emulating Nature's feedback of self-limiting growth. 'Ecological recovery' is as fundamental to this as are the 'neg-entropic' properties of feedback to the 'Pythagorean Comma' from Stringularity."*

**An informal memo to Roger Penrose from Aubrey Meyer**

**28<sup>th</sup> April 2016**

*"Aubrey is a visionary. He has single-handedly designed & created the concept of Contraction & Convergence; it quite simply solves the climate problem in a generation. He has strived alone against all odds & institutions. He deserves the Nobel peace Prize."*

**Julian Salt Independent Researcher**

*"I have yet to find someone who can  
scientifically disprove the work of Aubrey Meyer."*

**Tim Smit**  
**CEO the EDEN Centre Cornwall**

# Stringularity & 'Phi'

## Fundamental to any 'Theory of Everything'

### The Hemiola of Self-Referential, Self-Consciousness

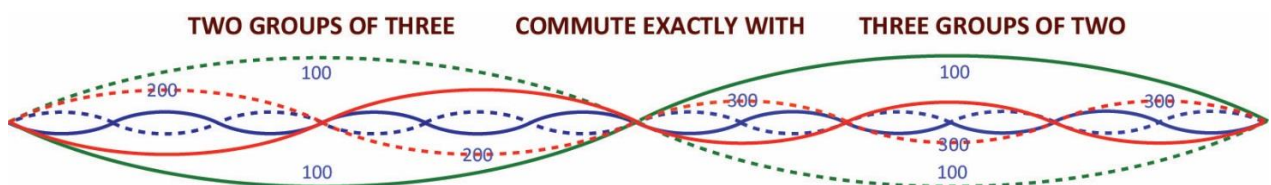
As a self-referential unit-structure, the Pythagorean Comma and its feedback to 'Phi' or the Golden Section is in its entirety & by definition 'a self-conscious unity of co-incidence', a whole truth indifferent to any changing observations of observers on any scale of time & space.

Its source is a 'trinity' of causeless-causality that remains true at any scale. Let us call this Phi-unity of self-consciousness '*Stringularity*'.

Pythagoras famous string experiment was performed more than 500 years BCE, almost certainly at his school in Crotone, Southern Italy.

Today it is seen as significant as it is described as the first demonstration of the 'first law of theoretical physics' which says, when we: -

- Take a length of a string that is constant in length and at constant tension as the 'fundamental' and
- Divide that fundamental by two, we double the frequency of the string's vibration-rate, or its 'Hertz' value and get a 'Perfect Octave'
- Divide that fundamental by three, we treble the frequency of the string's vibration-rate, or its 'Hertz' value and get a 'Perfect Fifth'.



These doublings and treblings gives rise to what in music jargon is called the 'Hemiola' where all parts commute with the whole and we get: -

- two against three in the time of one, giving two groups of three that are precisely equal to three groups of two in the time of one, and
- One that gives the perfectly commuting and self-referential 'consonance' of the 'Fundamental, Octave & Fifth' unit-structure
- And which is the basis of 'functional harmony' and fundamental to the self-consciousness of any *Theory of Everything*.

The perfect Octaves and the Perfect Fifths of 'Stringularity' can be understood as both RATE and as RATIO, as both wave and particle. They are at source, fundamental to what comes next, which is the Pythagorean Comma and *the organically self-limiting growth-rate of 'Phi'*.

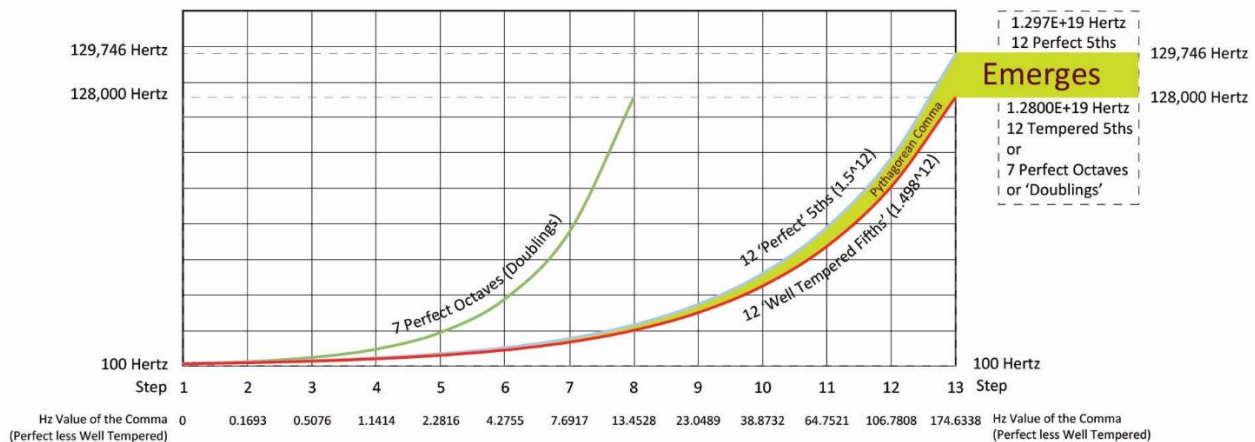
## The Pythagorean Comma & 'Phi'

Extending from the Fundamental with Octaves and Fifths (singularity with doublings and treblings) of this trinity into periodic cycles, gives rise to what today is called the, 'Pythagorean Comma' where: -

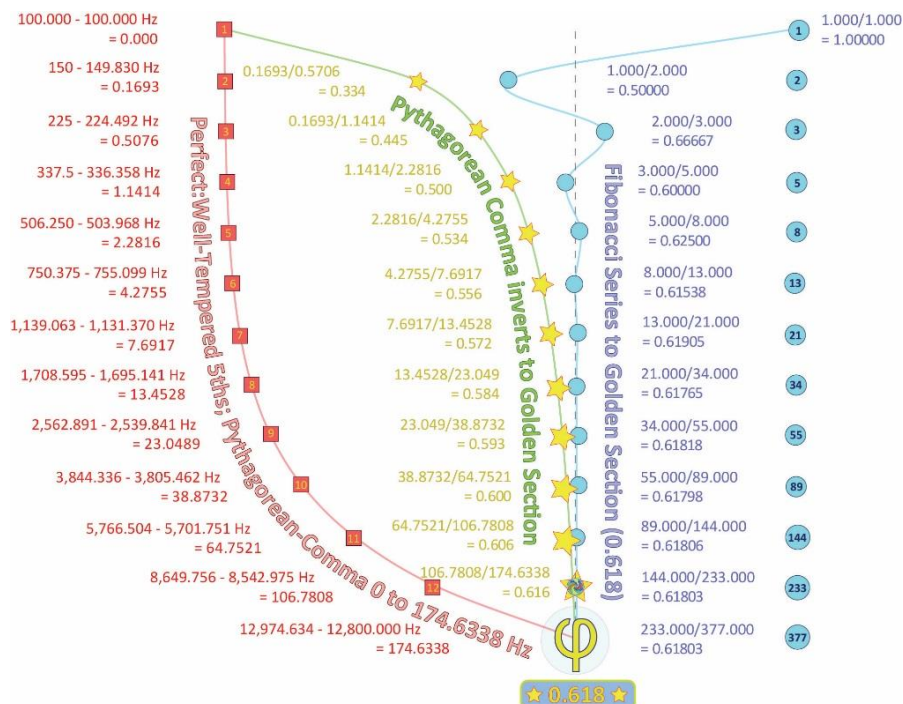
- 7 doublings (\*200%) do not precisely equal (commute with) 12 treblings (\*150%) revealing the 'Pythagorean Comma' but
- 7 doublings do precisely equal (commute with) 12 'near-treblings' (\*149.8%) – revealing 'Well Tempering' or 'Equal Temperament'.

7 Perfect Octaves or 'Doublings' ( $2^7$ ) nearly equal 12 'Perfect' 5ths ( $1.5^{12}$ )

7 Perfect Octaves or 'Doublings' ( $2^7$ ) exactly equal 12 'Well Tempered Fifths' ( $1.498^{12}$ )



The proportionality of the Hertz differences of the Comma as a reciprocal *rate* of feedback to 'Phi', is more fundamental than just the familiar progress to Phi through the Fibonacci sequence as a *ratio*. It is a precise *rate* at the start of time-space, where the path & it's integral as an eigenvalue is 'known': - [http://www.gci.org.uk/images/Phi\\_for\\_Ul.png](http://www.gci.org.uk/images/Phi_for_Ul.png)



## Like this, is 'Phi' the origin of the 'Fine Structure Constant'?

The Comma is *symmetry breaking* due to incommensurability and its resultant feedback to Phi is locally/non-locally influential at any scale.

We are told that at the Big Bang where *Time* equals  $10^{-36}$  seconds and *Energy* equals  $10^{16}$  giga-electron volts.

It is still true today  $13.8 \times 10^9$  (13.8 Light-years) after the Big Bang in General Relativity, where Energy equals  $3 \times 10^{-12}$  giga-electron volts.

Like a floating butterfly, the Comma & its feedback to Phi is a self-referential constant at any and all scales of 'space/time'.

In consideration of that, it is perhaps not surprising that this unity of 'Phi' throws light on what Richard Feynman called, "*one of the greatest damn mysteries of physics*", the origin of what he calls the "*magic number*" of the 'Fine Structure Constant' (FSC), as it is so very close in value to 'Phi'.

### These points clearly relating FSC to Phi are pertinent: -

- FSC is calculated at 0.08542455 (photon/electron emit/absorb)
- The square of 0.08542455 at 0.007297354
- The inverse of 0.007297354 ( $1/0.007297354$ ) or 137.035977
- This is regarded by some as a more familiar version of the value
- 137.035977 is very close to the Phi-determined 'Golden Angle'
- The Golden Angle is  $137.5077640500400$  ( $360^\circ - (360^\circ \times \text{Phi})$ )
- The value of Phi is 1.61803398874989 (to the first 14 decimals)
- The square of Phi divided by  $360^\circ$  is 0.007272317 and ...
- As can immediately be seen, this is very close to Square of FSC.

As the Comma comes from the self-referential 3-in-1 Trinity of Stringularity, & Phi comes from the reciprocal of 'Well Tempering' the Comma, can it therefore be argued that: -

'*Initial Conditions at the Big Bang*' (Hawking) are the dimensionless, fundamental constant of 'Stringularity', revealing the pre/post-natal 'fine structure constant' of 'Phi' that emerges as a rate from Stringularity, as revealed from the Pythagoras String Experiment.

"*Taking wholeness as a starting point*" as Deepak Chopra proposes, might this 'self-consciousness', in Feynman's playful phrase, be "*how God pushed his pencil*," or as the Delphic Oracle challenged us & as Frank Wilczek reminds us, how we might '*know ourselves*'?

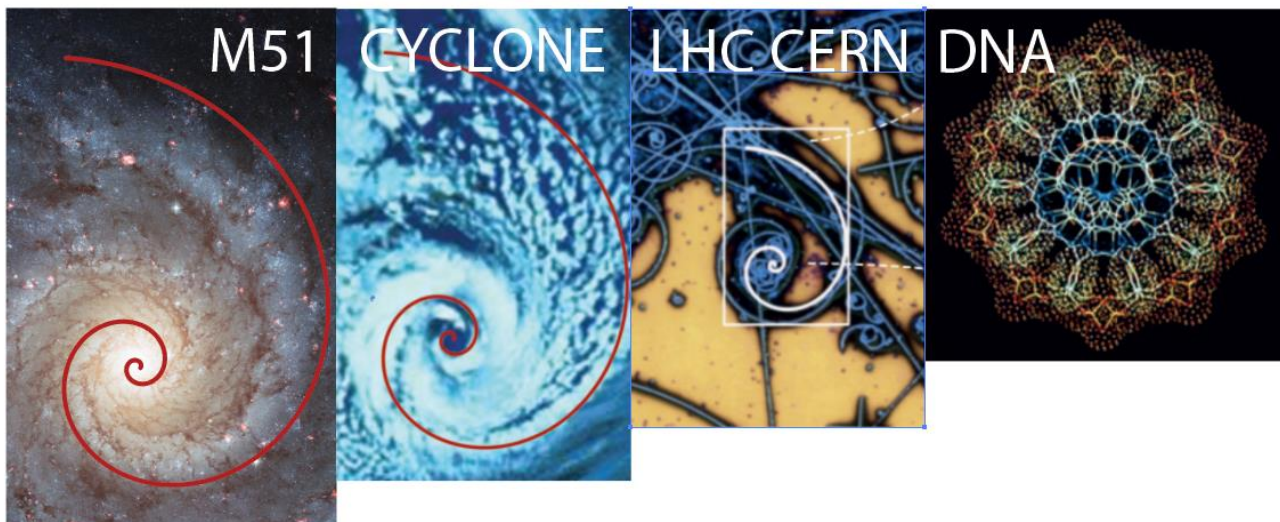
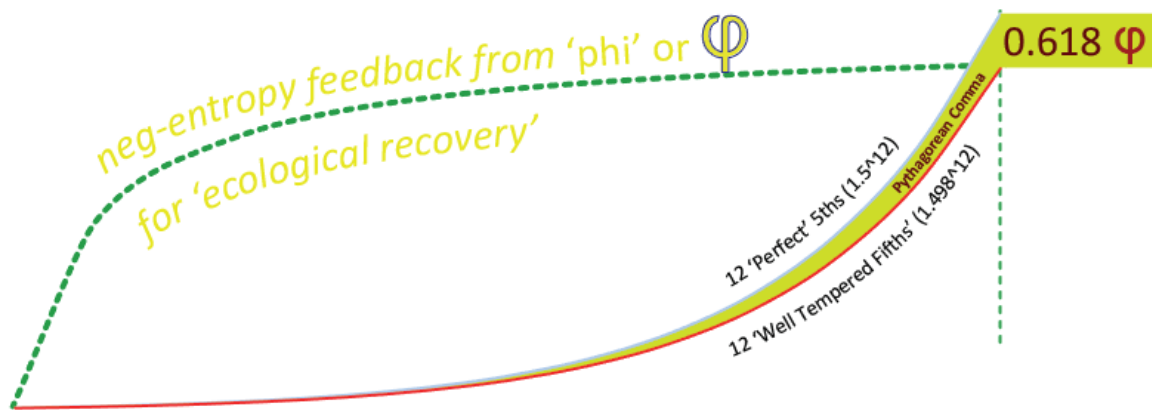




## Musicians know the evolutionary curvature of 'Phi' as 'line'

What is being argued is that Stringularity and the Comma, with its feedback to Phi, are a path-integral or a constant, or an integrated *eigenvalue* that is and has been ever-present since the big-bang.

This is seminal to shaping the interplay or expansion/contraction of evolution/evolution of naturally self-referential and self-limiting growth. Neuro-biologically, in performance musicians know this energy as 'line'.

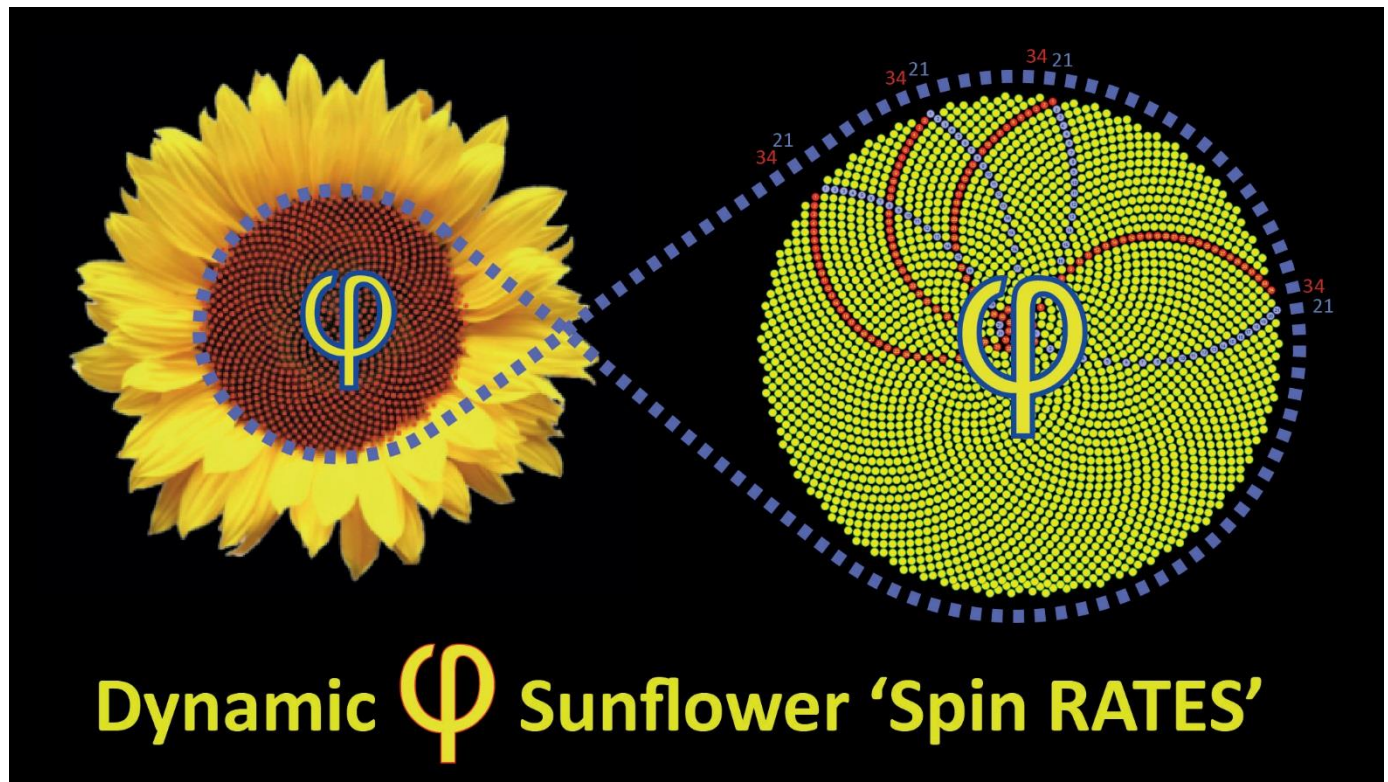


As Rate & as Ratio, these path-integrated properties of 'Phi' are influential, from the tiniest quantum level at the big-bang, to the vastness of General Relativity, 13.8 Billion light-years 'later.'

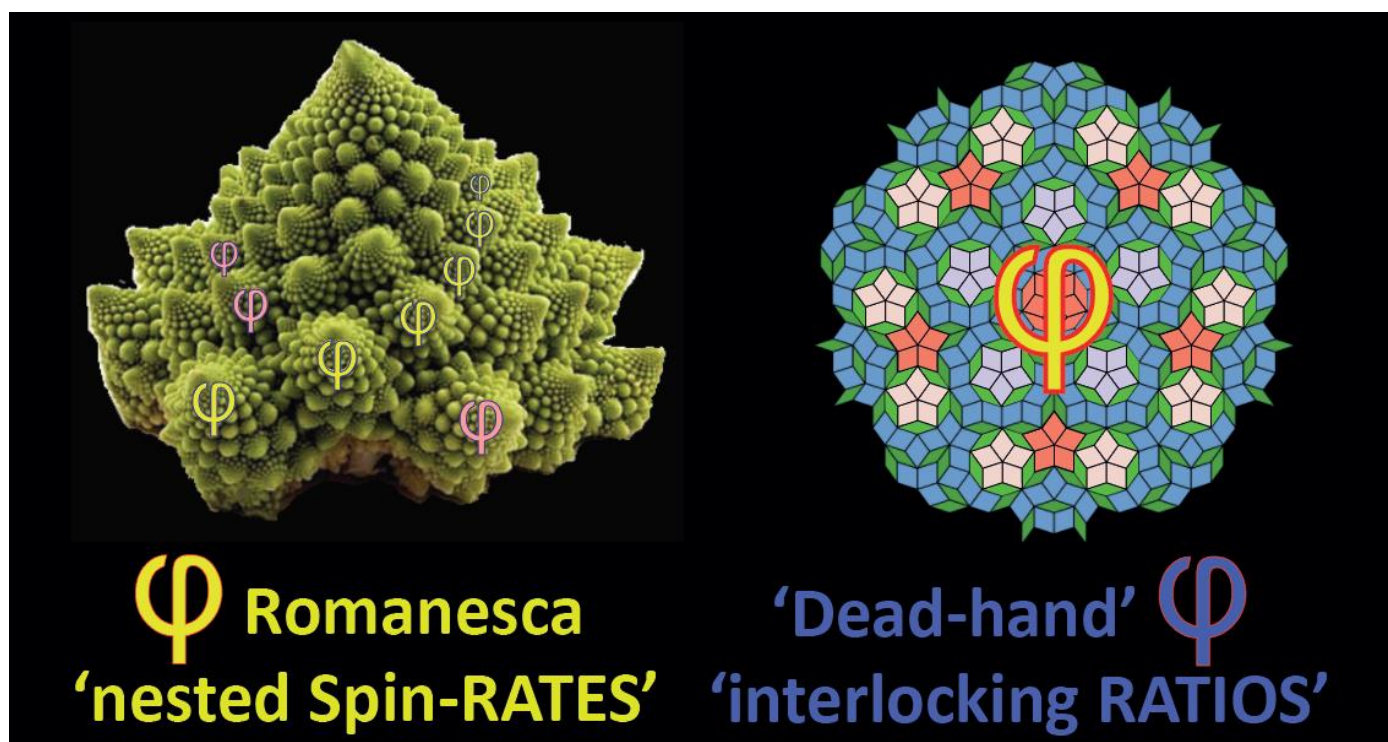
Is this quantum electro-magnetic 'intelligence' in space-time? Does it inform the underlying unity that comes with the 'Fine Structure Constant' and the Stringularity of Initial Conditions, the Pythagorean Comma & the neg-entropic feedback, where 'Phi' is the 'attractor'? Can this be seen in the evolutionary curvature or spin of pre/post inflation after the big bang (see bottom-left, previous page)?



Sunflower detail shows 'growth-rates' at the *irrational* 'Golden Section' ( $\phi = 0.618$ ) in 'Fibonacci pairs' where self-limiting growth is a function of the globally quasi-symmetrical 'Pythagorean Comma'.



The Romanesca, with its 'nested spin-rates', *incommensurably* and subtly manifests the organic growth rates of 'Phi'. By contrast, 'Phi' is frozen in 'Penrose Tiling', where the whole commutes as the sum of its individually rationed parts. Richard Dawkins (somewhat unkindly) called this time-free 'geometric' approach, 'the Dead Hand of Plato'.





Next to that, the sunflower's *dynamic growth-rate of self-limitation* shows the 'torque' at ' $\phi$ ' of organic evolution. The seeds in the sunflower's head manifest curvilinear distribution from the perfect Golden Angle of 'Phi' ( $137.5^\circ$ ) in Fibonacci Pairs (21:34=55) with a contrary motion spin-rate of left/right-pull/push-in/out or '*torque*'.

The nested spin-rates of the 'Romanesca' show jointly and severally expressed *organically self-limiting growth rates*, with co-emulation between the parts and whole, linking left and right, clockwise and anti-clockwise, centre and periphery. What's not to love?

### **Is 'Phi' a basis for ecological recovery?**

In the conditions of runaway growth and climate change that we now face, the political challenge is to find a way of *emulating Nature's feedback rates of self-limiting growth*. Ecological recovery' is as fundamental to this as are the 'neg-entropic' properties of feedback to the 'Pythagorean Comma' from 'Stringularity'.

Because of this, along with Erwin Schrodinger, we can ask afresh, "*What is Life?*" What are the relationship dynamics between the 'big bang', black holes, dark energy, general relativity, quantum mechanics, gravitational waves, cosmic consciousness, love & resurrection, climate justice & ecological recovery?

### **"Know Thyself" - "TAT TWAM ASI."**

The poet says, "*Come beloved, come to where the two rivers meet.*"

Deepak Chopra (et al) in, "*How Consciousness Became the Universe: Quantum Physics, Cosmology, Relativity, Evolution, Neuroscience, Parallel Universes,*" makes a key point: -

*"Rather than addressing consciousness from the outside and trying to devise a theory of everything on that basis, a successful Theory Of Everything (TOE) will emerge by taking wholeness as the starting point and fitting the parts into it rather than vice versa. Obviously any TOE must include consciousness as an aspect of "everything," but just as obviously current attempts at a TOE ignore this and have inevitably fallen into ontological traps. The time has come to escape those traps. An integrated approach will one day prevail. When it does, science will become much stronger and develop to the next levels of understanding Nature, to everyone's lasting benefit."*

