# Pythagoras Renewed for Our Common Global Future 

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This short paper takes a 'Chaldean algorithm' and suggests the relationships between music, mathematics, meaning and international efforts to deal with climate change.



PYTHAGORAS
Earth:Venus Pentagram in the Solar System
In 13 Venus-Years and 8 Earth-Years, 5 periodic 'Kisses' happen.
This 13:8:5:3:2:1 is the Fibonacci Proportionality of the Pentagram or the 'Golden Section' [GS] of 0.618:0.382, so beloved of Pythagoras.

Earth and Venus 'Kiss' as they orbit the Sun in the Pentagramatic order $\mathrm{p} 1, \mathrm{p} 2, \mathrm{p} 3, \mathrm{p} 4, \mathrm{p} 5$ at the perigee $\& a 1, \mathrm{a} 2, \mathrm{a} 3, \mathrm{a} 4, \mathrm{a} 5$ at the apogee.

The Pentagrams at the apogee and perigee are GS proportional where the largest to the smallest is F1, F2 = F1*0.618, F3=F2*0.618, F4 = F3*0.618

## EARTH

Earth and Venus orbits are proportionate to the square as shown, but when their combined orbital cycle is considered GEO-CENTRICALLY, as shown in the chart above, proportionality with the pentagram is clear. On the last page, a chart shows the 'earth-view' of this 'Venus-Kiss' cycle.

## 1. Background


#### Abstract

"According to documented legend, the first mathematical formulation of what we might today call a Law of Nature dates back to a Greek-Ionian named Pythagoras who is said to have discovered the numerical relationship between the length of the strings used in musical instruments and the harmonic combinations of the sounds. In today's language we would describe that relationship by saying that the frequency the number of vibrations per second or 'Herz' value - of a string vibrating under fixed tension is inversely proportional to the length of the string. One could call that simple mathematical formula the first instance of what we now know as Theoretical Physics."


## Stephen Hawking in 'The Grand Design'

In Philosophy, empiricism is a theory of knowledge that asserts that knowledge arises from evidence gathered via sense experience. Empiricism is one of several competing views that predominate in the study of human knowledge, known as epistemology. Empiricism emphasizes the role of experience and evidence, especially sensory perception, in the formation of ideas, over the notion of innate ideas or tradition.
The above is supported by the methodology of numerology according to the ancient Chaldeans, a Semitic people of Arabic origin living in southern Babylonia in the early part of the 1st Millennium B.C. using the letter-number conversion table below.

| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| A | B | C | D | E | U | O | F |
| I | K | G | M | H | V | Z | P |
| J | R | L | T | N | W |  |  |
| Q |  | S |  | X |  |  |  |
| Y |  |  |  |  |  |  |  |

In a related way, empiricism in the philosophy of science emphasizes those aspects of scientific knowledge that are closely related to evidence, especially as discovered in experiments. It is a fundamental part of the scientific method that all hypotheses and theories must be tested against observations of the natural world, rather than resting solely on a priori reasoning, intuition, or revelation. Hence, scientific method is considered to be empirical in nature.
In music, 'harmonic structure' is empirically discovered as a 'universal law' governing the subdivisions of a length of vibrating string as a measured and universal 'constant' that demonstrates the core basis of what it means to be 'in-tune' and 'in-time'. The first two instances of this law as revealed by Pythagoras give the basis of 'diatonic harmony'. As 'overtones' at the 'octave' and the 'octave and a fifth', the intervals are mathematically exact and 'perfect'.
Pythagoras (569-475 B.C.), in search of a more humanly tolerant philosophical environment, emigrated from Greece to Metapontum and Crotone in southern Italy in 532 B.C. He's generally accepted as the first philosopher and mathematician of significance in the world. His 2nd \& 3rd law's have indeed been written in stone over the ages. With far-reaching implications for 'things social, cultural, economic, theological, scientific and political', they have been and are unfailingly used in calculating and understanding the workings of 'things geometrical'. Pythagoras also proclaimed his First Law as "Everything is Number", implying that at its deepest level reality is mathematical in nature, though mankind has been reluctant to put to practical use. Yet, through the ages leading philosophers and scientists like Plato, Descartes, Leibniz, Spinoza, Copernicus, Galileo, Newton, Kepler and Einstein, to just to name a few, have all directly or indirectly addressed the issue of 'constants', of there being something truly determinant outside of what mankind has come up with in terms of philosophy, science and theology to explain the workings of the Universe, and our world as integral part of it.

## 2. Pythagoras, Plato, Spinoza and the UNFCCC

The Chaldeans of the 2nd and 1st Millennium B.C. were known for their expertise in astronomy, mathematics and architecture and Pythagoras in his time was clearly a student of this. This short paper links a 'Chaldean algorithm' to demonstrate the relationships between music, mathematics, meaning and international efforts to deal with climate change.
The United Nations Framework Convention on Climate Change [UNFCCC], agreed in 1992 and ratified in 1995, led to a comprehensive proposal in 1996 from the Global Commons Institute [GCI] for a global agreement on sharing the reduction of greenhouse gas emissions known as 'Contraction \& Convergence' (C\&C). C\&C is based on Pythagoras' experiment of sub-dividing given lengths of string at constant tension to reveal the 'overtone' series. C\&C is in fact a structured expression of what GCI has called 'Stringularity'. It recognizes the musical nature of the Universe and projects as a 'Well Tempered Climate Accord' for 'UNFCCC-compliance', or being 'in-Tune, 'in-Time' and so 'in-Harmony' with Mother Earth and Nature'.
Plato lived about 100 years after Pythagoras (423-348 B.C.). According to the Chaldeans, in what is a 'Kabbalah' reading of his name, it is equivalent with the word Nature. In Plato's 'Cratylus' and in his 'Timaios', he discusses the geometrical nature of Nature and how this results, among other things, in the five Platonic Figures. Plato deepened Pythagorean thinking from a language perspective too. He considered the question whether names are significant by nature or by convention. He wondered in some depth whether there is some special appropriateness of the sounds of names to the objects called by them or whether it merely reflects the "usage of the community". Thus Plato showed that while language is an instrument of thought, the test of its rightness is not mere social usage but also that the very sound of it also carries meaning, hence perhaps the expression 'watch your tongue'!
At the tender age of 24 and at the time of the Renaissance in Europe, the renowned DutchPortuguese philosopher Baruch de Spinoza (1632-1677) was ex-communicated by the powerful Jewish Sephardi community in Amsterdam. This was on the basis of an extremely forceful - read fearful - statement by which the ex-communication was made public. Spinoza considerably deepened the rationalist philosophies put forward by René Descartes.
Below, based on the letter-number conversion table above and used according to established convention, is a demonstration of some proof of the fact that indeed nothing happens by chance and that Pythagoras' 1st Law has a direct and significant bearing on all that is happening under the Sun. This is on the basis of some of Spinoza's highly authoritative core philosophical pronouncements and is gathered from his 'Theological-Political Treatise' of 1669 and his 'Ethica' of 1677.
According to the Chaldean numerology, the name SPINOZA is a $5 / 32$, the Mercury vibration, representing 'Reason" and 'Communication'. Spinoza's core parameters for the Universe are: 'SUBSTANCE', a 5/32; 'ATTRIBUTES', a $5 / 32$ and 'MODES', a 5/23. The number 32 was bestowed with the name 'Communication' and the 23 with the powerful name 'The Royal Star of the Lion'.
The combination of these three "quantities" make, following the Kabbalah method of numerology, a 6/33, being the same as Spinoza's full name BARUCH DE SPINOZA. Also, Spinoza's core statements: 'NATURING NATURE' and 'NATURED NATURE' are both 5/32's and so are his favoured expressions 'LOVE OF GOD" and 'LOVE OF NATURE'. Moreover, one of Spinoza's favourite expressions is "What you say is what you are" and....is another 5/32 and, interestingly, the same as 'Mathematical Nature'. In the eye of many, including his own Hebrew Community, which expelled Spinoza at age 24, the Dutch Calvinist Church as well as the State made him an outright atheist and was treated as such, resulting in an all-out suppression of his truly outstanding work in which indeed the 'Love of God and Nature' shines through on every page. However, it can be argued that Spinoza combined Pythagorean and Platonic thinking, illuminated by the 'power' of the Renaissance, as also manifestly evidenced in music of the 17th and 18th Centuries, to his and hence our times. The examples below are, in addition to the above, a comprehensive demonstration of the 'nature of the '5', the Mercury vibration.
The word NATURE like 'Inner Sun' and also the combination GRAVITY-ELECTROMAGNETISM is a $5 / 23$ like MODES and the word 'GOD' is a $5 / 14$, like the following words and expressions:
'SUN' `ALL LIGHT' `QUANTIZATION OF LIGHT ENERGY' `ELECTROMAGNETIC FIELD THEORY OF LIGHT' `IMAGE' `TEN' `ELECTROMAGNETISM' ‘TIME' `MIND' `BRAINS' `ALL THOUGHT’ `EYES' `IDEAS' 'TEAM' `DAY ONE' 'BIRTH' 'BODY' 'WAR AND PEACE' `GALAXY' `ALL THERE IS' '.COM' '.NET' and the statements ‘IT IS TIME' 'NONDETERMINISTIC' `CYCLIC' 'TIDE' 'PHI' `QUASAR' `QUBIT' 'BIG BANG THEORY' `BIG BANG MACHINE' 'ALL IS ENERGY' 'MASS-ENERGY' and Albert Einstein's immortal formula ' $E=M C \wedge 2^{\prime}$, 'PHILOSOPHY OF NATURE' 'MAYAN CULTURE' 'COSMOTHEOLOGY' 'ALL BEING' 'A SUPREME BEING' 'A STEADFAST BEING' 'TELECOMMUNICATION' `MULTIPLICATION BY TIME' 'DEOXYRIBOSE NUCLEIC ACID' 'THE TRUTH IS IN THE HANDS OF NATURE ONLY' and 'THE TRUTH IS IN THE HANDS OF GOD ONLY' and 'IN GOD WE TRUST' 'SMILE AT LIFE AND LIFE WILL SMILE AT YOU' 'PHILOSOPHY OF MIND' 'PERFECTIONING THE WHEEL' and 'IN NATURE WE TRUST' 'A TRANSCENDENTAL EVOLUTION' and..... 'IN THE BEGINNING', 'A MATTER OF TIME' `EVERYTHING HAS ITS TIME' 'A MOMENT IN TIME' `A MATTER OF PERSPECTIVE' `BIG TURN' 'IN REALITY' 'SAY YES' 'BACK TO BASICS' and....'A THEORY OF EVERYTHING'

## 3. Stringularity, Pythagoras and the UNFCCC according to C\&C

Pythagoras' law of 'stringularity' as a universal constant, is shown here. A string at constant length and tension, subdivides so that if the length is cut by half, the frequency of its rate of vibration [Hz] doubles; and if the length is cut in three, the frequency is trebled and so on. The harmonic content of this also unpacks as a perfect 'Fibonacci' progression [1:2:3:5:8 ...] leading to the Golden Section.


FIGURE 1

This audio-visual file is at this link http://www.gci.org.uk/animations/vibrating-strings.swf Mouse-touch [one click 'on', second click 'off'] the gold-coloured buttons in the image of space-time to both see-and-hear how the 'harmonics' of the whole string or the 'overtone series' emerges 'harmoniously' from the 'fundamental' G. Click nodes - 'blue' for chromaticscale and 'gold' for harmonic series - 'on' and 'off' 'in-series' or 'in-parallel' to make the 'melody' and 'harmony' of choice. Blue buttons, 'chromatic' notes in between, are not 'harmonics'.
So Pythagoras' space-time law, or 'stringularity', is revealed in a string at constant tension and length, as in the example of the cello G-String shown. The image starts on the left with a Hz value based on $\mathrm{G}^{\prime} \mathrm{O}^{\prime}=100 \mathrm{~Hz}$, which is equivalent to a Cello $\mathrm{G}-$ String. Note, the Hz values have been slowed visually by a factor of 100 , so the Hz doubling for the octave and trebling for the fifth [etc] can more easily be 'seen' as well as 'heard' [as 'doublings', treblings' etc].
Over future 'decades' as well as 'seconds', C\&C is a function of this 'long/short-wave-structure' [see FIGURES $2 \& 4$ ]. With internally consistent events per unit time, it adds up precisely to the stated outcome - UNFCCC-compliance. Being 'in-tune' and 'in-time' with C\&C is a function of this 'harmonic-structure' at any rates. A concept-animation of this is here: -http://www.richardellismedia.com/candc/candc-cube-web-edit.html
As a UNFCCC Executive said in 2004, "UNFCCC-compliance inevitably requires C\&C".


FIGURE 2
In the table below, the 'Perfect Fifth Cycle' [PFC] in columns 1 and 2, is compared with the 'Well-Tempered Fifth Cycle' [WTFC] in columns 3 and 4.
Pythagorean tuning preserves the mathematically given fractions for the different 'intervals' within the octave. This makes 'modulating' away from the home key more and more out of tune as this progresses. Well Tempered tuning adjusts for this by making each of the 12 'semi-tone' steps 'equal in the octave'. The PFC starts with an 'octave' based on 'G-G1' at $100-200 \mathrm{~Hz}$ and plots the Perfect Fifth [PF] 'D' at 150 Hz . It then takes D-D1 based on $150-300 \mathrm{~Hz}$ and plots PF 'A' at 225 Hz , and so on . . The WTFC starts with an octave based on 'G-G1' at 100-200 Hz and plots the Well Tempered Fifth [WTF] 'D' at 149.831 Hz . It then takes D-D1 based on $149.831-299.6614 \mathrm{~Hz}$ and plots PF 'A' at 224.492 Hz , and so on . . .
When you complete the 12 note fifth-cycle at the these Hz , the Perfect Fifth Cycle continues through G-G8, going from $100-12974.63 \mathrm{~Hz}$ as an 'imperfect fit' with multiples of 100 Hz . But when you complete this 12 note cycle at the these Hz , the Well Tempered Fifth Cycle completes through G-G8 as you go from G 100 to G8 12800 Hz as a 'perfect fit' with multiples of 100 Hz . The differences between the values for perfect and well-tempered fifths in the 'fifth cycle' is shown in columns 1 and 3 where the 'increasing values' of the emerging so-called 'Pythagorean Comma' is shown column 5 of the table. This is a significant, audible and increasingly obvious difference of pitch [as it is increasingly 'out-of-tune']. This is why 'WellTempered' tuning was formalized [for example Bach's Well-Tempered Clavier - 48 Preludes and Fugues in all twelve keys both major and minor] in the 18th Century and has been widely adopted as the basis of all music-making since that time.

|  |  |  |  | Pythagorean <br> Comma <br> Hz difference <br> between <br> Hz in Cycle of <br> Perfect Fifths |
| :---: | :---: | :---: | :---: | :---: |
| 100.000 | G | Hz in Cycle of <br> Well Tempered Fifths |  | PF |
| 150.000 | D | 100.000 | G | 0.00 |
| 225.000 | A | 224.831 | D | 0.17 |
| 337.500 | E | 336.359 | A | 0.51 |
| 506.250 | B | 503.968 | E | 1.14 |
| 759.375 | F\# | 755.099 | F\#/Gb | 2.28 |
| 1139.063 | C\# | 1131.371 | Db | 4.28 |
| 1708.594 | G\# | 1695.141 | Ab | 7.69 |
| 2562.891 | D\# | 2539.842 | Eb | 13.45 |
| 3844.336 | A\# | 3805.463 | Bb | 23.05 |
| 5766.504 | E\# | 5701.752 | F | 68.87 |
| 8649.756 | B\# | 8542.975 | C | 106.75 |
| 12974.634 | F\#\# | 12800.000 | G | 174.63 |

Pre-tuning keyboard instruments in what is also called 'Equal Temperament', makes 'modulation' between all keys possible, while remaining 'in-tune' in all keys. So, by slightly 'compressing' the perfect fifth so we can have twelve exactly equal semi-tone steps per perfect octave, 'well-tempered' tuning makes this twelve-note 'chromatic' division of that octave into a perfect internally consistent whole that is consistently 'in-tune' based at any Hz rates or pitch.

For transparency in 'climate politics', C\&C is primarily 'well-tempered' or 'equalized' rather than 'perfect' [or chaotic] and this is the basis for saying that C\&C is a 'well-tempered climate accord'. This argument for 'equality of rights per person per unit time' is politically sensible to avoid any futile further defence of various forms of global inequality. While the blunt simplicity of that point cannot be stated often enough, perhaps more importantly, it is technically necessary to preserve internal consistency when calculating different rates of C\&C for UNFCCCcompliance to keep in-time, in-tune and 'in-harmony with Mother Earth'.

See the user interactive animation for many examples of different rates of C\&C here: http://www.gci.org.uk/animations/C1,C2,C3.swf

However, whatever rates of C\&C are chosen to respond to the objec-

C1, C2, C3 Compared tive of the UNFCCC and actually commit to achieving it, this means simply that the 'unit of measurement' [numeraire] is not first and foremost 'money'. It means that C\&C or carbon, per person, per unit time, subject to the objective of the UNFCCC is the primary unit of measurement or the 'numeraire'. This makes it possible to quantify and share now the limited total of future emissions - the Contrac-tion-and-Convergence-Event - that is UNFCCC-compliant. Because of urgency and equity these rates are faster than is being talked about in the 'Copenhagen Accord' for example and 'Money' - as a numeraire - is only meaningful as a function of rates of C\&C that are UNFCCC-compliant. Like this, C\&C can be understood as 'A Well Tempered Climate Accord': -

- the octave [the whole and the unity or the 'full-term contraction-event' needed for UNFCCC-compliance] is preserved;
- the sub-divisions of that event [carbon, per person, per unit-time, subject to the objective of the UNFCCC] are quantized as equal or 'well-tempered' units of that whole for consistency over time.
Numbers viewable in this 'zoomable' file: - http://www.gci.org.uk/images/Bangla_Desh_.pdf


The organising principle is true whatever C\&C rates are computed. It is essential that the different rates of applying this structure are openly considered in the assessment of our 'global' problem and negotiation of its 'solution' in advance of all the agreements that are made. See a C\&C-in-action concept movie: - http://www.candcfoundation.com/pages/whatis.html


## 4. Pythagorean-Platonic language underpinning of C\&C

Following the above exposé on the natural, i.e. Pythagorean, relationship between natural harmony and the long-term requirements of the UNFCCC for safeguarding the future and well-being of Humanity, this chapter provides a series of related 'statement's based on the Chaldean 'algorithm' presented earlier.
For this a generic return is made to Spinoza's key number '5/32', called "Communication" which has a large bearing on the activities and ultimate effects of the Kyoto Protocol, with the following same vibrations:
'THE UNIVERSE IS A SYMPHONY' 'MUSIC IS THE BASIS OF LIFE' `MUSIC IS OUR NATURE’ 'IT IS THE TONE THAT MAKES THE MUSIC' 'COMPOSING' 'COMPOSITION' `PYTHAGOREAN THINK-
ING' 'NATURE'S MESSAGE' 'THE HUMAN PROTEOME' 'IMPLICATE ORDER' 'DOWN TO EARTH'
'EVERYTHING IS RELATIVE' 'VIBRATIONS' and 'GOOD, GOOD, GOOD VIBRATIONS' 'STATE OF
THE WORLD' 'TRUTH IS SIMPLE' 'SEIZING THE MOMENT' `DRAWING THE LINE' 'COLLECTIVE DNA'
'UNIVERSAL LANGUAGE' 'OVERTONE' 'NATURE IS JUST' 'TAKE IT OUR LEAVE IT WORLD' 'PRO-
TOCOL' 'UNFCCC COMPLIANCE' and 'FOOD FOR THOUGHT'!

Then, more specifically related to C\&C, some examples of the ' $6 / 15^{\prime}$ which the Chaldeans called "The Magician":
'ZERO-ONE-TWO-THREE-FOUR-FIVE-SIX-SEVEN-EIGHT-NINE' 'MAN'S BRAIN' 'A NEW WIND' 'PROPOSITION FOR A HAPPIER SURVIVAL OF HUMANKIND' 'THE ENTIRE EARTH THEN WAS OF ONE LANGUAGE AND OF ONE TONGUE' `RADICAL' 'NAME' `OLD FRIENDS' ‘TEAM SPIRIT’ 'WINWIN' 'GAME OVER' 'SAVE' as well as 'THE SEARCH' 'ALL REALITY' 'RATIO' 'NEUROPSYCHOLOGICAL MODEL' 'NEUROANTHROPOLOGY' 'LEARN' 'AWAKE' 'ALL MATTER IS SPIRITUAL' `METAPHILOSOPHICAL' 'ALL THINGS SHINING' 'ALL IS REVEALED' `CLARITY' 'LEGAL' 'RIGHT' 'REAL CHANGE' `SAY NO TO RACISM' 'DUTY' 'CHARM' `JOKE' `HINT' `ODD' `IN ODD WE TRUST' 'SMART POWER' and 'LIVE' 'MAGIC AND MYSTERY' and......'AWE AND WONDER' and....'ALL IS GEOMETRY' and..........
'A WELL TEMPERED CLIMATE ACCORD' ‘CONTRACTION AND CONVERGENCE AS A MODEL OF TRANSITION' and 'IF HUMANKIND WANTS TO SURVIVE IT WILL HAVE TO ADOPT A RADICALLY DIFFERENT WAY OF THINKING' (Albert Einstein) and ....'AMEN'!!!

Followed by some key equivalents of the acronym 'C\&C', written in numbers as '33':
'UNIVERSE' 'FIELDS OF ENERGY' `DIATONIC HARMONY' 'UNDER THE RAINBOW' 'THE UNITY OF ALL BEING' 'NUMBER IS LOGOS' 'NUMBERING' 'NUMBERED' `PYTHAGOREAN' 'PHYSICS AND MATHEMATICS' 'LIVING HOLOGRAM PRINCIPLE' 'PENTAGRAM' 'ATOMIC ENGINEERING' 'MACROSCOPIC' 'MICROSCOPIC' 'THE CONCEPT OF MIND' 'PROTEOME' 'GENE AND MEME DRIVEN' 'THE NATURE OF REALITY' $O$ OUR TRUE NATURE IS SPIRIT' `NATURE'S INTELLIGENCE' `KABBALAH AND STRING THEORY' `SPIRITUAL POWER SPIRALS' 'QUANTUM PHYSICS' `QUANTUM THEORY' 'QUANTUM COMPUTERS' 'THE UNIVERSE IS US' 'AS THE INDIVIDUAL IS IS THE UNIVERSE' 'EVOLUTIONARY HUMAN' 'BELIEFS IN HUMANITY' 'BEING COMBINES REALITY AND LOGOS' 'NEURONS' 'PROTON' 'ABSOLUTE SIMPLICITY' `PLATONIC FIGURES' 'CUBE OF THE CENTRE' `LIGHT OF THE UNIVERSE' ‘TRANSITION' and 'WORLDS IN TRANSIT'

Followed by some equivalents of 'KYOTO PROTOCOL', the ' $8 / 26$ ', called "Partnerships" and the number of Destiny:
'HUMAN DESTINY' 'SPACE AND TIME' `NUMBERS, SPACE AND TIME' `NUMBERS, SPACE, TIME
AND GRAVITY' `NUMBER AND SOUL' 'DO-RE-MI-FA-SOL-LA-SI' 'OCTAVE' `HEMIOLA' 'METRICAL
IMPULSE' 'DIATONIC' 'COGNITIVE RESONANCE' 'PENTAGRAMATIC ORDER' 'MUSICAL NATURE'
'MUSICAL START' 'HERMETIC UNIVERSE' `CERTAINTY PRINCIPLE' 'THE COMMON PEOPLE' 'WE
ARE THE WORLD, WE ARE THE CHILDREN' 'TOGETHER' 'PARTNERSHIP' 'PEACE AND LOVE'
'PEACE AND UNDERSTANDING' and 'THE POWER OF NATURE' 'THE COLOURS OF THE RAINBOW'
'SENSE AND SIMPLICITY IN COMPLEXITY' 'LOOKING TRUTH IN THE EYE' and 'HANDLING THE
TRUTH'!

Just one up in the level of cosmic vibrations, we find the extremely powerful, however benevolent, '27', called 'The Sceptre'. The Ancients describe this Mars vibration as an excellent, harmonious and fortunate number of courage and power, with a touch of enchantment. It blesses the person or entity it represents with a promise of authority and command.
It guarantees that great rewards will come from the productive labours, the intellect and the imagination. Below are a number of telling examples of this vibration from which one will be able to get a feel for its power and benevolence:
'ALL LIFE IS ONE' 'HUMAN PROTEOME' 'COSMOS' 'HEAVEN' 'HEAVEN AND EARTH' 'THE DIVINE
PRESENCE' `SELF-ORGANIZING PRINCIPLE' 'LIGHT WITHOUT END' 'THE LANGUAGE OF LIGHT’ 'LANGUAGE IS A MATTER OF MIND' ‘KEEPER OF TRUTH' 'GENETIC CODE' TWENTY LETTER PRO- TEIN CODE' 'THE MUSIC OF LIFE' 'THE PERFECT FIFTH CYCLE' 'HARMONIC STRUCTURE' 'META- PHYSICAL UNIVERSE' 'MENTAL IMAGE' 'ATOMIC SCIENCE' `CELESTIAL MATHEMATICS' `THE UNIVERSAL GRAMMAR' 'COSMIC STRING THEORY' `COMMON SENSE AND SENSIBILITY' 'AUSTER-
ITY' 'EFFECTIVE' 'MUSIC IS A UNIVERSAL LANGUAGE' 'STRINGULARITY' and 'MOVING BEYOND
IDEOLOGY'

Followed by the powerful Jupiter vibration, the number ' 30 ':
'SINGULARITY' 'WORMHOLE' ‘EXTERNAL PRINCIPLE' 'HIGHER PRINCIPLE' 'SELF-ORGANIZING HIGHER PRINCIPLE' 'HERMETIC CODE' `LOGOS IS ALPHA AND OMEGA' 'ZERO EQUALS INFINITY' `OSIRIS-ISIS-HORUS' 'MEMENTO MORI' 'THE INTENT TO BECOME' 'IMPULSE' 'CHILDHOOD' 'NUMBER, WEIGHT AND MEASURE' 'ORGANIC THINKING' 'MITOCHONDRIAL DNA' 'QUANTUM GENES' ‘EVOLUTIONARY' `EVOLUTIONARY HUMANITY' 'COMMON GROUND' 'THERE IS MUSIC IN THE AIR' and 'KINDNESS IS A VIRTUE'

Finally, as the all-important COP-17 is approaching rapidly in Durban in December 2011, below some key equivalents of the number '17':
'ONE' 'REALITY' 'EARTH' 'UNITY' 'LIFE' 'HEART' 'GOLD' 'MUSIC' 'THE TRUTH' 'THE ACTION' 'HERE' `CIRCLE' 'MACRO' 'MICRO' 'SAFE' 'BRIDGE' 'LEAP 'THINK' 'LIGHT-BEARING' 'MORAL' 'NEW REALISM' and.....'I HAVE A DREAM'

Lastly, a selection of examples of the Number 9, called "The Force" and the number of the title of this paper:
'PHILOSOPHER' 'PHILOSOPHY-PHYSICS' 'PROPORTIONS 'ANTHROPOSOPHY' 'COSMOLOGICAL PRINCIPLE' 'ANTHROPIC COSMOLOGICAL PRINCIPLE' ${ }^{\prime}$ ELECTROMAGNETISM-GRAVITY-INERTIA-QUANTUM MECHANICS' 'PRINCIPLES OF HEAVEN' 'PI' 'A CIRCLE' 'ADD' ‘ 'JOY' 'OK' 'SUN-MERCURY-VENUS-EARTH-MARS-JUPITER-SATURN-URANUS-NEPTUNE' 'ALL MATTER' 'MONDAY-TUESDAY-WEDNESDAY-THURSDAY-FRIDAY-SATURDAY-SUNDAY' 'NUMBERS GODS OF THE NEW MILLENNIUM' 'SUPERCOMPUTER' and 'GOOD HORSE SENSE IS JUST STABLE THINKING' 'UNCONVENTIONAL' 'SPONTANEOUS' and 'RNA-DNA' 'CONSCIOUSNESS' 'NEUROLOGICAL EVOLUTION' ‘ELECTROMAGNETIC SPECTRUM' `ELECTRODYNAMIC THEORY' 'ELECTROCHEMICAL' 'NEUROTRANSMITTERS' 'FUNDAMENTAL LEVEL OF DESCRIPTION' 'A PURPOSEFUL UNIVERSE' 'EVOLUTIONARY UNIVERSE' 'MULTIDIMENSIONAL UNIVERSE' 'TRANSDIMENSIONAL' 'PRINCIPLE OF LEAST TIME' 'A HUMAN CONSTITUTION' as well as 'A BETTER WORLD' 'A REALITY' 'A HEART' 'A LIFE' 'WONDERFUL LIFE' 'ENLIGHTENMENT' and 'THE MORE WE CHANGE, THE MORE WE STAY THE SAME' 'WHEN HEAVEN AND EARTH ARE UNITED' and.....'MILLENNIUM ASSESSMENT OF HUMAN BEHAVIOUR' and.....'HISTORY DOES NOT PREDICT BUT IT DOES HINT' `CHANGE ONE CAN BELIEVE IN' 'UNDERSTANDING OF...' and....'THAT WHICH DOESN'T KILL US MAKES US STRONGER' and 'MULTICULTURALISM'!!!

## 5. The UNFCCC and the Kyoto Protocol debate in relation to C\&C

The "Kyoto Protocol" to the UNFCCC was agreed at COP-3 to the UNFCCC in 1997 and ratified when the Russian Government finally added their vote in 2005, thus creating the necessary majority of intergovernmental support to carry its ratification.
However, for emissions control, it relates only to developed countries and for the years 2008 to 2012, so it expires next year. The US moreover, has always opposed it and never ratified it, precisely because it was sub-global and they have held this position until this day.
Some other Developed Country Governments have now moved to this position as they now also oppose arrangements that exempt Developing Countries from the emissions control regime. But the very term the "Kyoto Protocol" has now become part of the false dichotomy separating the developed and developing countries around the following considerations: -

- Developing Countries do want it for round two because it controls only . . .
- Developed Countries, who now don't want a one-sided deal any more, against
- The US, who never wanted it and wouldn't ratify it, because it was 'sub-global'

This needs to be resolved. As C\&C is grounded in achieving 'UNFCCC-compliance' and as 'Climate Justice without Vengeance', its global by definition and so covers both positions: -

- Developed Countries get everyone 'in' with C\&C so,
- The US gets 'globality' and, as the emissions control standard,
- Developing Countries get emissions per-capita ahead of emissions per-dollar.

In other words by moving openly to the C\&C principle, it achieves 'Climate Justice without Vengeance' and resolves the false dichotomy of the 'Kyoto argument' by saying it either: -

- continues-Kyoto or,
- discontinues-Kyoto or,
- takes us all beyond-Kyoto.
to UNFCCC-compliance which is what we all really need.
This resolution is important for a further reason. So far, Kyoto's 'market-based framework' has tried to make UNFCCC-compliance a function of money. However, its lawless 'expansion and divergence' with periodic catastrophic market-failure has made that impossible. So, while as the UNFCCCC Executive said it is 'inevitably needed' for UNFCCC-compliance, C\&C was still nonetheless positioned at best, as a failed but at least 'aspirational-outcome' of that failure.
C\&C as a 'rational-input', means Kyoto's aspirational 'market-based framework' is superseded by C\&C's rational 'framework-based-market'. C\&C is not just 'ideal', it is a practical, workable 'deal' to achieve that ideal; a 'rational input/outcome' that avoids the infinite cost of failure.


## 6. Concluding Observations

On the basis of the foregoing, some conclusions can be drawn: -

- empirical evidence suggests that Reality is universally mathematical in nature and that music is the purest expression of that Reality;
- the historical thinking of the combination of the Ancient Chaldeans, Pythagoras, Plato and Spinoza, to which we should add Albert Einstein in our time, may have provided us with a concrete and objective tool for achieving a better understanding between Humankind and Nature;
- this could usefully be employed in the decision-making of the implementation of the UNFCCC for the benefit of all humankind;
- in that context, C\&C as both 'strategy and mechanism' hold out a natural promise for addressing climate change in a way the minimizes its dangerous effects and addreses and corrects the growing imbalance between rich and poor in our dangerously polarizing world.
As Albert Einstein, the great 20th Century Theoretical Physicist and humanitarian said, "If humankind wants to survive, it will have to adopt a radically different way of thinking."


## 7. References

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Earth:Venus Pentagram in the Solar System
The GEO-CENTRIC view in the chart approximates the paths of Venus as the 13:8:5 synodic cycle completes one eight earth-year cycle. The proportionality of this cycle within the pentagramatic paradigm is fundamental to the 'Pythagorean view'.
Taking a cyclic view, the 'stringularity' of a full-term C\&C-event needs to complete within about the next five of these 'eight-earth-year-cycles', if dangerous rates of climate change are yet to be avoided.


