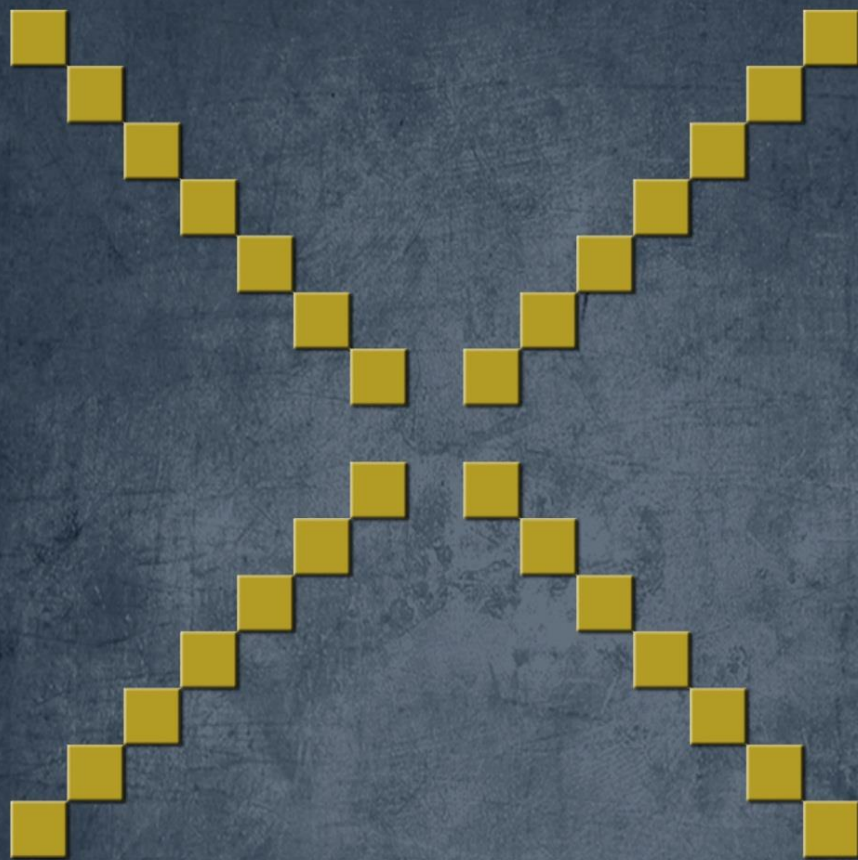


THE SCIENCE

**THE PATTERN
OF ALL THINGS**



Showing the Pattern

MODELS, MATCHES & MAPS OF THE PATTERN

The invisible Pattern of Creation that is described in this book is represented by a simple equation.

$$a + b = c$$

The Pattern Equation, actually an equation pair, $a + b = c$ & $c = b + a$, requires discrete values for conjugate variables **a** and **b**. The equation pair, when raised to the powers of 0, 1, 2 and 3, represents a universal Pattern that could be shown to manifest as three three-dimensional geometric models, the Pattern Cluster, the Pattern Cube and the Pattern Sphere.

The Pattern has been verified by comparisons with the structure of the atom, the genetic code and the spacetime. It has also successfully been compared with the plans of buildings as described in the Bible – the Tabernacle, the Temple and the New City.

Several discoveries were made during the research into the Pattern. These include the Symmetric Periodic Table, the Geometric Genetic Code and the Spacetime-days. The Pattern also revealed the position of the Throne in the New City.

The Science; *The Pattern of All Things*, part one of *The Pattern* book, describes the models, the matches and the maps of the Pattern.

The Story; *Peter in the Patternland*, part two of *The Pattern* book, illustrates mainly the scientific aspects of the Pattern.

The Sequel; *Peter in the Pattern City*, part three of *The Pattern* book, illustrates mainly the biblical aspects of the Pattern.

The discovery of the Pattern strengthens the scientific view that information is the origin of all things. It also gives substance to the biblical references to buildings which had to be constructed 'according to the pattern'.

The Pattern fits John Archibald Wheeler's comment about the quest for reality:

...we will grasp the central idea of it all as so simple, so beautiful, so compelling that we will all say each to the other, 'Oh, how could it have been otherwise! How could we all have been so blind for so long!'

The Pattern of All Things is part one of *The Pattern* book.

The 4th edition of *The Pattern* book (October 2013) was published on www.thepatternbook.com
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THE PATTERN MODELS

Three three-dimensional models are used to describe the invisible four-dimensional Pattern.

The Pattern Cluster is the basic model of the Pattern. It has the unique characteristic that it fits inside both a cube and a sphere. The Cluster configuration is also known as a cuboctahedron, or a truncated cube.

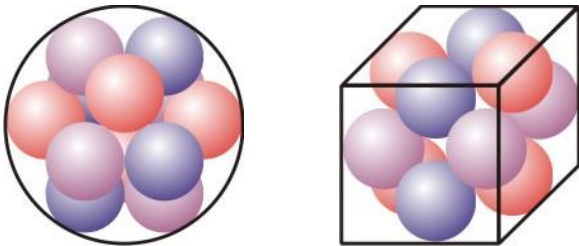
The Pattern Cube is derived from the Pattern Cluster by means of the Pattern Equation Pair and is the main model used to describe the Pattern. It resembles the usual representation of a hypercube, or tesseract, where a small cube is pictured inside a big cube with their eight vertices connected.

The Pattern Sphere is derived from the Pattern Cube by means of the Pattern Map. It represents a hypersphere and is the dual model of the hypercube. It resembles the Pattern Cluster but the twelve spheres, surrounding the virtual inner sphere, are composite spheres.

THE PATTERN CLUSTER

The Pattern Cluster consists of twelve spheres around a virtual sphere. The twelve spheres are arranged in three orthogonal planes with the red spheres in one plane, the purple spheres in the second plane and the blue spheres in the third plane.

The Pattern Cluster fits inside a sphere as well as inside a cube.



The Pattern Cluster Represents a Hyper-cylinder

The Pattern Cluster represents a hypercylinder because it fits inside both a sphere and a cube.

As a first step to illustrate the statement above, take a cylinder whose height is equal to its diameter. Pass it through a round hole in a piece of paper, then turn it sideways and pass it through a square hole in the paper. (The close-fitting holes in the paper should have been prepared beforehand.)

The next step is to observe, from the two drawings above, that the Pattern Cluster fits inside both a sphere and a cube. However, the sphere and the cube are the three-dimensional versions of the two-dimensional holes in the paper.

Then, through analogy, an object that fits inside both the sphere and the cube must be a four-dimensional cylinder. But a four-dimensional object cannot be observed directly. Therefore the Pattern Cluster must be a three-dimensional representation of the four-dimensional cylinder, also called a hypercylinder.

(The first part of this illustration is an adaptation of an idea that was shown by Hugh Ross during a talk which was captured on video. However, he actually used a triangle and a square as the two-dimensional objects which means that the three-dimensional object was a cone)

The Pattern Cluster Represents a Rotating Hypercylinder

A typical cylinder would rotate around an axis which runs through the circular aspect of the cylinder. However, a (three-dimensional) cylinder that rotates orthogonally to the typical rotation would throw a (two-dimensional) square shadow alternating with a (two-dimensional) circle shadow (in the same position) to form a (two-dimensional) composite shadow image.

By analogy, the Pattern Cluster could be viewed as a (three-dimensional) composite shadow image of a rotating four-dimensional hypercylinder because it fits alternately inside a (three-dimensional) cube as well as inside a (three-dimensional) sphere.

A shadow image merely represents a higher-dimensional image and therefore the Pattern Cluster only represents the four-dimensional cylinder, it isn't the hypercylinder itself.

THE PATTERN CODE

The Pattern Cluster could be sliced at four different angles. Each slicing yields a different set of three configurations of the spheres of the Cluster. These sets of configurations form the first part of a sequence (shown below) which is called 'the Pattern Code'.

(Note that the slicings yield only four of the seven sets of the Code configurations. The three extra Code sets, whose configurations are not shown, were deduced from the initial four Code sets.)

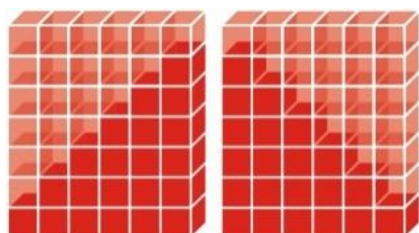
	6 0	0 6	
	5 1	1 5	
	4 2	2 4	
	3 3	3 3	
	2 4	4 2	
	1 5	5 1	
	0 6	6 0	

The Pattern Equation Pair

The two sides of the Code table above could be generalised as a Pattern Equation Pair with variables a, b and c (c = 6).

$$(a + b)^1 = c^1 \text{ \& \ } c^1 = (b + a)^1.$$

The step-by-step substitution of variables a and b with their respective Code values (the Pattern Code numbers shown above) and the 'realisation' of the values by cubes yields a 'wall pair' as shown below.



a	b	b	a
6,0		0,6	
5,1		1,5	
4,2		2,4	
3,3		3,3	
2,4		4,2	
1,5		5,1	
0,6		6,0	

The Squared Pattern Equation Pair

$$(a + b)^2 = c^2 \text{ \& \ } c^2 = (b + a)^2$$

$$axa + axb + bxa + bxb = cxc \text{ \& \ } cxc = bxb + axb + bxa + axa$$

Substitution of the variables in the squared Pattern Equation Pair with their respective Code values yields a block pair. (See the next section for a drawing of the block pair.)

The Cubed Pattern Equation Pair

$$(a + b)^3 = c^3 \text{ \& \ } c^3 = (b + a)^3$$

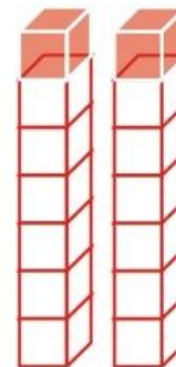
$$axaxa + 3axaxb + 3axbxb + bxbxb = cxcxc \text{ \& \ } cxcxc = bxbxb + 3bxbxa + 3bxaxa + axaxa$$

Substitution of the variables in the cubed Pattern Equation Pair with their respective Code values yields a column pair. (See the next section for a drawing of the column pair.)

The Pattern Equation Pair to the Power of Zero

$$(a + b)^0 = c^0 \text{ \& \ } c^0 = (b + a)^0.$$

If the Pattern Equation Pair is raised to the power of zero and if the variables of the Pattern Equation Pair to the power of zero are substituted with their respective Code values they also yield a column pair (each block of this column pair consists of only one cube).



The Pattern Equation Pair Loop

The Pattern Equation Pairs, with their realisations, could be summarised as follows:

$(a + b)^0 = c^0 \text{ \& \ } c^0 = (b + a)^0$ yields a column pair
 $(a + b)^1 = c^1 \text{ \& \ } c^1 = (b + a)^1$ yields a wall pair
 $(a + b)^2 = c^2 \text{ \& \ } c^2 = (b + a)^2$ yields a block pair
 $(a + b)^3 = c^3 \text{ \& \ } c^3 = (b + a)^3$ yields a column pair

The realisations seem to form a loop; a column pair, a wall pair, a block pair and, again, a (cubed) column pair. The columns of the cubed column pair are composed of cubes consisting of cubes. (The starting (unit) cube is the minimum size of a cube.)

Because the Pattern Equation Pairs form a loop the resulting structures (the realisations) would always expand.

THE PATTERN CUBE

The Pattern Cube is constructed by first transforming the block pair (from the squared Pattern Equation Pair) into a cleft step pyramid.

The Cleft Step Pyramid

Revisiting the substitution of the Code values in the variables of the squared equation pair (see previous section) yields:

$$(a + b)^2 = c^2 \text{ \& \ } c^2 = (b + a)^2$$

$$axa + axb + bxa + bxb = cxc \text{ \& \ } cxc = bxb + axb + bxa + axa$$

$$6x6 + 6x0 + 0x6 + 0x0 = 6x6 \text{ \& \ } 6x6 = 0x0 + 6x0 + 0x6 + 6x6$$

$$5x5 + 5x1 + 1x5 + 1x1 = 6x6 \text{ \& \ } 6x6 = 1x1 + 5x1 + 1x5 + 5x5$$

$$4x4 + 4x2 + 2x4 + 2x2 = 6x6 \text{ \& \ } 6x6 = 2x2 + 4x2 + 2x4 + 4x4$$

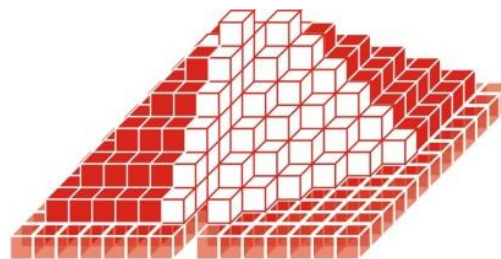
$$3x3 + 3x3 + 3x3 + 3x3 = 6x6 \text{ \& \ } 6x6 = 3x3 + 3x3 + 3x3 + 3x3$$

$$2x2 + 2x4 + 4x2 + 4x4 = 6x6 \text{ \& \ } 6x6 = 4x4 + 2x4 + 4x2 + 2x2$$

$$1x1 + 1x5 + 5x1 + 5x5 = 6x6 \text{ \& \ } 6x6 = 5x5 + 1x5 + 5x1 + 1x1$$

$$0x0 + 0x6 + 6x0 + 6x6 = 6x6 \text{ \& \ } 6x6 = 6x6 + 0x6 + 6x0 + 0x0$$

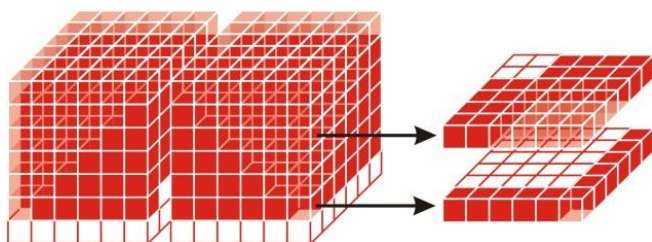
Each row of numbers above could be realised with one layer of cubes. The layers are stacked on top of each other to form a block pair as shown below. Each block measures 7 x 6 x 6 cubes. Although the number of cubes in each layer is the same (36) the composition of the layers changes from all b-cubes (the bottom layer) to all a-cubes (the top layer). Layers 2 & 5 of the block on the right are shown separately.



The same construction and transformation as for the squared equation pair could be applied to the cubed equation pair.

$$(a + b)^3 = c^3 \quad \& \quad c^3 = (b + a)^3$$

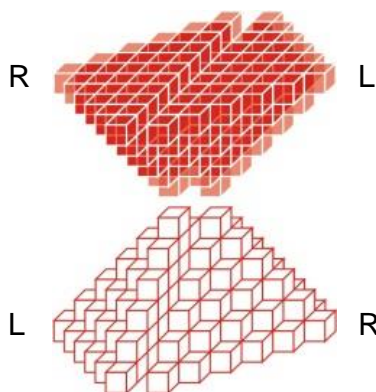
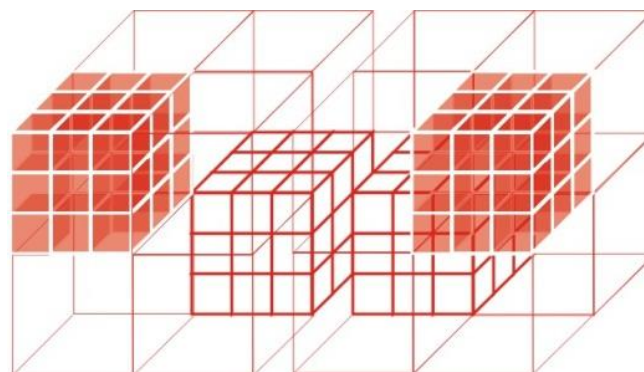
$$axaxa + 3axaxb + 3axbxb + bxbxb = cxcxc \quad \& \\ cxcxc = bxbxb + 3bxbxa + 3bxaxa + axaxa$$



It is explained in the Notes (The transformation of the block pair and the column pair) how the cubes of the block pair could be transformed (rearranged) to form a Pattern Light-cone as shown below. It consists of a Conic pair (bxb, bottom) and antiConic pair (axa, top).

A column pair with seven layers results when the Code values are substituted in the cubed Equation Pair above. The cubed column pair is an expanded version of the block pair - each layer of the block pair becomes a cube consisting of 6x6x6 cubes. (Only the middle cube pair is shown below.)

(The antiConic top left belongs to the Conic bottom right and vice versa.)



The cubed column pair is transformed like the block pair before. The transformation of the cubed column pair yields three identical pyramid pairs;

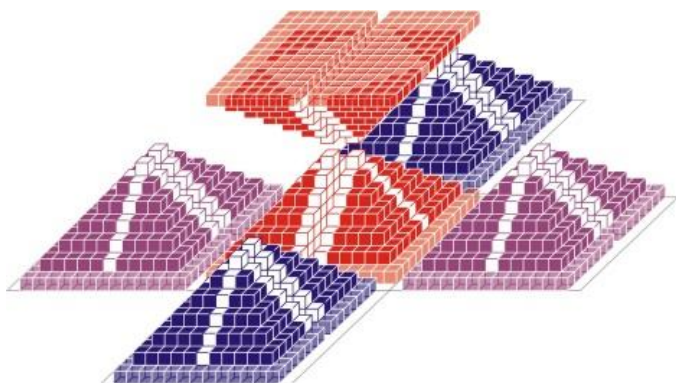
The red cleft step pyramid (below) is formed by compressing the antiConic pair (91+91 cubes) to form an additional layer, or Cover pair, and by adding the four Cornics (axb and bxa) to the four sides of the Conic pair.

- a red pyramid with its inverse; the antired pyramid
- a purple pyramid with its inverse; the antipurple pyramid
- a blue pyramid with its inverse; the antiblue pyramid

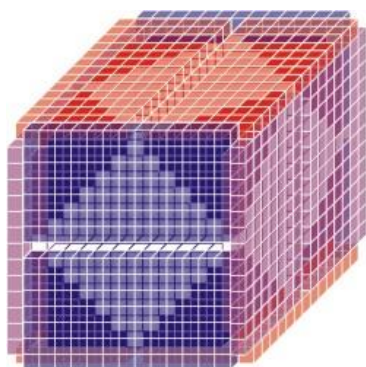
(A Cornic had been omitted from the following drawing to expose one side of a Conic.)

The Broken and the Unbroken Pattern Cube

The three pyramid pairs could be arranged to form the broken Pattern Cube.



The unbroken Pattern Cube is formed when the sides of the broken Pattern Cube, i.e. the purple and blue pyramids, are closed up.



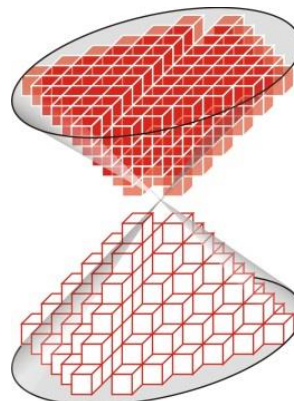
The unbroken Pattern Cube represents a hypercube that consists of small cubes (cells). (See 'The Pattern Cube is a hypercube' in the Notes.) It is not solid because of its virtual Core, its six virtual clefts and its eight virtual chains (the chains that form where the pyramids of different colours meet).

The different plates (layers) of the pyramids form seven concentric cubes - the smallest plates resemble the configuration of the Pattern Cluster; its four red, four purple and four blue spheres replaced by cubes.

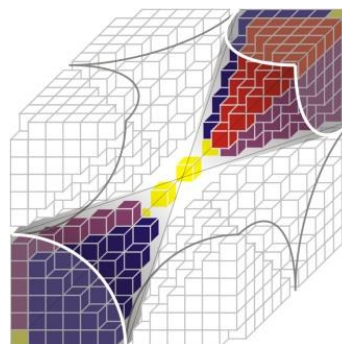
The Light-cones and the Life-cones of the Pattern Cube

The Pattern Cube is made up of six cleft step pyramids. Each pyramid consists of a Conic pair, a Cover pair (a compressed antiConic pair) and two Cornic pairs.

When the Covers are uncompressed to form antiConics, the antiConic pair and the Conic pair of each pyramid forms a Pattern Light-cone as shown below. (The red Pattern Light-cone is shown enveloped by a spacetime light-cone.)



The twenty-four Cornics (three Cornics form each of the eight Cube vertices) form four Pattern Life-cones that stretch diagonally across the core between the eight vertices of the Cube. Each Life-cone consists of a codon (bottom) and anticodon (top), each consisting of three Cornics. The UCU Life-cone is shown below.



The different layers of a Light-cone and a Life-cone exhibit quadratic sequences; i.e. $0^2, 1^2, 2^2, 3^2, 4^2, 5^2, 6^2$ for each Conic (and antiConic) of a Light-cone and $0^2, 1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 4^2, 2^2, 1^2, 0^2$ for each codon (and anticodon) of a Life-cone (the virtual cubes of the chains are included here).

The Cube of cubes

Each cell of the Pattern Cube contains the complete Pattern Cube. But inside Conics and antiConics (the Light-cones) only the Conic and antiConic cells are 'active' and inside codons and anticodons (the Life-cones) only the Cornic and antiCornic cells are 'active'.

THE PATTERN MAP

The Pattern Map (page 16) shows the spread-out plates of the red pyramid pair of the Pattern Cube together with their corresponding spread-out discs. The discs represent the Pattern Sphere which is the dual model of the Pattern Cube.

The purple and blue versions of the Pattern Map would look almost identical. The three Maps together would constitute the entire Pattern Cube and the Pattern Sphere.

The Pattern Map also illustrates the mathematics of the Pattern. The values that are derived from the squared Pattern Equation Pair and their corresponding realisation as the cubes (cells) of the plates, is graphically related by the Map.

Each location on the Pattern Map is referenced by its Pattern State Identity which consists of four coordinates [c, n, s, m] inside two square brackets.

The positions of the chemical elements of the Periodic Table (see page 10) are shown where they fit in the plates. The Pattern Map also shows how antimatter fits into the scheme of things.

The positions of the RNA bases (see page 11) are indicated at the corners of the red and antired plates.

The centre of the Map is the focal point of the plates and discs. This virtual position is indicated by a gold disc inside a square (cube) to symbolise the cluster that fits inside a cube as well as inside a sphere.

The 'odd-numbers rule' that Galileo discovered while doing his experiments with gravity could be distinguished clearly. The relationship between energy and time is also apparent from the Map.

The Pattern Map beautifully illustrates the symmetry of the Pattern. It also brings together a diverse range of phenomena in physics, genetics, cosmology and the Bible on one single reference platform. It also forms a bridge between classical and quantum physics.

THE PATTERN SPHERE

The Pattern Sphere is the dual model of the Pattern Cube. Unlike the Pattern Cube, which is illustrated as a complete and intact object, the detail of the Pattern Sphere is pictured only by the spread-out discs on the Pattern Map.

However, the Pattern Sphere could be visualised in the following way: Each disc of a set – there are four sets of red discs, for example – could be inserted inside the next bigger disc (discs are actually hollow, like cylinders) such that they form a single (combined) disc. Each combined disc, in turn, could be transformed into a combined sphere that consists of seven concentric spheres.

If this process is followed for all the discs of the red Pattern Map (four red spheres), the purple Pattern Map (four purple spheres) and the blue Pattern Map (four blue spheres) and if the twelve combined spheres are glued to a virtual thirteenth sphere of equal size, the resulting object would look like the Pattern Cluster from the outside: but a Pattern Cluster with each one of its twelve spheres actually consisting of seven concentric spheres. The combined spheres would contain both light- and dark-nodes.

The Pattern Sphere is a hypersphere because it is the dual model of the Pattern Cube which is a hypercube. (See also *The Pattern Sphere Represents Quantum Rotations* in the Notes for yet another explanation of the Pattern Sphere as a hypersphere.)

The Pattern Sphere seems to represent the spherical phenomena of the current Universe more closely than the Pattern Cube. For example, heavenly bodies like the sun, moon and planets are all spherical, but separate, objects. However, as will be shown later when the Cosmos Match is described they are representative of the 'broken (or separated) reality' because, like the Pattern Cube, the Pattern Sphere also has a broken state and an unbroken state. This broken reality is characterised by the existence of entropy.

The Pattern Cube model and its dual model, the Pattern Sphere illustrate the inherent duality of the Pattern; the duality that is evident in the particle-wave nature of light, for example.

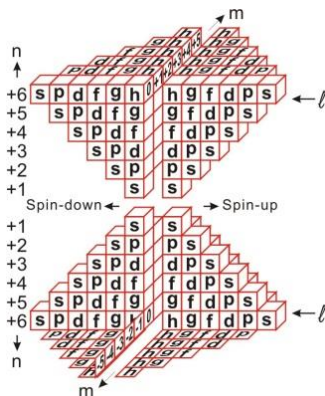
THE PATTERN MATCHES

The Pattern had been verified by four comparisons, or matches.
The matching process has led, in turn, to some new discoveries.

The Atom Match revealed the existence of a Symmetric Periodic Table.
The Body Match revealed the origin of the Geometric Genetic Code.
The Cosmos Match revealed the concept of the Spacetime-days.
The City Match revealed the position of the Throne inside the New City.

THE ATOM MATCH

The four quantum numbers (**n**, **l**, **m**, **s**) could be used to identify each light-cell of the four Conics of a pyramid pair. The layers of the Conics correspond with the **n** quantum number that defines the energy levels of the atom. The light-cells in each layer of the Conics correspond with the **l** and **m** quantum numbers that define the orbital shapes and the directions in which the orbitals point respectively. And the two left-hand Conics represent negative spin and the two right-hand Conics represent positive spin. The quantum numbers define quantum states and therefore each light-cell represents a quantum state.



Each light-cell is also identified by an orbital shape designation (**s**, **p**, **d**, **f**, **g**, **h**) as shown in the diagram above. Different orbital shapes therefore seem to relate to the number of adjacent light-cells e.g. an **s**-orbital relates to one light-cell and a **p**-orbital relates to three adjacent light-cells. (This observation suggests that the known orbital shapes are caused by different combinations of identical light-cells. These light-cells must then be the nodes (light-nodes) of standing waves because orbitals are standing waves.)

Note that the different types of orbital shapes resemble the Pattern Code configurations (with an added Core sphere as shown on the Atom Match Map (page 17) in the middle column of the Code table. An orbital shape is therefore just one of the configurations of the Cluster as represented by the Code.

(The dark-nodes (Cornic cells) complement the light-nodes and are the nodes of the interfering waves that are necessary to form the standing waves (orbitals). (The sum of the light-nodes plus the dark-nodes in a layer (plate) is always constant, i.e. 2, 4, 6, etc.) The dark-nodes cause invisible orbital shapes (because they lie

outside a Light-cone) that resemble the Pattern Code configurations in the left and right columns of the Code table.)

The Symmetric Periodic Table (SPT)

The chemical elements of the Periodic Table could be rearranged to match the symmetric light-cells of the Conics exactly. This configuration of the chemical elements is based on the Left Step version of the Periodic Table that was proposed by Charles Janet (see Note: The Left Step Periodic Table). The Symmetric Periodic Table (SPT) is shown on the Atom Match map (see page 17) where each light-cell represents a different chemical element.

(The plates of the Pattern Map represent the cube version of cells and the discs represent the sphere version of cells.)

The Geometric Standard Model (GSM)

It is possible to match the different parts of the Pattern Cube with the components of the Standard Model of Elementary Particles.

The Conics compare with the electron, muon and tau particles (leptons).

The Covers (compressed Conics) compare with the three corresponding types of neutrinos (leptons). The Cornics compare with the quarks, e.g. up, down, charm, strange, top and bottom (fermions).

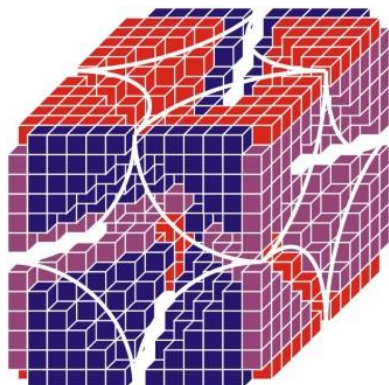
The virtual parts of the Pattern Cube compare with the gauge bosons (i.e. non-matter): The photons compare with the clefts and the gluons compare with the chains.

On a different scale (the Pattern Cube is self-symmetric) the left and the right parts of a cleft compare with the W^+ and W^- bosons while the centre part (column) of the cleft compare with the Z^0 boson.

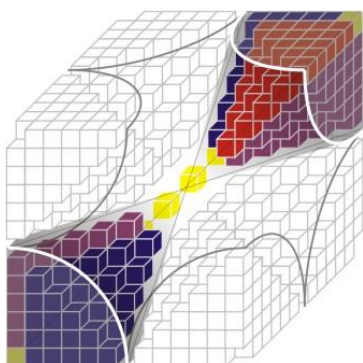
Due to these correspondences the GSM is effectively the model (template) for the Symmetric Periodic Table because the Periodic Table is based on the spread-out plates of the pyramid pairs that the Pattern Cube consists of. The GSM and the SPT is therefore actually the same 'thing', just on different scales. This observation leads to a question, i.e. whether the SPT, in turn, could be like 'one super atom'?

THE BODY MATCH

The Pattern Cube as drawn below (without the Conics) represents the four Life-cones, i.e. Life-cone UCU, Life-cone CUA, Life-cone AUC and Life-cone GCG.



Life-cone UCU is shown below. It includes codon UCU (bottom left in front) and codon AGA (upper right at the back).



A Life-cone consists of a (main) codon pair which, in turn, contains other codon pairs, i.e. a codon in each link (yellow) of its two codon chains.

(The codons in the eight vertices of each concentric cube that the Pattern Cube consists of (there are seven) represent the eight 'initial' codons of the next 'lower' level of codons.)

The similarities between codons and quarks are striking because both could be shown to compare well with the structure of the Cornics.

Dark Orbitals

Like light-cells, all dark-cells are identical.

The orbital shapes caused by dark-cells are different (but complementary) to the orbital shapes caused by light-cells. The middle column of the Pattern Code table represents the

light orbitals while the configurations in the two side columns of the Code table represent the (complementary) dark orbitals.

Dark orbitals are identified by additional values for the **m** quantum number as shown on the Pattern Map.

The dark orbitals are invisible because they lie outside the light-cone.

Pattern State Identities (PSIs)

It is possible to generalise the quantum numbering scheme to identify also the dark-cells and the virtual cells of the Pattern Cube. Cells would then have Pattern State Identities (PSIs) consisting of four Pattern numbers [**c**, **n**, **s**, **m**].

Pattern number **c** is for colour (linked to a specific pyramid), **n** is for the energy level (plate of a pyramid), **s** is for shape as well as spin (the '+' sign and the '-' sign of **s** take care of the quantum spin number) and **m** is the number of cells from the middle row of cells (where **m**=0).

The main differences between Pattern numbers and quantum numbers are that quantum numbers have no colour number **c**, **l** is the number for the shape of an orbital, **m** is for the direction of an orbital and **s** is for spin.

However, it should be noted that Pattern number **n** is not exactly the same as quantum number **n** because Pattern number **c** also plays a role in determining the quantum energy level.

The values for the Pattern numbers [**c**, **n**, **s**, **m**] are assigned on a purely spatial basis as is evident from the Pattern Map (see page 16).

The Pattern Cube below shows how the signs of the Pattern numbers **s** and **m** are to be determined.



The Geometric Genetic Code (GGC)

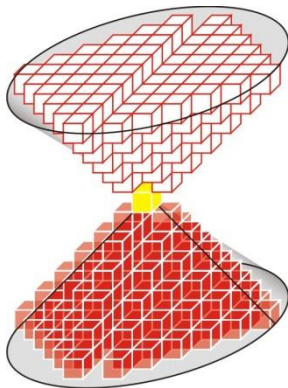
Each link (cell) of the eight virtual codon chains (the virtual cubes radiating diagonally from the Core to the eight vertices of the Pattern Cube) represents a genetic state, i.e. an overlap of three Pattern states; each state is of a different colour. Each cell of a codon chain is identified by three PSIs (only the colour **c** and the signs of the digits differ).

The Body Match Map on page 18 shows the Geometric Genetic Code (GGC) with its sixty-four genetic states. The four upper codon chains radiate 'upward' from the Core and the four lower codon chains radiate 'downward' from the Core. (They would look like two intersecting X's.) All eight chains originate inside the Core where the RNA base pairs (G;C and A;U) determine the eight 'initial' codons.

On a different scale (the Pattern Cube is self-symmetric) each link of a chain could represent a chromosome. The GGC in the centre of the chromosome set is then the template of the chromosomes.

THE COSMOS MATCH

A spacetime light-cone is similar in shape to a Pattern Light-cone. The drawing below shows a spacetime light-cone enveloping a Pattern Light-cone.



The top part of a spacetime light-cone usually represents 'Future' while the bottom part represents 'Past'. Similarly the Conic (upper) cells of a Pattern Light-cone represents 'Future' and the antiConic (lower) cells represent 'Past'.

The (yellow) Core of the Pattern Cube should represent 'Present' but it is virtual and therefore not part of spacetime.

(It should be noted that the Pattern Light-cone pictured above is the inverse of the Pattern Light-cone used before in the transformation of the block pair into a cleft step pyramid.)

Compression of the antiConic pair would yield two Covers (the base of a cleft step pyramid). The twelve Covers of the Pattern Cube therefore represent 'Past' and the Conics inside the Pattern Cube represent 'Future'.

The time element represented by the Cornics, the four Life-cones, is assumed to be 'Future' as well. Virtual cells are not part of spacetime.

(Using the inverse Light-cone, like the one used for the transformation to the block pair, would have yielded 'Past' as the inside of the Pattern Cube and 'Future' as the Covers.)

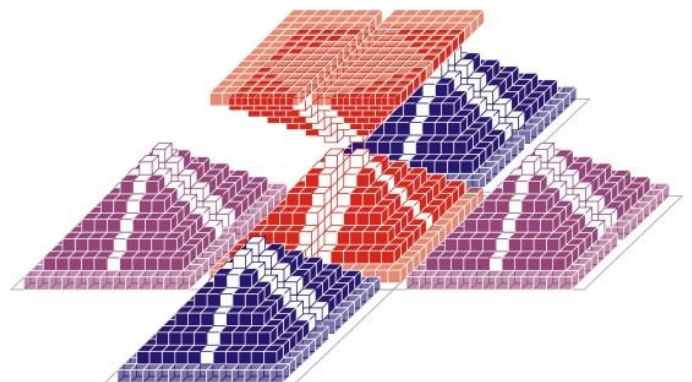
The Pattern Cube therefore represents spacetime and its cells represent spacetimes. Spacetimes are called spacetime-days, and reflects the integration of space and time into a single entity. Spacetime-days represent bounded activities.

Each Cover pair represents a different 'Past' because it consists of different spacetime-days, e.g. 'The West' Cover pair represents the purple spacetime-past.

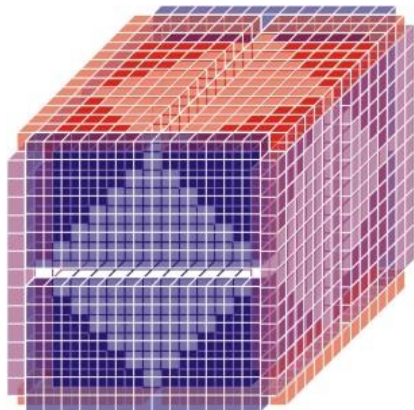
Two Cover pairs represent fifty-two spacetime-weeks of seven spacetime-days each. A spacetime-day refers to a spacetime state that is identified by its Pattern State Identity (PSI).

Broken symmetry

Broken symmetry is thought to have been the cause of the current 'massive' Cosmos, i.e. our Cosmos that has mass and that is subject to entropy. The broken Pattern Cube with its open Covers represents the broken symmetry of the Cosmos.



The Cosmos Match Map on page 19 illustrates the broken symmetry of the Cosmos Cube. It shows the purple and blue Covers around a red Cover to illustrate the broken state of the Pattern Cube. (The Covers form the outer cube of the seven concentric cubes that the unbroken Pattern Cube consists of.)



The Virtual Core of the Pattern Cube

The twisting point of a spacetime light-cone is where its null-lines (light-lines) converge at and where they emanate from. The Core of the Pattern Cube represents this twisting point and is therefore the 'sink' and the 'source' of light. The Core of the Pattern Cube is virtual (timeless and spaceless) and therefore not part of spacetime.

The virtual Core is unbroken (like the unbroken Pattern Cube above) and therefore represents a massless cell; the Light of a Light-cone. Light is therefore not an integral part of the Cosmos because the Cosmos is essentially massive.

The Core of a combined Pattern Cube and Pattern Sphere is represented by the Pattern Cluster (See Note: The Pattern Code, a Pattern Light-cone and the Möbius ring)

Gravity and the Pattern Cube

The Light-cones of the Cube exhibit the characteristic quadratic sequence ($0^2, 1^2, 2^2, 3^2, 4^2, 5^2, 6^2$) which is the signature sequence of gravity. This is the so-called 'odd-numbers rule' that Galileo had discovered. The Life-cones exhibit a quadratic sequence ($0^2, 1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 4^2, 2^2, 1^2, 0^2$) that 'increases' as well as 'decreases'. (See 'The Law of Constant Acceleration' in the Notes.)

THE CITY MATCH

The City Match map on page 20 shows the plan of the Tabernacle (of Moses), the plan of the Temple (of Ezekiel) and the plan of the New City (in Revelation) that were overlaid to form a combined plan. (Note that the scale of the Temple is twice that of the Tabernacle and the scale of the New City is many times that of the Temple. The various ratios are, however, the same.)

The plans of the Tabernacle, the Temple and the New City (in their combined form) match a cross-section (plan) of the unbroken Pattern Cube.

The Position of the Throne

The small diagram on the lower left side of the City Match map shows that the Tabernacle's design was effectively a coordinate system that pointed to the position of the Throne in the New City.

The diagram pictures that the left half of the Tabernacle area could be lifted into a vertical position to form one of the four vertical sides of the Tabernacle Cube. The ark's position, on the now vertical part of the Tabernacle plan, is then the horizontal coordinate and the altar's position on the horizontal Tabernacle area is the vertical coordinate of the Core of the Tabernacle Cube.

The Tabernacle Cube, which is represented by the small grid in the middle of the map, matches the first concentric cube of the Pattern Cube and the Temple Cube matches its seventh concentric cube. The Temple Core therefore overlays the Tabernacle Core. However, the City Cube is just the Temple Cube on a different scale and therefore the City Core also overlays the Tabernacle Core. The three Cores are therefore in the same relative position in the middle of the Pattern Cube, which is the position of the Throne in the New City.

Biblical New City References and the Pattern (New King James Version unless specified)

Zechariah and the Apostle, John, describe the New City in terms that could be related to the architecture of the Pattern Cube.

Zechariah

The prophet Zechariah relates a number of features of the New Jerusalem that match the Pattern Cube – in its broken (open) state as well as in its unbroken (closed) state.

(It should, however, be remembered that the biblical terms used to describe the New City should be taken as the best earthly analogies of some highly stylized and abstract imagery.)

The (unbroken) Spacetime-day of spacetime-days

[Zech 14:1 'Behold, the day of the Lord is coming.']

The open antipurple pyramid (the split Olive Mountain)

[Zech 14:4b 'And the Mount of Olives shall be split in two.']

The clefts of the open purple & antipurple pyramids

[Zech 14:8 'That living waters shall flow from Jerusalem. Half of them toward the eastern sea. And half of them toward the western sea:']

The open purple Covers and blue Covers around the red pyramid (the plains around Jerusalem to be lifted up)

[Zech 14:10 'All the land shall be turned into a plain from Geba to Rimmon south of Jerusalem: and it shall be lifted up and inhabited in her place...'] KJV

Revelation

The description of the New City in Revelation, as seen by the Apostle, John, on the Isle of Patmos, matches the unbroken Pattern Cube in many respects.

(Note that a bold phrase that is put between quotation marks refers to the same type of Cube module, but of a different colour due to the Cube having been rotated, in the same relative position.)

The 'bottom Covers' (the foundations of the City)

[Rev 21:14 'Now the wall of the city had twelve foundations, and on them were the names of the twelve apostles of the Lamb.']

The Cube (the shape of the City)

[Rev 21:16 'The city is laid out as a square; its length is as great as its breadth. And he measured the city with the reed; twelve thousand furlongs. Its length, breadth, and height are equal.']

The twelve spheres (of the Pattern Sphere). (the gates of the City)

[Rev 21:21a 'The twelve gates were twelve pearls; each individual gate was of one pearl.']

The 'horizontal clefts' (of the pyramid pairs) (the street of the City)

[Rev 21.21b 'And the street of the city was pure gold, like transparent glass.']

The Core (the Light on the Throne)

[Rev 21:22,23 'But I saw no temple in it, for the Lord God Almighty and the Lamb are its temple. The city had no need of the sun or the moon to shine in it, for the glory of God illuminated it. The Lamb is its light.']

The 'vertical cleft of the lower pyramid' (the river)

[Rev 22:1 'And he showed me a pure river of water of life, clear as crystal, proceeding from the throne of God and the Lamb.']

The 'upper (inverted) pyramid' (the tree of life)

[Rev 22:2a 'In the middle of its street, and on either side of the river, was the tree of life, which bore twelve fruits, each tree yielding its fruit every month.']

The 'four upper Cornics' (leaves of the tree)

[Rev 22:2b 'The leaves of the tree were for the healing of the nations.']

The unbroken (massless) Cube (no longer any pain, brokenness, entropy)

[Rev 22:3 'And there shall be no more curse, but the throne of God and of the Lamb shall be in it,']

Ezekiel

Ezekiel 43:10 in the Bible reads: "Son of man, describe the temple to the house of Israel that they may be ashamed of their iniquities; *and let them measure the pattern.*" The concept of a pattern as a kind of model to be used for God's buildings is referred to in the Bible with the construction of the Tabernacle of Moses, the Temple of Solomon and the Temple of Ezekiel.

THE PATTERN MAPS

The five Pattern maps show different aspects of the Pattern in a graphical manner.

The first map, the Pattern Map, is a generalised two-dimensional representation of the Pattern. The Pattern Map shows the spread-out red plates of the Pattern Cube (and the red discs of the Pattern Sphere) but the purple or blue plates (and discs) could have been used for the Map as well.

The grids of the Pattern Map show collections of Pattern states. Each state, or cell, is identified by four coordinates which represent its Pattern State Identity (PSI). The value ranges for the different coordinates are all indicated on the Map.

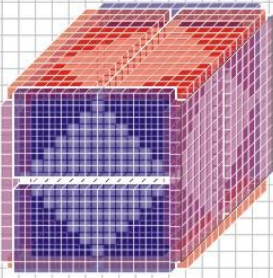
The Pattern Map serves as a concise representation of the main aspects of the Pattern. It shows the Cluster, the Code, the Cube, the Light-cone and the Life-cone. The construction of the red pyramid according to the substituted values of the cubed Pattern Equation Pair is also graphically illustrated.

The Pattern Map contains key aspects of the four Pattern matches. There are, however, four separate Pattern match maps that show the four Pattern matches in graphical terms. These four maps are:

The Atom Match Map
The Body Match Map
The Cosmos Match Map
The City Match Map

THE PATTERN MAP

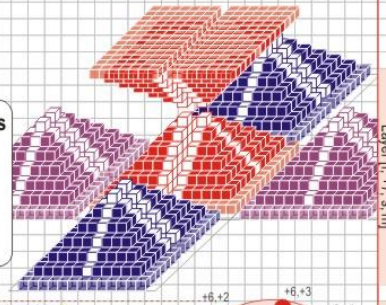
THE UNBROKEN PATTERN CUBE



Origin of the Pattern Map

The Pattern Map shows the spread-out plates of the red and antired step pyramid pair of the Pattern Cube. It also shows the red and antired discs of the Pattern Sphere.

THE BROKEN PATTERN CUBE

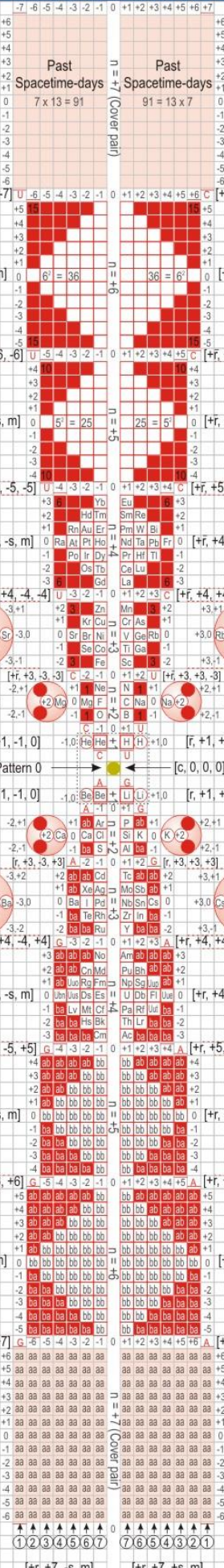


Four Pattern Matches

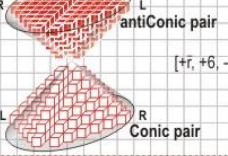
The Pattern Map shows matches of the Pattern.
 - The chemical elements
 - The RNA bases (GC/AU)
 - The spacetime-days
 - The Pattern Cluster

SDG
red antiConics
[r, -6, s, m]
[r, -5, s, m]
[r, -4, s, m]
[r, -3, s, m]
[r, -2, s, m]
[r, -1, s, m]
[r, 0, s, m]
[r, 1, s, m]
[r, 2, s, m]
[r, 3, s, m]
[r, 4, s, m]
[r, 5, s, m]
[r, 6, s, m]
[r, 7, s, m]
antiConics

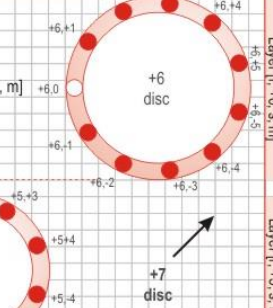
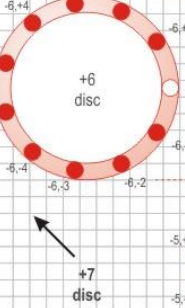
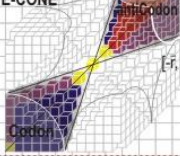
SDG
Layer [r, +7, s, m]
Layer [r, +6, s, m]
Layer [r, +5, s, m]
Layer [r, +4, s, m]
Layer [r, +3, s, m]
Layer [r, +2, s, m]
Layer [r, +1, s, m]
Layer [r, 0, s, m]
Layer [r, -1, s, m]
Layer [r, -2, s, m]
Layer [r, -3, s, m]
Layer [r, -4, s, m]
Layer [r, -5, s, m]
Layer [r, -6, s, m]
Layer [r, -7, s, m]
antiConics



RED LIGHT-CONE



UCU LIFE-CONE



Pattern State Identity (PSI)

Each cell of the Pattern Cube and of the Pattern Sphere is identified by its PSI. The PSI of each cell consists of four Pattern numbers inside square brackets.

PLATE PAIR

s - values	-3	-2	-1	0	+1	+2	+3
Number of Conic cells (shaded)	3	3	3	3	3	3	3
Number of Conic cells (unshaded)	3	3	3	3	3	3	3
Chemical elements	Sr	Br	Ni	V	Ge	Rb	Li
RNA base	C	G	A	U	C	G	A
m - values	-3	-2	-1	0	+1	+2	+3

CUBE-OF-CUBES

Each cell contains a complete Pattern Cube.
 Only the Conics inside Conic cells are active.
 Only the Conics inside Conic cells are active.
 Each cell represents a node of standing waves.

Values for Pattern number c

- +r / -r = red plate / disc
- +r̄ / -r̄ = antired plate / disc
- +p / -p = purple plate / disc
- +p̄ / -p̄ = antipurple plate / disc
- +b / -b = blue plate / disc
- +b̄ / -b̄ = antiblue plate / disc

Light-cone

A Light-cone consists of red, purple and blue Conic cells (the sum of the bb terms) as well as red, purple and blue antiConic cells (the sum of the aa terms).

Life-cone

A Life-cone consists of red, purple and blue Conic cells (the sum of the ba terms) as well as red, purple and blue antiConic cells (the sum of the ab terms).

Values for Pattern numbers n, s and m

- n = -7, ..., -1, 0, +1, ..., +7
- s = -7, ..., -1, 0, +1, ..., +7
- m = -7, ..., -1, 0, +1, ..., +7
- (no sign implies + or -)

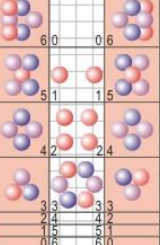
SQUARED PATTERN EQUATION (LEFT)

aa + ab + ba + bb = (a + b)(a + b) = constant = 36
Σ aa Σ aa+ Σ ab + Σ ba + Σ bb
antiConic antiConic + antiConic + Conic + Conic
13 36+ 0+ 0+ 0
13 25+ 5+ 5+ 1 ②
13 16+ 8+ 8+ 4 ③
13 9+ 9+ 9+ 9 ④
13 4+ 8+ 8+ 16 ⑤
13 1+ 5+ 5+ 25 ⑥
13 0+ 0+ 0+ 36 ⑦
91 91 ← Uncompressed antiConic
Compressed antiConic (Cover)

SQUARED PATTERN EQUATION (RIGHT)

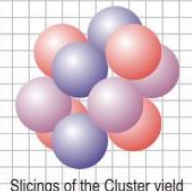
36 = constant = (b + a)(b + a) = bb + ba + ab + aa
Σ bb + Σ ba + Σ ab + Σ aa Σ aa
Conic + Conic + antiConic + antiConic antiConic
① 0 + 0 + 0 + 36 13
② 1 + 5 + 5 + 25 13
③ 4 + 8 + 8 + 16 13
④ 9 + 9 + 9 + 9 13
⑤ 16 + 8 + 8 + 4 13
⑥ 25 + 5 + 5 + 1 13
⑦ 36 + 0 + 0 + 0 13
Uncompressed antiConic → 91 91
(Cover) Compressed antiConic ←

THE PATTERN CODE



THE PATTERN CLUSTER

The Cluster fits inside both a cube and a sphere



Slicings of the Cluster yield configurations of the Code

THE ATOM MATCH MAP

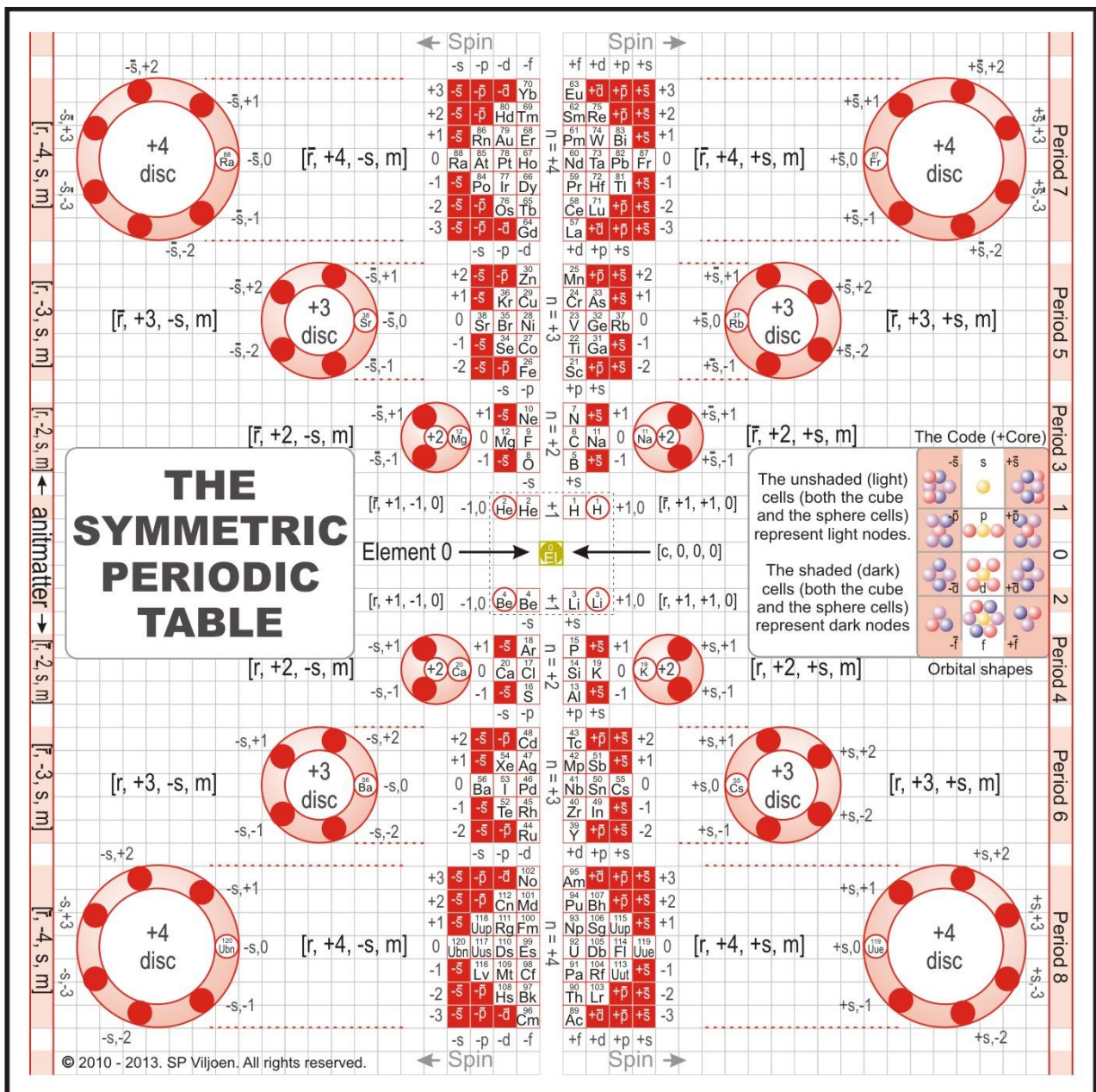
(Comparison with the 'micro')

The chemical elements of the Periodic Table match the cells of a Pattern Light-cone (the light cells) to form the Symmetric Periodic Table (SPT).

The Left Step version of the Periodic Table that was proposed by Charles Janet in 1927 matches the light cells as shown on the Atom Match Map below. The matching is according to the Pattern State Identities (PSI's) of the light cells. (A PSI consists of four Pattern numbers that are basically the four quantum numbers that had been adapted to reference the states (the light cells as well as dark cells) of the Pattern Cube.

The positioning of a chemical element is determined by its last electron, but also by its last proton in the case of the atom nucleus. Element 0 refers to the Geometric Standard Model (GSM) which is the template of the SPT.

The Atom Match Map represents cube cells as well as sphere cells (discs) to illustrate the cube-sphere duality of an atom. The Map also shows how the antimatter relates to the matter.



THE BODY MATCH MAP

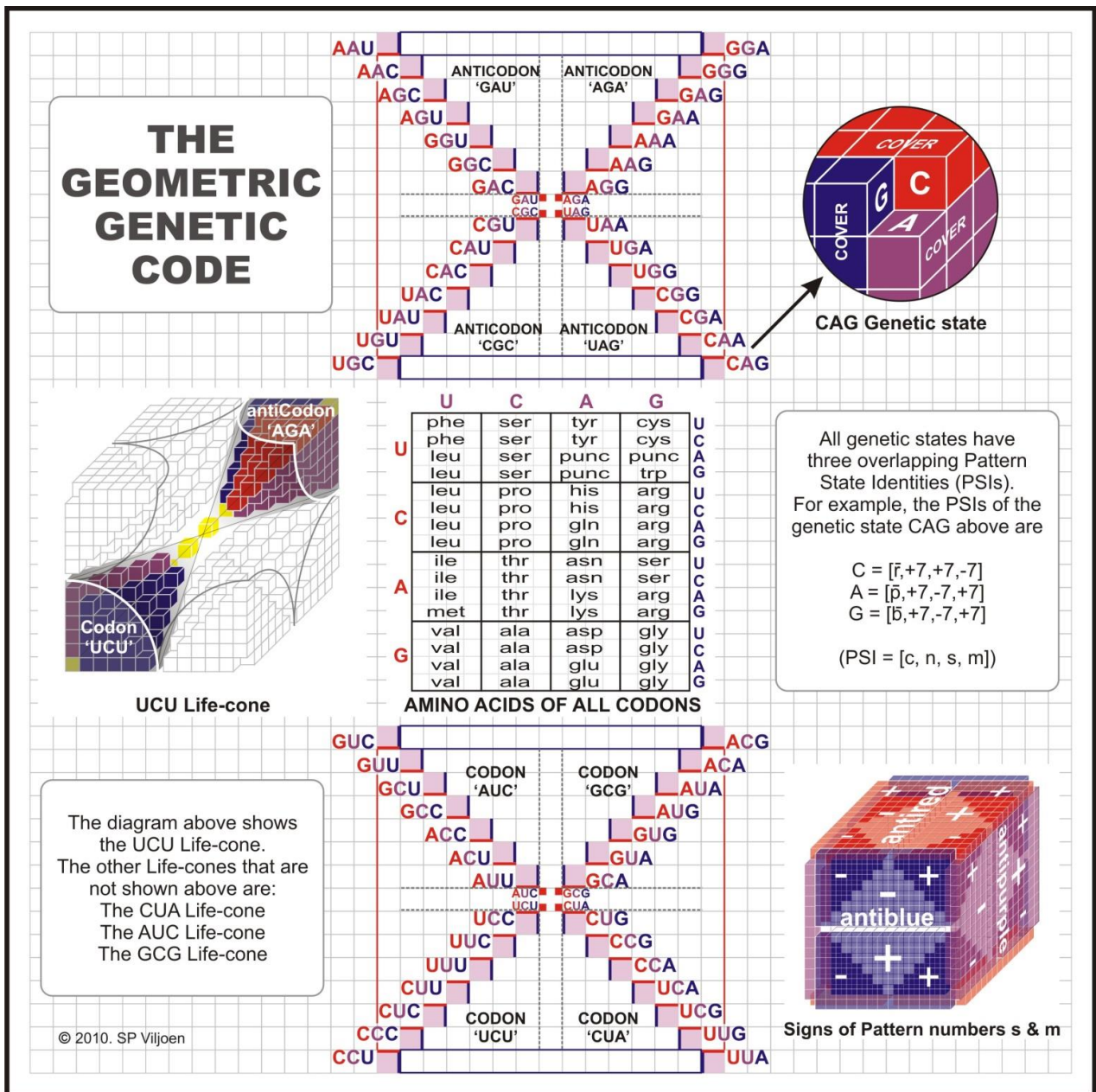
(Comparison with the 'meso')

The genetic code matches the eight chains of the Pattern Cube.

There are eight virtual codon chains that stretch from the Core of the unbroken Pattern Cube to its eight vertices. The four upper codon chains radiate 'upward' from the Core and the four lower codon chains radiate 'downward' from the Core. The first codon of each chain is inside a vertex of the Core.

A Life-cone encompasses a lower codon and an upper codon. Life-cone UCU illustrates this structure. A Life-cone consists of a (main) codon pair which, in turn, contains other codon pairs, i.e. a codon inside each of its two codon chains. (The codons in the eight vertices of each concentric cube that the Pattern Cube consists of (there are seven) represent the eight 'initial' codons of the next (lower) level of codons.)

Each link (cell) of a virtual codon chain represents a genetic state, i.e. an overlap of three Pattern states; each of a different colour and identified by its PSI. The eight codon chains represent the sixty-four (eight x eight) possible genetic states.



THE COSMOS MATCH MAP

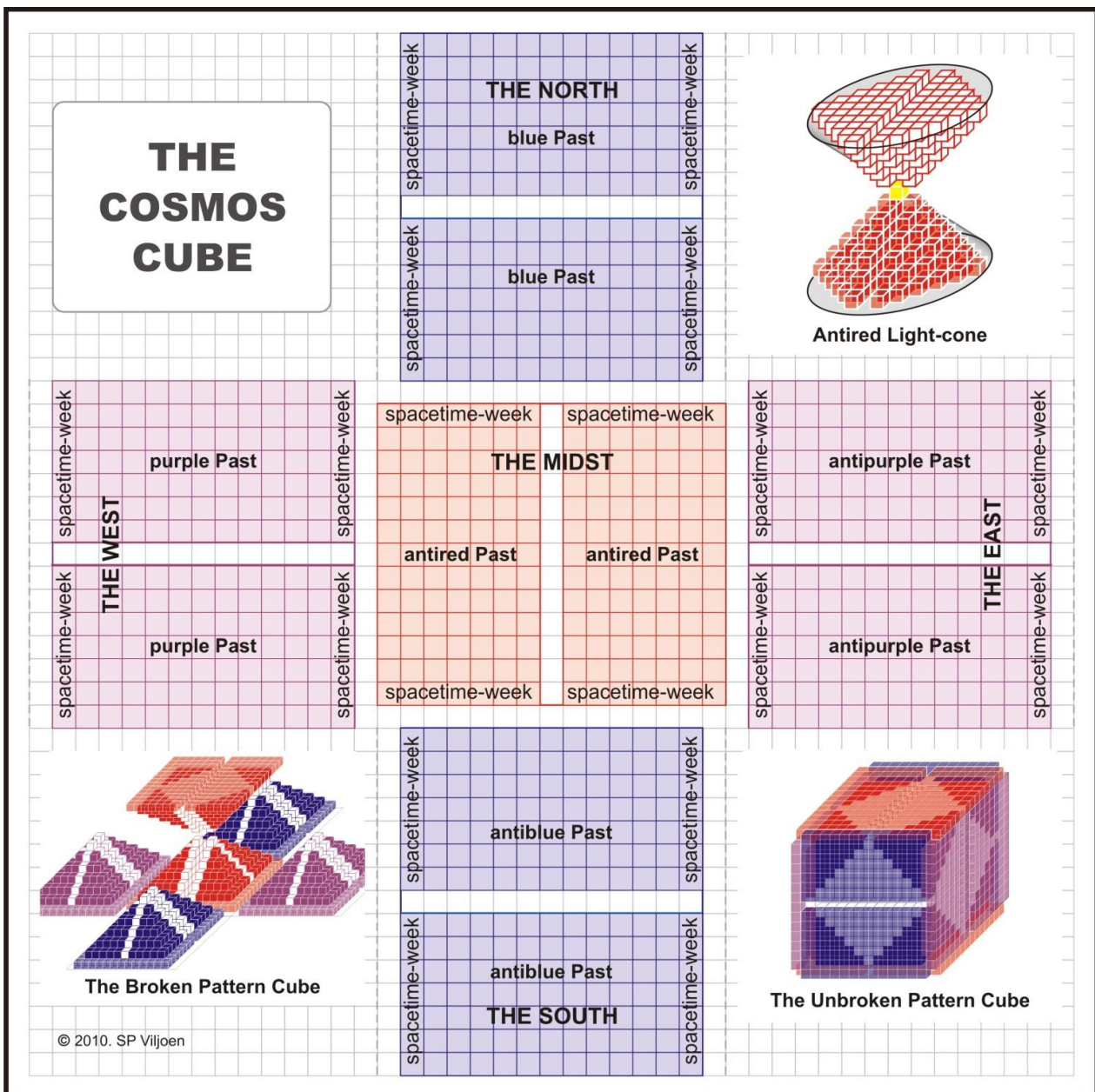
(Comparison with the 'macro')

The (massive) Cosmos matches the broken Pattern Cube.

The Cosmos Match Map shows the purple and antipurple Cover pairs as well as the blue and antiblue Cover pairs of the Pattern Cube in their open (broken) positions. (Only the antired Cover pair is visible because the red Cover pair lies directly below the antired Cover Pair.)

A Cover pair is an array of cells that represents the spacetime-days of a spacetime-past. 'The West' Cover pair, for example, represents the purple Spacetime-past while 'The Midst' Cover pairs represents the antired Past (visible) and also the red Past.

Broken symmetry is thought to have been the cause of the current 'massive' Cosmos, i.e. our Cosmos that has mass. The broken Pattern Cube with its open Covers represents the broken symmetry (entropy) of the Cosmos. Because of the self-similarity of the Pattern Cube the brokenness extends all the way to the smallest (unit) cube level.



THE CITY MATCH MAP

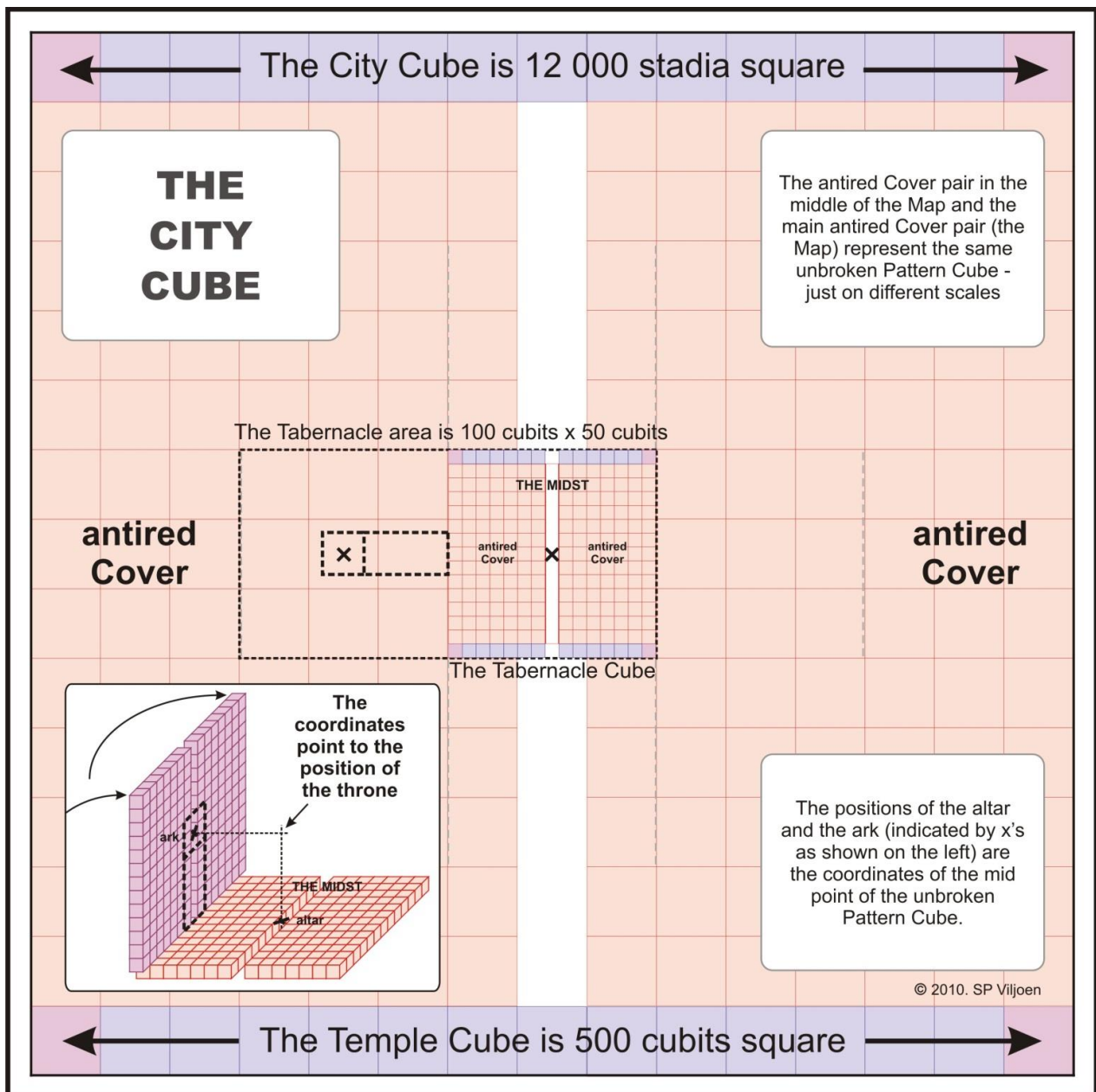
(Comparison with the 'meta')

The New City matches the unbroken Pattern Cube.

The City Match map illustrates that the Tabernacle plan is basically a coordinate system that points to the position of the Throne in the New City. The Tabernacle Cube in the centre of the Map resembles the first concentric cube of the Pattern Cube while the Temple Cube resembles its seventh concentric cube.

This map shows the combined plans of the Tabernacle of Moses, the Temple of Ezekiel and the New City of Revelation. The map also shows the top views (the two antired Covers) of three concentric unbroken Pattern Cubes, i.e. the Tabernacle Cube, the Temple Cube and the New City Cube.

The small drawing, bottom left, shows how the left (Western) part of the Tabernacle area should be lifted vertically to illustrate how the coordinates are formed that point to the position of the Throne in the New City.



THE PATTERN NOTES

- Pattern** A plan, diagram, or model to be followed in making things.
To use an artistic or decorative design, form, style, or method repetitively.
- Model** A means to represent abstract things or a representation of a bigger thing on a smaller scale. To fashion or shape an object in a malleable material.
- Patternate** To generate new patterns from an existing pattern.

The Pattern Equation and Pascal's Triangle

The Pattern Equation Pair yields a pair of Pascal's Triangles if it is expanded as a polynomial series. (Only one Triangle and one Pattern Equation are shown below.) The Code values are substituted in the Pattern Equations and the individual sums (of each Equation) are added together to give the Totals. The Code values are a = 6, 5, 4, 3, 2, 1, 0 and b = 0, 1, 2, 3, 4, 5, 6.

Pascal's Triangle	Pattern Equation	Totals	Common Multiplier	
$\begin{array}{cccc} & & 1 & & \\ & 1 & & 1 & \\ 1 & & 2 & & 1 \\ 1 & 3 & 3 & 1 & \end{array}$	$(a + b)^0$ $(a + b)^1$ $(a + b)^2$ $(a + b)^3$	7 42 252 1512	6 6 6 6	$(7 \times 6 = 42)$ $(42 \times 6 = 252)$ $(252 \times 6 = 1512)$ $(1512 \times 6 = 9072)$

The Pattern Equations could be generalised as $(a + b)^n \times 6 = (a + b)^{n+1}$ with a = 6, 5, 4, 3, 2, 1, 0 and b = 0, 1, 2, 3, 4, 5, 6.

The transformation of the block pair and the column pair

The squared Pattern Equation Pair could be represented as two squares and two rectangles (formed by instances of aa, ab, ba and bb) that form a combined square. The squares and rectangles are indicated by the different letter combinations, e.g. aa, ab, ba and bb. The combined squares could be transformed into triangles as shown below.

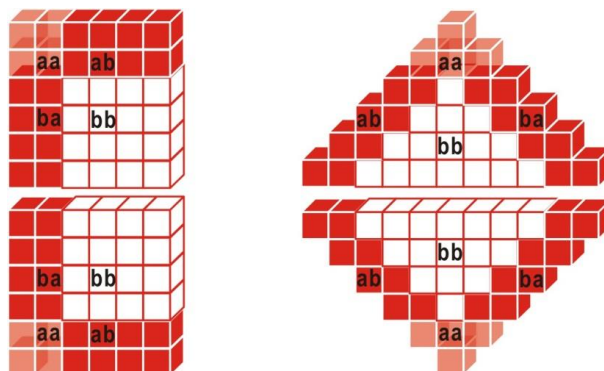
(The instance that is shown below is for a = 2 and b = 4. Each instance yields a different internal arrangement of aa, ab, ba, and bb.)

$$(a + b)^2 = aa + ab + ba + bb$$

$$\{(2 + 4)^2 = 4 + 8 + 8 + 16\}$$

$$(a + b)^2 = aa + ab + ba + bb$$

$$\{(2 + 4)^2 = 4 + 8 + 8 + 16\}$$



The substitution of the different Code value pairs in the Pattern Equation Pair yields the different layers of the block pair (left) as well as the different layers of the cleft step pyramid (right).

(Note that the transformation converts the horizontal orientation of the layers of the block pair to a vertical orientation of the layers in the cleft step pyramid.)

(Also note that the squared Pattern Equation Pair yields a cleft step pyramid while the cubed Pattern Equation Pair yields six step pyramids that form the Pattern Cube.)

The Pattern Cube is a hypercube

The substitution of the Code values in a Pattern Equation and the subsequent realisation of the structure (with cubes) yield a structure that is one dimension higher than the dimension of the equation itself. This observation is simple to make for the the first three equations but must be deduced for the fourth equation, the $(a + b)^3$ pair.

Pattern Equation Pair	Dimensions of equation	Structure after substitution	Transformed structure	Dimensions of structure
$(a + b)^0$ pair	0D	Column pair	Column pair	1D
$(a + b)^1$ pair	1D	Wall pair	Wall pair	2D
$(a + b)^2$ pair	2D	Block pair	Cleft step pyramid	3D
$(a + b)^3$ pair	3D	Column pair	Pattern cube (hypercube)	4D

(It is interesting to note that the column pair, from the $(a + b)^3$ pair, is then also a four-dimensional structure.)

The law of constant acceleration

In his book *The End of Time* Julian Barbour describes the law of constant acceleration, as discovered by Galileo, on p. 93; ‘... if an object is dropped from rest and in the first unit of time falls one unit of distance, then in the next he will fall a further three, in the next five, and so on. He (Galileo) was entranced by this, and called it the *odd numbers rule*. Now consider the sequence:

at $t = 1$, distance fallen = 1,
 at $t = 2$, distance fallen = $1 + 3 = 4$,
 at $t = 3$, distance fallen = $1 + 3 + 5 = 9$,
 at $t = 4$, distance fallen = $1 + 3 + 5 + 7 = 16$, ...

The distance fallen increases as the square of the time: $1^2 = 1$, $2^2 = 4$, $3^2 = 9$, $4^2 = 16$, ... Galileo’s originality was to seek a deeper meaning in this pattern.’

The Pattern Cube, seemingly static, could therefore be the true arena of understanding of a falling object, which appears to us as dynamic.

The Pattern Cube Represents Quantum Acceleration

The quadratic sequences of the Pattern Cube (hypercube) seem to represent ‘discrete’, or *quantised*, (*constant*) *accelerations*. The accelerations in the unbroken Pattern Cube are balanced with respect to the Core position so that the nett acceleration is zero. However, in the broken Pattern Cube the purple, antipurple, blue and antiblue accelerations are not balanced.

The quantised acceleration concept be used could explain various phenomena, such as energy, charge, time and gravity. (See also ‘The Pattern Sphere Represents Quantum Rotation’ in the Notes.)

State vectors in the Pattern Cube

The PSI is a generalisation of the ‘state’ concept and actually represents a state vector. Pattern states include the quantum states, the genetic states, the spacetime states and the ‘City’ states. These are therefore subsets of the Pattern states. Some virtual states, e.g. the chain states, are identified by more than one PSI.

Spin and the Pattern Cube

The spin (+ $\frac{1}{2}$ and - $\frac{1}{2}$) of an electron is accommodated by the symmetric Conics (and antiConics) of a pyramid. Other spin values, e.g. 1, 2, 3/2, etc, could perhaps be accommodated by the different orientations of the three pyramid pairs.

Muons and Taus in the Pattern Cube

The Symmetric Periodic Table occupies only one pyramid pair (red) and represents the electron 'version' of the chemical elements. The purple and blue pyramid pairs could accommodate the muon and tau 'versions' of the chemical elements.

Pattern levels

A Pattern level is indicated by a digit (with its sign) in front of the square brackets that denote a Pattern State Identity (PSI).

Examples of Pattern State Identity levels are:

[] = [c,n,s,m]

Some Atom PSI levels; electron+1 [] atom quark+1 [] proton / neutron
 electron [] electron quark [] quark
 electron -1 [] charge quark -1 [] charge

Some Body PSI levels; gene+1 [] chromosome
 gene [] gene
 gene -1 [] codon

Some Cosmos PSI levels; spacetime-day+1 [] spacetime-year
 spacetime-day [] spacetime-day
 spacetime-day -1 [] spacetime-hour

Some City PSI levels; temple+1 [] land
 temple [] building
 temple -1 [] furniture, e.g. ark

Hologram Covers

The Covers of the Pattern Cube could be compared to holograms due to the fact that they are compressed two-dimensional versions of their corresponding three-dimensional antiConics.

The Covers could also represent 'mind' when a cube (cell) is equated to a person's body. (This is the case when the self-similarity of the Pattern Cube is taken to the level of a person's body.) This observation is in agreement with the many-minds interpretation of Quantum Theory and therefore supports the 'no collapse' interpretation of quantum mechanics.

The Left Step Periodic Table

The Left Step Periodic Table that was proposed by Charles Janet in 1927 arranges the s, p, d, and f blocks of the standard Periodic Table from right to left. This placement is according to the Madelung Rule, which states that atomic subshells are filled in order of energy level plus shape, i.e. s, p, d, f.

The Pattern Code, a Pattern Light-cone and a Möbius ring

The Pattern Code could be demonstrated to be a dual Möbius ring when it is written on a long strip of paper that is then cut lengthwise in two. The two strips are then twisted, intersected and glued so that it forms two (Möbius) links of a (very short) chain. The twisting parts of the rings could be made to overlap so that the 'three-dimensional twists' of the two-dimensional strips are coinciding.

A Pattern Light-cone is a realisation of the Pattern Code and could be viewed as a pair of 'three-dimensional Möbius rings'. The virtual Core of a Pattern Light-cone could therefore be viewed, analogously to the case above, as the 'four-dimensional twisting part' of a Pattern Light-cone. The Pattern Cluster is used to represent this higher-dimensional Core.

The similarity between the spacetime light-cone and the Pattern Light-cone

The similarity of the two types of cone, a spacetime light-cone and a Pattern Light-cone, could be illustrated as follows:

The spacetime equation (with only one space dimension) is: $s^2 = -t^2 + x^2 = \text{constant}$

The Pattern Equation (only one of the pair of equations) is: $c^2 = (a + b)^2 = \text{constant}$
 $c^2 = a^2 + b^2 + (ab + ba)$

The Pattern Code values could be substituted in the Pattern Equation:

$$\begin{aligned} 36 &= 6^2 + 0^2 + (6 \times 0 + 0 \times 6) \\ 36 &= 5^2 + 1^2 + (5 \times 1 + 1 \times 5) \\ 36 &= 4^2 + 2^2 + (4 \times 2 + 2 \times 4) \\ 36 &= 3^2 + 3^2 + (3 \times 3 + 3 \times 3) \\ 36 &= 2^2 + 4^2 + (2 \times 4 + 4 \times 2) \\ 36 &= 1^2 + 5^2 + (1 \times 5 + 5 \times 1) \\ 36 &= 0^2 + 6^2 + (0 \times 6 + 6 \times 0) \end{aligned}$$

The a^2 -values of these substitutions reflect the opposite sequence than the b^2 -sequence which effectively implies a negative value for a^2 , i.e. $-a^2$. The spacetime and the Pattern equations are therefore equivalent except for the terms in brackets. But the terms in brackets yield the Cornices of the Pattern Cube which are not included in the spacetime light-cone equivalent of the Pattern Cube, i.e. the Pattern Light-cone.

A Pattern Light-cone (with only one of the Pattern equation pair) and a spacetime light-cone (in only one space dimension) are therefore practically equivalent – at least for the discrete Pattern Code values. The fundamental difference between the two representations is the fact that Cartesian coordinates (x, y, z) are used as the basis for the spacetime representations of a light-cone whereas Pattern planes (x-plane (purple:antipurple), y-plane (red:antired) and z-plane (blue:antiblue)) are used as the basis for the Pattern Light-cone representations.

(It should be noted that the spacetime light-cone obtained above yields only one set of discs (on the left, or right, side of the plates) as shown on the Pattern Map. A pair of spacetime equations should therefore be compared with the Pattern Equation Pair.)

The spacetime light-cone equation could be extended to four dimensions: $s^2 = -t^2 + x^2 + y^2 + z^2$

The Pattern Equation Pair is extended to four dimensions by raising it to the third power $(a + b)^3$ & $(b + a)^3$ and by substituting the Code values.

Time and the Pattern Light-cone

One implication of the Pattern Light-cone and spacetime light-cone comparison is that the energy quantum number 'n' could be substituted by (space)time.

In his 'Transactional Interpretation of Quantum Mechanics' John G Cramer combines time-symmetric electromagnetic radiation, the time-symmetric relativistic wave function and spacetime to offer a simple solution for the quantum 'mysteries' e.g. Young's two-slit experiment, Schrödinger's Cat-in-a-box, non-locality and the EPR paradox.

The essence of Cramer's Interpretation is the incorporation of negative time in the explanation, which means that photons, for example, could move backwards in time and know 'in advance' what is going to happen during an experiment.

Space and time: Shadows of the spacetime.

Minkowski did say: 'From henceforth, space by itself, and time by itself, have vanished into the merest shadows and only a kind of blend of the two exists in its own right.'

From this statement it is clear that space and time could be seen as mere projections of the higher-dimensional spacetime. They are then analogous to two different, shrinking and expanding, two-dimensional shadows of the same three-dimensional object. Space and time seems to form a conjugate pair whose specific appearance depends on the relative locality, in invariant phase space, of the observer.

Hamiltonians and the Pattern

The interfaces between the Conics and Cornics of the same colour resemble a Hamiltonian surface for the pair of conjugate variables **a** and **b**. Due to the orientations of the red, purple and blue Conics and Cornics of the Pattern Cube all the energies represented by the Hamiltonian are balanced and therefore the total energy of the Cube is zero.

The Pattern Sphere Represents Quantum Rotations

If a circle is rotated then a sphere results, if a sphere is rotated then a hypersphere results. The Cluster hypersphere embodies four overlapping; discrete (quantum) rotations of a sphere where each rotation consists of six spheres (see the centre configuration, i.e. 3+3, of the Code).

Quantum rotations are 'wave rotations' and they represent time independent 'wave functions'. Quantum rotations only have quantum 'certainties' and no quantum probabilities, like Schrodinger.

Pregeometry

The Pattern idea could be compared to pregeometry. It is a concept that was described by J A Wheeler and C M Patton in a 1975 article *Is Physics Legislated by Cosmogony?* as:

'...(pregeometry) is something deeper than geometry that underlies both geometry and particles.' They also suggest that: 'For ultimately revealing this structure, no perspective seems more promising than the view that it must provide the Universe with a way to come into being.'

Benefits of the Pattern approach

The Pattern approach could contribute to or clarify many problematic aspects of contemporary science and biblical exegesis. Some examples that have been touched upon in this book are listed here.

- The 'particle-wave' duality.
- The 'gravity-quantum' conundrum.
- The 'collapse-non collapse' interpretations of the wave function.
- The 'time-no time' theories.
- The 'creation-evolution' duality.

