# The Pattern Pieces

The Pattern Pieces are one page descriptions that introduce different facets of the Pattern.

(The Pattern could be compared to a priceless gem of exquisite beauty which has many different facets.)

The Pattern Pieces describe facets of the Pattern that are in addition to, but also including, those in the three other parts of *The Pattern* book.

The Pattern of All Things, the science part of *The Pattern* book, describes the detail of three Pattern models, four Pattern matches as well as five Pattern maps.

Peter in the Patternland, the story part of book, tells the story of Peter's discovery of the atoms, the genetic code and the spacetime-days to illustrate three main scientific facets of the Pattern.

Peter in the Pattern City, the sequel part of the book, relates Peter's discovery of the New City to illustrate an important biblical facet of the Pattern.

The Pattern Pieces - Part One

Pattern

The concept of a 'pattern' is central to the idea of *The Pattern* book. This Pattern Piece therefore defines and describes the pattern concept in more detail.

Pattern   A plan, diagram, or model to be followed in making things.
To use an artistic or decorative design, form, style, or method repetitively.

(The use of the word 'pattern' could mean to use something as a kind of model or guide in making things <u>and</u> it could refer to the repetitive results (outcomes) of such an exercise.)

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.

The following words are suitable for different aspects of the Pattern that is described in the book.

nouns: model, mould, template, structure, image, sum, word, seal, plan, fashion, manner

     also   copy, type, likeness, form, figure, example, instance, impression, shadow, mark

verbs: measure, make, form, build, rotate, mould, imprint, arrange, seal, mark, imitate

adjectives: invisible, abstract, intangible, ordered, active, energetic, beautiful, perfect

Related concepts

Patternate   To generate new patterns from an existing pattern.

Patterning   To arrange objects, images or any other things in a regular fashion.

Pattern matching   Verification of a pattern by comparing it to other designs or arrangements.

Apophenia   The spontaneous perception of connections and meaningfulness of unrelated phenomena. (Term coined by K Conrad in 1958.)

Hebrew words for 'pattern'   tabniyth, tokniyth

Greek words for 'pattern'   typos, hypodeigma, hypotyposis

The Pattern of patterns
A recurring theme throughout *The Pattern* book is 'something consisting of many of the same'. Examples are; the Cube of cubes, the Sphere of spheres and also the Pattern of patterns.

The Pattern Cluster

The Cluster is the basic model of the Pattern. It consists of twelve spheres around a virtual sphere, which forms the core of the Cluster. The twelve spheres are arranged in three orthogonal planes with the four red spheres in one plane, the four purple spheres in the second plane and the four blue spheres in the third plane.

The configuration of the Cluster's spheres is known as a cuboctahedron, or truncated cube. Buckminster Fuller (1895-1983) has shown that the configuration is in vector equilibrium; if the links between the centres of all spheres represent vectors, then the sum of all vectors is zero. He also used a model of a cuboctahedron (Jitterbug) to illustrate its ability to progressively fold into the shape of an octahedron.

The Pattern Cluster fits inside a sphere as well as inside a cube as shown below.
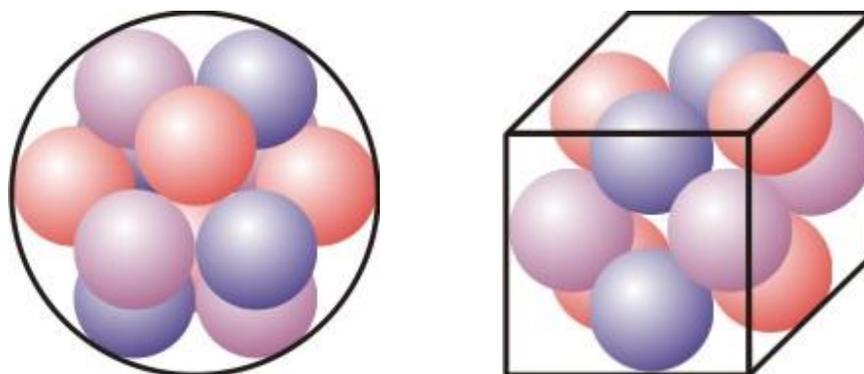
This unique attribute of the Cluster is explained in *The Pattern* book. In the book it is shown that the Cluster is a three-dimensional model of a rotating hypercylinder, which is a four-dimensional cylinder. The Cluster could be 'sliced' to reveal a two-dimensional 'map' of sphere configurations which is called the Pattern code. The Pattern equation pair is derived from this Pattern code (see PP1:3 *The Pattern Equation*).

In the book it is shown how the Pattern Cube, which is the main model of the Pattern, is derived from the Pattern equation pair. It is also shown that the Pattern Sphere, which is the dual model of the Pattern Cube, looks similar to the Pattern Cluster. The main difference is that the spheres of the Pattern Sphere are composite spheres – each sphere consists of seven concentric spheres.

The Cluster could be viewed as an object that represents the 'level of combined duality' if the Pattern Cube and the Pattern Sphere are taken to represent the 'level of separated duality' (see PP1:34 *The Sum of It All*).

In biblical terms the Cluster seems to symbolise the Glory of God which is the manifestation of God. This observation is explained in PP1:25 *The Pattern Language of the Bible* and in PP1:26 *The Glory of God*.

The Pattern Equation

The Pattern is represented by a family of equations with discrete values for the variables **a** and **b**. The sum **c** is always a constant (**c** = 6).

The Pattern equation	$(a + b) = c$
The Pattern equation pair	$(a + b) = c$ & $c = (b + a)$
The squared Pattern equation pair	$(a + b)^2 = c^2$ & $c^2 = (b + a)^2$
	$a^2 + ab + ba + b^2 = c^2$ & $c^2 = b^2 + ba + ab + a^2$
The cubed Pattern equation pair	$(a + b)^3 = c^3$ & $c^3 = (b + a)^3$
	$a^3 + 3a^2b + 3b^2a + b^3 = c^3$ & $c^3 = b^3 + 3b^2a + 3ba^2 + a^3$
The Pattern equation pair raised to the power of zero	$(a + b)^0 = c^0$ & $c^0 = (b + a)^0$

The Pattern Equations could be generalised as $(a + b)^n \times 6 = (a + b)^{n+1}$ (See *The Pattern Notes*.)

The Pattern equation pair is derived from the Pattern code table below. The values for **a** and **b** are shown in the table.

(The different configurations in the table are the outcomes of the slicing of the Pattern Cluster at different angles.)

$$a + b = c \ \& \ c = b + a$$
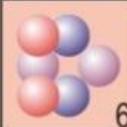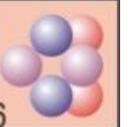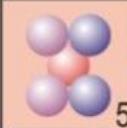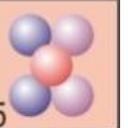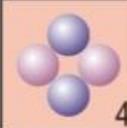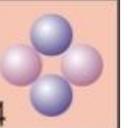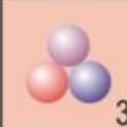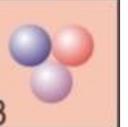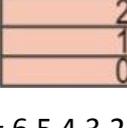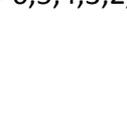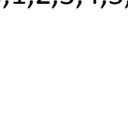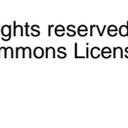
(**a** = 6,5,4,3,2,1,0 & **b** = 0,1,2,3,4,5,6)

The Pattern Cube

The Pattern Cube is the main model of the Pattern because it is used in the four Pattern verifications (the Atom match, the Body match, the Cosmos match and the City match) that are described in *The Science: The Pattern of All Things*. The Pattern Cube is the realisation of the cubed Pattern equation pair when the variables are substituted by the Pattern Code values. The Pattern Cube is therefore indirectly derived from the Pattern Cluster.

The Pattern Cube consists basically of six identical cleft step pyramids that are grouped in three pyramid pairs, i.e. the red pyramid pair, the purple pyramid pair and the blue pyramid pair. Each pyramid consists of a conic pair that is separated by the cleft. Four cornics 'hugging' the two conics complete the cleft step pyramid. A cover pair forms the base of each cleft step pyramid.
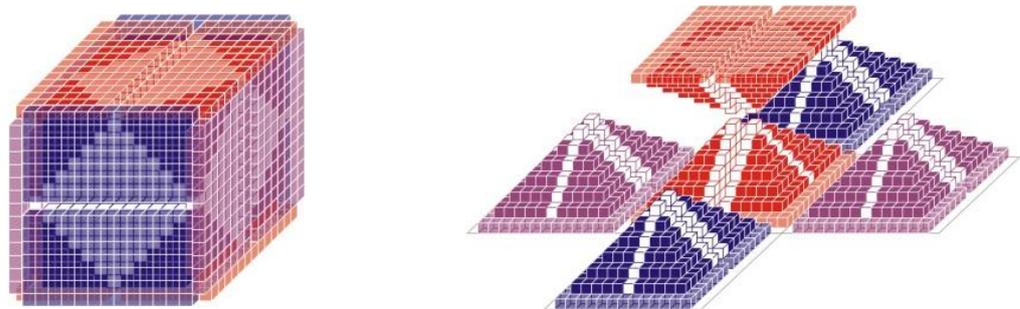
The Pattern Cube is typically shown in its unbroken state as well as its broken state.

The unbroken Pattern Cube is a hypercube (a four-dimensional cube). The Cube represents a hypercube that consists of small cubes (cells). Each cell of the Pattern Cube consists of the complete Pattern Cube and the Pattern Cube is therefore self-similar.

The unbroken Pattern Cube is not solid because of its virtual Core, its six (virtual) clefts and its eight virtual chains (the empty cubes that form where the plates of the three differently coloured pyramids meet). The plates represent the different layers of the pyramids. In the unbroken Cube they form seven concentric cubes. The smallest cube resembles the configuration of the Pattern Cluster if the four red, four purple and four blue spheres of the Cluster are replaced by similarly coloured cubes.

The broken Pattern Cube illustrates broken symmetry that is the cause of mass in the universe. The broken Pattern Cube therefore represents the massive universe that is also subject to entropy.

The number of small cubes in the layers of each conic, comprising the Light-cones, exhibits a quadratic sequence, i.e. 0^2, 1^2, 2^2, 3^2, 4^2, 5^2, 6^2. The (diagonal) layers of each codon, comprising the Life-cones of the Pattern Cube, exhibit the following quadratic sequence (if the virtual cubes that form the chains are also counted): 0^2, 1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 4^2, 2^2, 1^2, 0^2.

Each cube (cell) of the Pattern Cube is identified by its Pattern State Identity (PSI) that consists of four coordinates (see PP1:5 *The Pattern States*).

In biblical terms the Pattern Cube represents the Holy City, or the New Jerusalem (see PP1:28 *The House of God*).

The Pattern States

The Pattern State Identity (PSI)

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, **n** is for the energy level, **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 distance of a cell 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.

The values for the Pattern numbers [**c**, **n**, **s**, **m**,] are assigned on a purely spatial basis. The values for Pattern number **s** would therefore be different (inverse) from the values of quantum number **l** because **s** increases from the middle (the cleft between the plates) outward.

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

As an example the three PSIs (genetic states have three overlapping PSIs) of the virtual cell which is in the missing vertex at the upper right-hand of the blue cover is (see the Body Match Map in *The Pattern* book):

[r̄, +7, +7, -7]	(r̄ represents the antired pyramid)
[p̄, +7, -7, +7]	(p̄ represents the antipurple pyramid)
[ƀ +7, -7, +7]	(ƀ represents the antiblue pyramid)

The Symmetric Periodic Table

The four quantum numbers could be used as coordinates that uniquely identify the position of each chemical element in the conics of a Pattern pyramid pair. The following drawing illustrates this match, which is a fully symmetric rendition of the standard Periodic Table of the chemical elements. The four quantum numbers are: the orbital size **n**, the orbital shape **l**, the orbital spin **s** and the direction in which the orbit is pointir
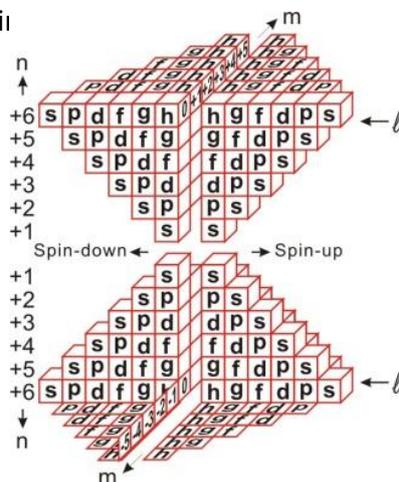
It is possible to combine the spin with the orbital shape so that there are only three quantum numbers, but to take into account the fact that there are three differently coloured Pattern pyramid pairs, another number is necessary. This is the colour number. The resulting four Pattern numbers are therefore: colour **c**, level **n**, shape **s** and deviation **m**. The Pattern numbers give the address, or are the identity, of each small cube (cell) of the Pattern Cube. (The Pattern numbers apply to all cells of the Pattern Cube, whereas the quantum numbers only apply to the conics (and anticonics) of the Pattern Cube.) Each cell therefore has a unique Pattern State Identity (PSI) that consists of different combinations of the four Pattern numbers.

The Atom Match Map (see *The Science: The Pattern of All Things*) shows a spread-out version of this Pattern pyramid pair. It also shows the corresponding discs of the Pattern Sphere. It further shows that the periods of the Symmetric Periodic Table are not interleaved like in the standard Periodic Table. The Symmetric Periodic Table, as represented by the Pattern pyramid pair's conics, has two sets of periods (0, 2, 4, … 10 and 1, 3, 5, ... 11) while in the standard Periodic Table they are interleaved to form only one set of periods, i.e. 1, 2, 3, … 11. (The additional Period 0 that is shown on the Map is not included in this set.)

This combination of the periods in one set could be the explanation why the filling sequences of electron orbitals are fairly irregular. An example of this is the way that electrons in level 4s fill before the electrons in level 3d. The irregularity could possibly be ascribed to the interference caused by the interleaved electron shells.

The Atom Match Map shows two overlaid sets of conics – one red conic set and one antired conic set. The 'overlay' parts are referred to in the sidebar as the antimatter sections of the Symmetric Periodic Table.

The Spacetime Cube

A spacetime light-cone is similar in shape to a Pattern Light-cone. The drawing on the left shows a spacetime light-cone (with its circular bases) enveloping a Pattern Light-cone (the small cubes).
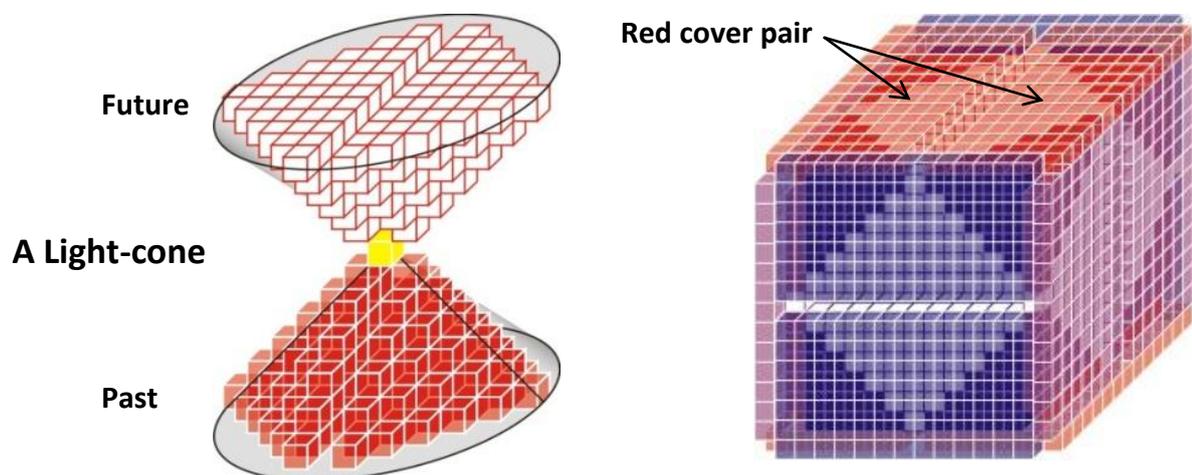
The upper part of a spacetime light-cone usually represents 'Future', while the lower part represents 'Past'. Similarly the upper (inverted) conic pair of a Pattern Light-cone represents 'Future', while the lower anticonic pair represents 'Past'. (The yellow core of the Pattern Cube should represent 'Present' but it is virtual and therefore not part of the spacetime.)

Compression of an anticonic pair yields a cover pair, because compression takes a three-dimensional anticonic pair consisting of 91 cubes and transforms it into a two-dimensional cover plate pair, which is 7 x 13 cubes in size. In this instance the compression yields the red cover pair on top of the Cube – see the drawing on the right. If this is done for all six Light-cones then the six cover pairs of the Pattern Cube represent 'Past' and the conics inside the Pattern Cube represent 'Future'.

The Pattern Cube therefore represents the (discrete) spacetime and as such it reflects the blending of space and time into a single spacetime entity which is constant (invariant). This invariance can be equated to a 'spacetime quota'. Space and time are like (flexible) shadows of the (constant) spacetime (see PP1:10 *The Pattern Constant*).

Because each cell of the Pattern Cube consists of a complete Pattern Cube, the cells themselves also represent spacetimes. The cells could be called 'spacetime-days'. Spacetime-days represent bounded activities or events. Cells that represent spacetime-days lead to the realisation that each cover pair of the Pattern Cube represents a different 'Past', e.g. 'The West' cover pair, i.e. the Cube face on the left, represents the purple spacetime-past (see PP1:12 *Spacetime-days*).

Another observation supporting the idea of spacetime-days is that each cover is 7 x 13 cells big and that two cover pairs therefore represent fifty-two spacetime-weeks of seven spacetime-days each. Four covers therefore represent one spacetime-year.

The Geometric Genetic Code

The Pattern Cube consists basically of three Pattern Light-cones and four Pattern Life-cones. One of the Life-cones of the Pattern Cube is shown below.

A Life-cone
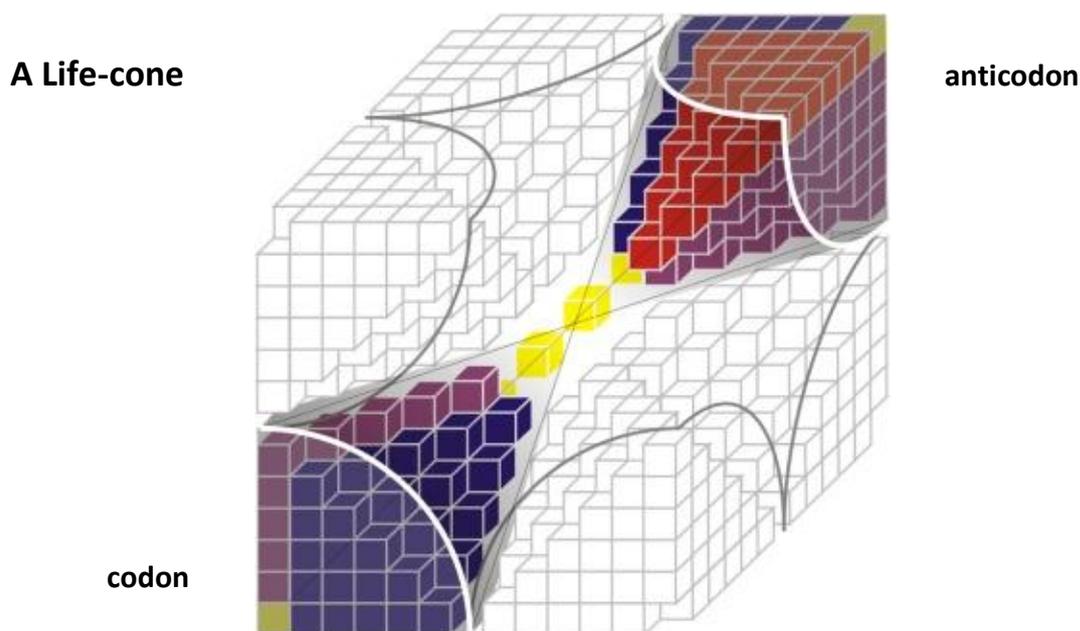
anticodon

codon

A Life-cone consists of a codon with its anticodon. A codon is formed by a set of three cornics. Cornics are the manifestations of the **ab** term as well as the **ba** term of the cubed Pattern equation pair.

Three cornics of different colours are positioned in each vertex of the Pattern Cube. The three diagonally 'opposite' cornics form its anticodon. The codon and its anticodon form a codon pair. The codon pair encompasses a pair of virtual codon chains that stretches from vertex to vertex (indicated as the diagonal string of yellow cubes in the diagram above).

A codon that encompasses its codon chain represents a 'codon of codons' structure. The links of the chain (the small yellow cubes) represent genetic states, i.e. three overlapping Pattern states (see PP1:5 *The Pattern States*). The specific genetic state represented by a yellow cube is defined by its three adjacent cornics. The cornics are associated with RNA bases according to the mapping shown on the Body Match Map in *The Science: The Pattern of All Things.* The fifty-six (7x8) links of the chains are complemented by the eight codons that are represented by the vertices of the Core (cube) to form the sixty-four codons that map onto the amino acids. This mapping is shown as the Geometric Genetic Code on the Body Match Map.

The X-like shape of the codon chains reminds of the typical shape of chromosomes. It is very likely that many more structures of a living body could match aspects of the Pattern. This needs further investigation (see also PP1:20 *Mendel's Pattern*).

The Pattern and Pythagoras

The basic Pattern equation is: $(a + b) = c$

The squared Pattern equation is: $(a + b)^2 = c^2$ *(c^2 is the total area on the right)*

And also: $a^2 + ab + ba + b^2 = c^2$

The Pythagoras equation is: $a^2 + b^2 = c^2$ *(c^2 is the area inside dotted lines)*
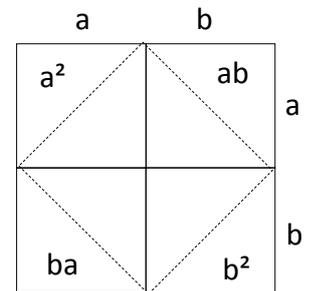
(The values for **a** and **b** in the diagram are the same. The diagram is therefore a special case used for illustration.)

Both the squared Pattern equation and the Pythagoras equation are special cases of the Cosine Law, which states that $c^2 = a^2 - 2ab \cos C + b^2$ (the angle at C is opposite to side c of the triangle). The Pythagoras equation results when the angle C equals 90° (Cos 90° = 0) and the Pattern equation results when C equals 180° (Cos 180° = -1). The Pattern equation is the only solution of the Cosine Law that yields c as a constant (= 6) when **a** and **b** (the conjugate variables) are substituted with the Pattern Code values (**a** = 6,5,4,3,2,1,0 and **b** = 0,1,2,3,4,5,6). The fact that the Pattern equation is always equal to a constant (for the Code values) is the crucial difference that makes it so special (see PP1:10 *The Pattern Constant*).

The difference between the Pattern equation and the Pythagoras equation is the terms: ab   +   ba. These are the terms that Dirac eliminated (made them equal to zero) by means of the 'Dirac matrices', when he converted the equation for general relativity to a simple sum, i.e. there are no squared terms.

The **ab** and **ba** terms manifest as the cornics of the Pattern Cube. The cornics form the Life-cones. The cornics are necessary to complete the vertices of the Pattern Cube because the conics (from the **a²** and **b²** terms) only manifest as the spacetime light-cone parts of the Pattern Cube.

However, the main difference between the Pattern equation and the Pythagoras equation is the way in which each equation deals with the resulting areas: the Pattern equation 'squares' the area, while the Pythagoras equation 'triangularises' it (by 45° in the diagram above). Only two parts of an area (axa, bxb) are 'used' by Pythagoras, whereas the complete four parts of an area (axa, bxb, axb, bxa) are 'used' in the Pattern. In this sense the Pythagoras equation is a subset of the Pattern equation.

(The equation for general relativity, $E^2 = (mc^2)^2 + (pc)^2$, has the same form as the Pythagoras equation. The expression for special relativity: $-t^2 + x^2 + y^2 + z^2$ also has the form of the Pythagoras equation, only in three dimensions.)

Note that the Pattern equation and the special relativity equation are directly comparable when the terms **ab** and **ba** are ignored. (See *The Pattern Notes*.)

The Pattern Constant

The Pattern constant (see PP1:9 *The Pattern and Pythagoras*) could be viewed as some kind of 'quota' when variables **a** and **b** are equated to certain arguments, for example potential energy and kinetic energy. The sum of the two energies would then be a constant. Other substitutions for variables **a** and **b** are more counter-intuitive, e.g. if **a** is equated to discrete distances and **b** is equated to discrete times. The sum of the distances, say kilometres, and the times, say hours, should then always be six. It means that 6 km will take zero hours to traverse (6 + 0 = 6), 5 km will take one hour (5 + 1 = 6) and 1 km will take five hours (1 + 5 = 6). This result does not make sense in everyday situations, but is just one of the consequences of the Pattern thinking. To illustrate that this result is close to reality, let us view the situation inside the atom. The energies of electrons in an atom manifest in discrete levels. When an electron 'jumps' from one level to another (lower) level, a photon of a certain wavelength is released. The number of the energy levels 'jumped', plus the multiples of the basic (shortest) wavelength (the 'times') is a constant. (The 'times' are calculated as multiples of the shortest wavelength.)

A major difference between the Pattern equation and the Pythagoras equation is the difference in areas represented by c^2. The c^2-area of the Pattern equation, for the code values, is invariant (constant). The area c^2 of Pythagoras is not invariant (even if variables **a** and **b** are substituted by the discrete Pattern code values like with the Pattern equation).

Furthermore, unlike the Pythagoras equation the Pattern equation could be cubed which results in a c^3 constant. The invariant area c^2 has now become an invariant 'solid' c^3. (The substitution of the code values in the cubed Pattern equation actually adds a dimension so that the result is a four-dimensional 'solid'.) The Pattern Cube is one realisation (implementation) of the cubed Pattern equation (the other is the Pattern Sphere) and it therefore represents a constant, or unchanging, Pattern. A major limitation of the (squared) Pythagoras equation is thereby surpassed by the (cubed) Pattern equation.

The Pattern Cube does represent a (constant) four-dimensional quota that could be expressed as spacetime-days (see PP1:12 *Spacetime-days*). A spacetime-day represents a fixed quota of events, or a bounded set of activities. This means that a spacetime day represents only a certain amount of activity and that each activity consists of a fixed amount of energy that could be expended as different combinations of distance and time. This observation leads to the idea of a 'spacetime-day of spacetime-days', like the Pattern Cube that is a 'cube of (small) cubes'. The smallest amount of spacetime-day would then be defined to be an event just like there is a smallest cube. (This 'smallest amount' is similar to the idea of Planck distances, times, areas and volumes.)

In this light the reference in the Bible, Matthew 7:34c, '*Sufficient unto the day is the evil thereof.*' could now be understood to refer to a kind of spacetime-day. Also the expression 'the day of the Lord' that is used a number of times could refer to the day that contains all other days, i.e. the day of days.

A Simple Spacetime

If the variables in the basic Pattern equation are equated to space and time the following is evident.

The basic Pattern equation is   a + b = c

In terms of space (only one space dimension) and time it is   x + t = s

x and **t** can only have the Pattern code values, which are discrete and complementary as follows.

Distance **x** can be 6, 5, 4, 3, 2, 1, 0 and time **t** can be 0, 1, 2, 3, 4, 5, 6.

The value of s is always equal to 6 and it can be called the spacetime quota.

Distance **x**

Time **t**
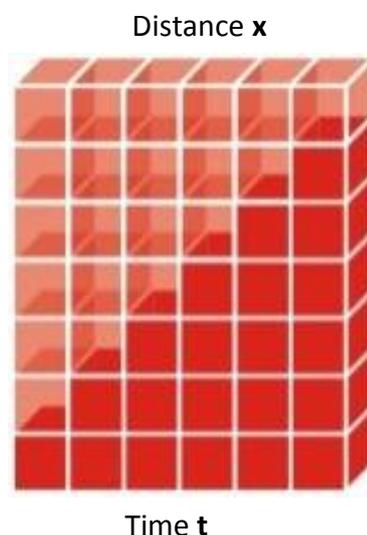
Therefore if **t** = 0 then **x** = 6 and if **x** = 0 then **t** = 6.

This implies that if something is everywhere at once (**t** = 0) the full spacetime quota is 'used up by' distance, or place. And when something is at one place all the time (**x** = 0) then the full spacetime quota is 'used up by' time. In between these two scenarios different combinations of space and time are applicable.

The scenario when **t** = 0 is analogous to the phenomenon of nonlocality in quantum mechanics.

The scenario when **x** = 0 is analogous with the situation of the earth-bound 'twin' in the 'Twins Paradox' of spacetime thinking where he/she is stationary (on earth) all the time.

This simple spacetime analogy with the Pattern equation therefore contains elements of both the quantum world and the spacetime world.

Spacetime-days

One-dimensional time, like hours or days, that follow each other in rigid succession, is what we as humans are used to. But a calendar, for example, could be used to explain the concept of two-dimensional time. One calendar month is shown graphically below.

◄	~ Month of the year ~					►
Sun	Mon	Tue	We	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

The (one-dimensional) sequence of days is indicated by the numbers that are arranged in a matrix to keep the same days of a week in seven columns. The numbers of the days in the columns increase by seven (days) from one row to the next.

However, the rows and columns of the calendar could be used to represent two dimensions of time, the one progressing horisontally and the other one vertically. With this two-dimensional time it is now possible, for example, to advance from one Sunday to the next without 'traversing' the rest of the days of each week. A typical month would therefore only last for four Sundays if the vertical time dimension is followed. Two-dimensional time would therefore allow 'things to happen much quicker'.

Two-dimensional time is reminiscent of two-dimensional space because, for example, a typical street map also displays houses that are spatially arranged in rows and columns. This grid-like arrangement is similar to the calendar described above with the days of the month replaced by the street addresses.

It is therefore possible to envisage a wire-frame cube with its one face representing a calendar grid and an adjacent face representing a street map grid. Each individual small cube inside this simple spacetime cube would then represent one spacetime-day. Here each spacetime-day consists of two time dimensions and two space dimensions. A hypothetical ant could be inside any spacetime-day cube, doing things that could be called events or activities. But it can also move from one spacetime-day to another inside the big spacetime cube to appear at different days at different addresses.

The simple spacetime cube described above is useful to explain the concept of a spacetime-day. However, the actual arrangement of spacetime-days is shown by the Pattern Cube. Each small cube (cell) of the Pattern Cube represents a spacetime-day. The covers of the Pattern Cube, in particular, represent the past spacetime-days as shown on the Cosmos Match Map in *The Science: The Pattern of All Things* (see also PP1:7 *The Spacetime Cube*) and described in *The Story: Peter in the Patternland* and *The Sequel: Peter in the Pattern City*.

The Pattern of Electron Orbitals

The basic shapes of the orbitals of electrons are shown below.
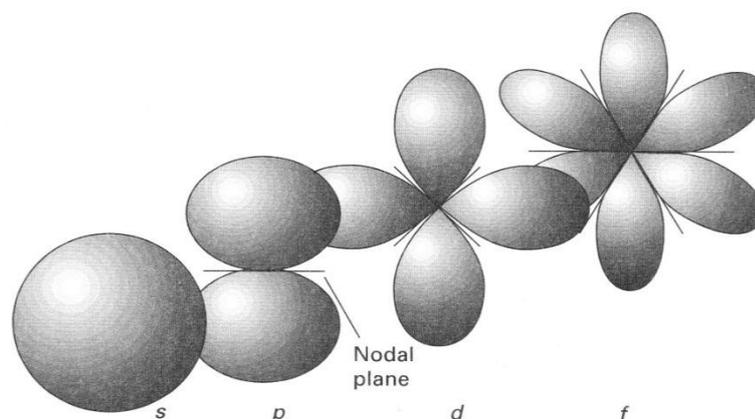
Source: The Periodic Kingdom by Peter Atkins

The configurations of spheres in the middle column of the Pattern code table are shown below (see PP1:3 *The Pattern Equation*).

s-orbital	p-orbital	d-orbital	f-orbital
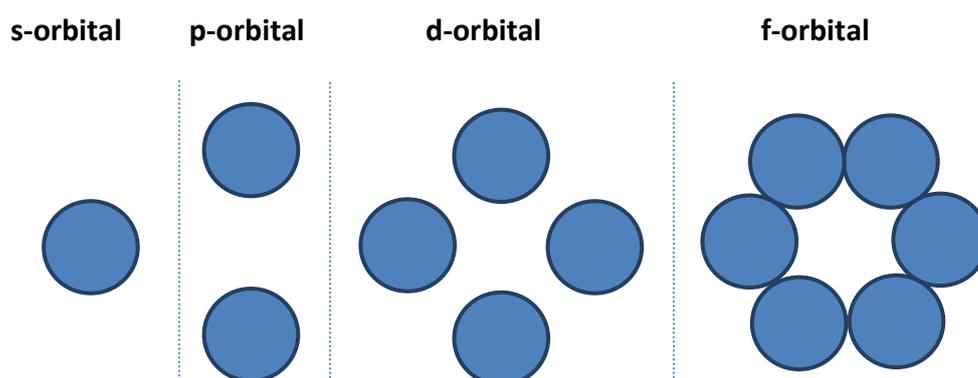
The shapes of the electron orbitals resemble the shapes in the middle column of the Pattern code table (see PP1: *The Pattern Equation*) if the core sphere of the Pattern Cluster is added to represent the s-orbital. (The shapes of the g-orbital and the h-orbital are not shown in the middle column of the code table due to their complexity.)

The side columns of the Pattern code table could then represent the dark-nodes that are shown on the Symmetric Periodic Table in *The Science: The Pattern of All Things*. Dark-nodes are the complements of the light-nodes. They are the necessary interfering nodes required to form the standing waves (which the electron orbitals actually are).

The dark-nodes had not yet been detected and could be invisible due to the fact that they lie outside the spacetime light-cone. They could be related to what is now known as dark energy.

(The additional odd orbital shapes that are typically included when drawings of electron orbitals are shown, could be due to the 'scrambling effect' of the spherical version of the Pattern (see also PP1:6 *The Symmetric Periodic Table*).

The Cubical Atom

Every atom is an interface to the Light because every atom resembles a Pattern Cube. It had been shown in *The Pattern* book that every atom is structured according the Pattern Cube, but also according to the Pattern Sphere because the Sphere is the dual model of the Cube.

The Pattern Cube's structure represents a gateway between the spacetime and the Light (original energy). (The Light is not part of the spacetime but the spacetime could be seen as a 'light bearer'.) The gateway is Pattern Cube shaped. It comprises six multidirectional mounds which is the six pyramids (a set of three orthogonal step pyramid pairs) of the Pattern Cube. The Pattern Cube is a kind of prism that refracts the Light into the colours of the rainbow.

The rainbow of the Pattern Cube is a cubical rainbow (see PP1:16 *The Cubical Rainbow*) with 'quantised' colours due to the fact that the energy levels in the Pattern Cube are discrete. Quantised light, or photons, are released when electrons 'jump' between electron orbitals. The energy of the electron orbitals is discrete and therefore the photons are single frequency 'packets' of energy. Orbitals are, in fact, standing waves with nodes that equate to the cubes (cells) of the Pattern Cube. The number of nodes increases in the different energy levels from one (gold, invisible) to three (red), to five (orange), to seven (yellow), to nine (green), to eleven (blue) and finally to thirteen (purple). The colours indicated in brackets are those of the cubical rainbow and refers only to the visible spectrum (see PP1:15 *The Balmer Spectral Lines*). It does, however, give an indication of what colour light will be emitted when an electron jumps from a higher electron orbital to a lower orbital.

The critical question is where the (Light) energy came from originally (when they were created) to put the electrons into their respective orbitals. The cubical rainbow shows that the white Light, that is not part of the spacetime, represents the energy that originally put the electrons in their respective positions.

The black hole represents a gateway (wormhole) into darkness but the light hole, or rather the light mound (a kind of staircase, a stepped pyramid), represents a gateway into the Light.

The Pattern Cube could also be the gateway into the dimension of darkness (also outside of the spacetime) similar to a black hole, but not just one black hole, a combination of six of them. The six black holes are three black hole pairs oriented like the three pyramid pairs of the Pattern Cube.
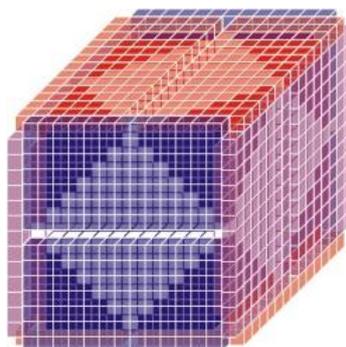
The Balmer Spectral Lines

Spectral lines are bright lines that are generated when different gases are heated to incandescence. Different gases emit different patterns of light lines in the spectrum of light. The colour lines in the visible spectrum are known as the Balmer Series after Johann Jakob Balmer, a teacher who lived from 1825 to 1898 in Switzerland. The Balmer Series reflects photons that are emitted when electrons jump to the n = 2 energy level.

The Balmer Series for hydrogen consists typically of a red (656 nm), a blue (486 nm) and two violet (434 nm and 410 nm) spectral lines. (The numbers in brackets are the wavelengths of the colour frequencies.)

The Lyman Series and the Paschen Series that are also shown in the diagram are invisible and give the wavelengths that are generated by electron jumps to other orbital levels, i.e. n = 1 and n = 3 respectively.
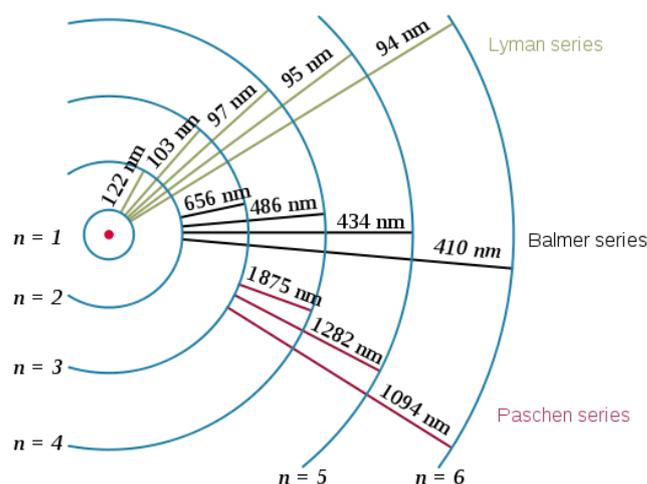
Source: Wikipedia.org

Electrons orbit the nucleus of an atom only in certain energy levels. Electrons normally stay in their ground levels but do jump to higher levels when excited with the right amount of energy. Excited states are normally of brief duration. When electrons drop back to their ground states they emit photons of just one frequency. The wavelength of the photon is equal to the energy difference between the starting and the ending levels. (The phenomenon of duality is quite apparent in this description because a photon is regarded as a particle and a wavelength is associated with a wave. The spherical representation above is therefore suited to waves and the cubical representation of the Pattern Cube is suited to particles.)

The cubical rainbow illustrates the particle representation while the (natural) spherical rainbow represents the wave representation. The cubical rainbow (see PP1:16 *The Cubical Rainbow*) shows the photons of different visible 'rainbow' colours inside an atom's different energy levels (see PP1:14 *The Cubical Atom*).

The Cubical Rainbow

The cubical rainbow represents photons that are emitted by electrons of a cubical atom (see PP1:14 *The Cubical Atom*). The differently coloured photons appear in discrete energy levels as shown below (see also PP1:15 *The Balmer Spectral Lines*). (This representation of the cubical rainbow is two-dimensional whereas the cubical rainbow is actually four-dimensional.)

The following are some characteristics of the cubical rainbow:

1. The colours of the cubical rainbow are discrete, i.e. they are the same in each level.
2. Each block of the cubical rainbow consists of another cubical rainbow.
3. The golden blocks represent settings of the precious stones.
4. The sequence of the colours is the inverse of the spherical rainbow; red in the centre and purple on the outside.
5. The colours of the cubical rainbow could be identified by their Pattern State Identities (PSIs).
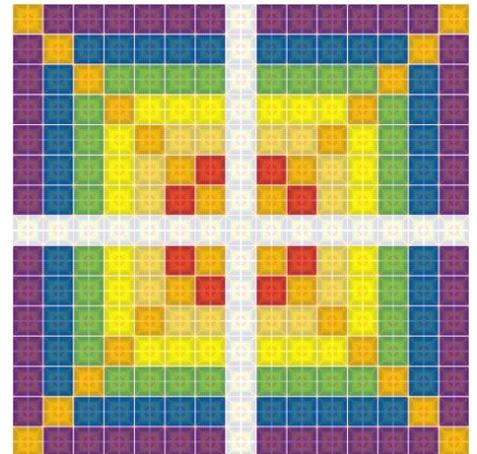
In contrast with point 5 above the colours of the spherical rainbow are identified by their frequencies. (There is therefore a direct relationship between the Pattern states and frequencies.)

The cubical rainbow is actually a rainbow of rainbows. Each colour block of the cubical rainbow consists of another cubical rainbow that represents a complete Pattern Cube. The result of all this is that the cubical rainbow looks like 'something woven, a masterfully crafted pattern.'

The centre cubical rainbow of the big cubical rainbow is the symmetrical centre of the cubical rainbow.

The cubical rainbows symbolise the following:

-   Each cube of the Pattern Cube is itself a complete Pattern Cube.
-   Each small Pattern Cube is a part of the big Pattern Cube.
-   Each small Pattern Cube is identical to the big Pattern Cube.
-   Each small Pattern Cube has the exact image of the big Pattern Cube.

The cubical rainbow is therefore the ideal symbol for the New City (see PP1:38 *The Pattern Partnership*).

Pascal's Pattern

In Pascal's triangle the numbers (coefficients) resulting from calculations of a type of equation (polynomials) are geometrically arranged. In a way this is also what is done with the outcomes of the Pattern equations.

The Pattern equations yield a Pascal's Triangle if it is expanded as a polynomial series. In the table below the Pattern code values are substituted in the Pattern equations and the individual sums 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	
1	$(a + b)^0$	7	6	(7 x 6 = 42)
1 1	$(a + b)^1$	42	6	(42 x 6 = 252)
1 2 1	$(a + b)^2$	252	6	(252 x 6 = 1512)
1 3 3 1	$(a + b)^3$	1512	6	(1512 x 6 = 9072)

The Pattern equation could therefore be generalised as $(a + b)^n$ x 6 = $(a + b)^{n+1}$

It is interesting to note that the Pattern conics and anticonics 'contain' the first, second (natural numbers) and third diagonals (triangular numbers) of the Pascal's triangle.

Many patterns and properties of Pascal's triangle had been investigated. For instance, it is possible to derive 'numbers', like the Fibonacci numbers, from Pascal's triangle. These numbers are:

The Pattern number   0 1 2 3 4 5 6   with Pattern ratio = 1
(To get the Pattern number just add the 1s in the first column of a left justified triangle progressively.)
(A left justified pyramid is one where all the numbers of the triangle are arranged in columns.)
The Pascal number   0 1 2 4 8 16 32   with Pascal ratio = 2
(To get the Pascal number just add the numbers in each row of the triangle.)
The Fibonacci number   0 1 1 2 3 5 8 13 21   with Fibonacci ratio = 1,618
(To get the Fibonacci number just add the numbers in the diagonals of a left justified triangle.)
The SP number   0 1 1 1 2 3 4 6 9 13   with SP ratio = 1,468
(To get the SP number just add the numbers in the next steeper diagonals of a left justified triangle.)
(The sums of ever steeper diagonals of a left justified triangle would yield even more 'numbers'.)

Another fascinating aspect of Pascal's triangle is the dimensional properties of the triangle. Each additional row of the triangle represents an additional dimension added. The Pattern Cube is the prime example of this phenomenon. The cubed Pattern equation pair represents a three-dimensional object (which becomes a four-dimensional object once the substitution with the Pattern code values takes place).

The Inverse Square Pattern

The inverse square law applies universally to phenomena, such as gravity, light, sound radiation and electric fields. The law is geometric in origin and beautifully illustrates the correspondence between the spherical and cubical renditions (models) of the Pattern.

The influence from any point source will spread uniformly if not obstructed in any way. The intensity of the influence will vary as shown in the diagram. At distance 1r the intensity will be represented by area A, at 2r it will be 4A and at 3r it will be 9A. In *The Science: The Pattern of All Things* this is called the 'odd numbers rule' that was discovered by Galileo.

Source: hyperphysics.phy-astr.gsu.edu
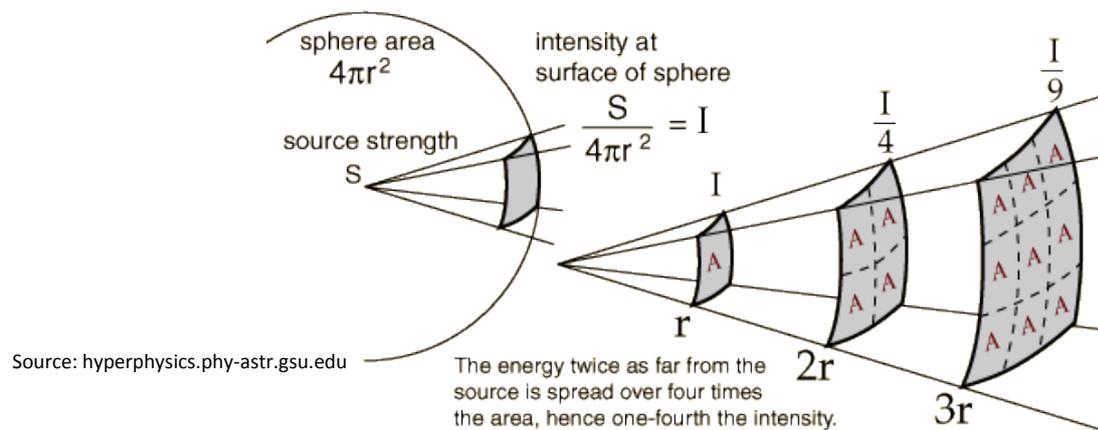
The odd numbers rule shows the following progression for a falling object:

     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, …

Another way to look at this progression is to observe that each square (in all the levels) could represent the same amount of influence. Higher levels would then represent higher influence like the energy distribution in an atom (higher levels have more energy than lower levels). This pattern would then be called 'the square law'.

The squared sequence is recognisable in all the conics of the Pattern Cube. It could therefore be concluded that the Pattern Cube in its most basic structure represents the square law as well as the inverse square law.

The existence of anticonics raises the possibility of antiwaves (and antigravity) and the existence of cornics raises the possibility of the existence of yet another complementary kind of wave(s).

Crystals and Codons

The Pattern shows the complementary nature of crystals and codons. The crystals could be viewed as the carriers of light (the Light-cones) and the codons as the carriers of life (the Life-cones).

Sodium-chloride (Na-Cl) is a common type of crystal (table salt). Interestingly, the atomic structure of the sodium element of table salt is similar to the configuration of the Pattern Cluster, as shown below. The chloride atoms of salt fit into the fourteen openings of the Pattern Cluster. (The chloride atoms form the complementary structure of the Pattern Cluster which matches the eight (virtual) chains and the six (virtual) clefts of the step pyramids.) Salt's crystal lattice is therefore cubical and consists of many Pattern Cluster configurations in tightly stacked cubical 'boxes' like the one below.

Cluster
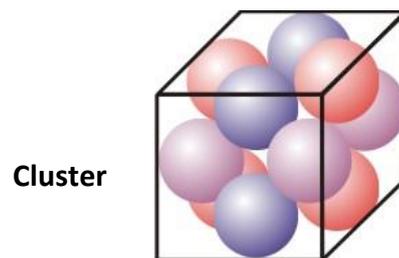
The precious stones that are mentioned several places in the Bible are all types of crystals (see, for example, PP1:31 *Lucifer's Pattern*).

The New City is also described in terms of crystals. Revelation 21:11: *"Having the glory of God: and her light was like unto a stone most precious, even like a jasper stone, clear as crystal."* Even God on the throne is compared to crystals in Revelation 4:3: *"And he that sat was to look upon like a jasper and a sardine stone: and there was a rainbow round about the throne, in sight like unto an emerald."*

Codons are formed by the Life-cones of the Pattern Cube as shown in PP1:8 *The Geometric Genetic Code*. The chemical elements of the Life-cones are unknown (they could possibly be what is known as dark matter) but they combine in triplets to form RNA codons that are present in all forms of life, e.g. plants, animals and humans.
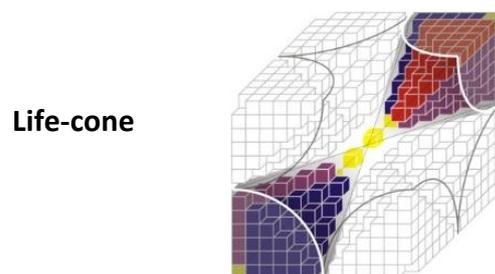
Life-cone

Codons therefore embody genetic information and could be labeled as the product of 'dark elements', i.e. a type of invisible crystal that could be compared to visible crystals. Although RNA molecules are visible, the existence of the Life-cones of the Pattern Cube implies that there are perhaps also different kinds of invisible (dark) molecules.

The complementary nature of crystals and codons has many implications, also in the field of life sciences. One such implication is that different forms of life could have appeared similar to crystals that form anywhere, anytime (see PP1:21 *The Pattern of Life*).

Mendel's Pattern

Gregor Mendel discovered the laws of heredity by hybridising peas. He identified dominant and recessive traits of peas and selectively bred new generations of offspring. The inherited traits of the offspring were studied and they were then used in new experiments. He discovered a pattern in the traits appearing in the offspring of the peas. This pattern formed the basis of the Punnett Square, a matrix devised by RC Punnett to depict inheritance ratios.

The Punnett square is a diagram used by biologists to determine the probability of offspring to have particular traits. The Punnett square is effectively a diagrammatical representation of the squared Pattern equation (see PP1:3 *The Pattern Equation*):

$(a + b)^2 = c^2 = a \times a + a \times b + b \times a + b \times b \qquad (= a^2 + ab + ba + b^2)$

The cells of the Punnett Square are filled with all possible combinations of specific genetic information from the mother and the father. In the case of a monohybrid cross where each parent has the same trait **ab**, where **a** indicates 'dominance' and **b** indicates 'recessivenes' of the trait.

Parent 1

	a	**b**
a	**a** x **a**	**a** x **b**
b	**b** x **a**	**b** x **b**

Parent 2

The dominant trait will mask the recessive trait. Therefore 75% of the offspring (**a** x **a**, **b** x **a**, **a** x **b**) will have the trait represented by **a**. The ratio is therefore typically 3:1 for the case with only one hybrid cross.

The ratio for two or more traits is more complicated and results, for example, in a diagram with sixteen fields for all the possible combinations of two traits (dihybrid cross). The ratio in this instance is typically 9:3:3:1.

The fact that the basic law of inheritance is the Pattern equation is remarkable and points to the universality of the Pattern.

The peas that Mendel used in his experiments could be called 'pattern pods' because any seed is essentially a pattern pod. Patternation could therefore be described as the process which forms new generations of seeds in a never-ending sequence.

Thus 'pattern pods patternate' is an apt description of the universal process of the procreation of life.

The Pattern of Life

The development of life is usually depicted by a kind of tree; a single tree that starts at one point (Origin) to branch out in stages to reflect the development of different forms of life.

Life Formed

Time
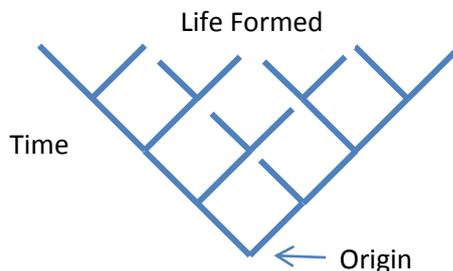
Origin

However, the Pattern provides a different way to represent the origin of life. The Pattern is like a template that is used to form multiple instances of life. The idea is illustrated below in the shape of a comb. The comb represents all possible life forms due to different sequences of codons (three letter combinations of DNA, or RNA, bases). The teeth of the comb represent life that had been formed (of which some no longer exist) and the handle of the comb represents unformed life (if any).

Life Formed   Life Unformed

Time

The Pattern

Collections of Possible Codon Sequences (Genes)
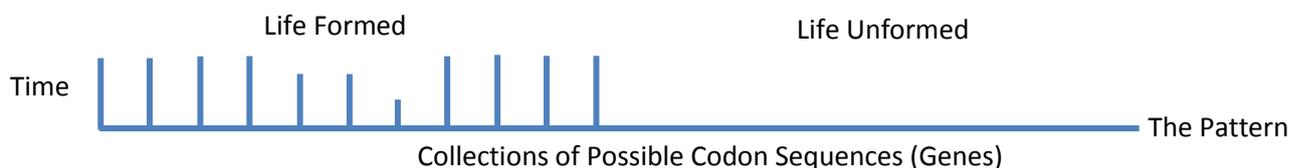
(Interestingly, Darwin, in his *On the Origin of Species* wrote 'Of the many twigs which flourished when the tree was a mere bush, only two or three now grow into great branches, yet survive and bear the other branches'. The comb idea and the bush idea are quite similar.)

Similar to the tree concept the Pattern approach also accounts for the uniformity of DNA in all things living (see PP1:8 *The Geometric Genetic Code*). Also, different sets of teeth could represent different life forms with similar body plans. The parallels between the forming of crystals and the forming of life are many and can resolve difficult questions as to the origin of life (see PP1:19 *Crystals and Codons*).

Because all life forms that emanated from the Pattern were originally perfect mutations could have started only after Adam and Eve sinned (which is comparable to the idea of symmetry breaking in science). The teeth of the comb should therefore be seen as little tree-like structures that are being viewed from the side. These little trees actually represent degradation over time that has resulted in the less than perfect genomes of current and extinct life forms.

Phenomena that are difficult to explain with the single tree model become much simpler when the Pattern approach is taken. Three such examples are the timeous availability of different components of complex structures in bodies, the existence of different types of life (e.g. plants, animals, humans, etc.) and sex (the mechanism of procreation) (see PP1:20 *Mendel's Pattern*).

The matching of the Pattern with the most basic features of the universe, e.g. the structure of atoms (see PP1:6 *The Symmetric Periodic Table*) and also the structure of spacetime (see PP1:7 *The Spacetime Cube*) makes the Pattern approach the preferred alternative to explain the origin of all things, including the origin of life.

Digital Science

The Pattern shows that creation is inherently dual. But it is a duality that exists as a unity on the level of combined duality and as a disunity on the level of separated duality (see PP1:34 *The Sum of It All*). Combined duality is illustrated by the Pattern Cluster while separated duality is illustrated by the (separate) Pattern Cube and Pattern Sphere. Pre-duality is represented by the Pattern equation.

The level of separated duality is typically described as:

Discrete / Continuous	Particle / Wave
Cubical / Spherical	Quantum / Classical
Digital / Analogue	Spiritual / Physical

On the level of separated duality physical creation seems to be the spherical instance of the Pattern, whereas spiritual creation seems to be the cubical instance of the Pattern. This distinction is beautifully illustrated by the spherical rainbow, which is the sign of the natural world, and the cubical rainbow (see PP1:16 *The Cubical Rainbow*), which is the sign of the spiritual world.

Classical science is presently mostly analogue based as evidenced by the wave concepts that are being used as the basis of entry-level science teaching. Wave concepts include wavelength, frequency, rotation, momentum, polarisation, etc. Values for variables in mathematical equations that are used in science are also typically assumed to be continuous unless specified. Quantum mechanics are based on digital (discrete) concepts but even here, for example, analogue concepts like Schrödinger's wave mechanics still take precedence over Heisenberg's matrix mechanics.

A mainly digital approach to science, illustrated by the Pattern Cube, would make science much simpler. Just like the digital computer almost completely replaced the analogue computer, digital science could largely replace analogue science. The main reason for this shift would be the ease and simplicity with which discrete elements and digitally defined quantities could be manipulated, represented and visualised. Another contributing aspect is that phenomena of the natural world are scrambled, like the orbitals of an atom (Note the regularity of the Symmetric Periodic Table (see PP1:6 *The Symmetric Periodic Table*) compared to the irregular way in which electrons actually fill orbitals.)

In digital science the Pattern Code values (0,1,2,3,4,5,6) could perhaps be used as the basis of a septenary (seven-level) system of digital science, very much like the bit (0,1) is the basis of the binary (two-level) system used in ordinary digital systems. (The septenary system's units (qusits) would be like the qubit (quantum bit), because it would also exhibit the typical quantum characteristics.)

The Pattern could therefore perhaps form the foundation of digital science because it clearly harmonises the analogue world, represented by the Pattern Sphere, and the digital world, represented by the Pattern Cube.

Biblical References to a 'Pattern'

The idea of a Pattern that is used as a kind of mould to form other things is a general theme in the Bible. The following are just a few examples of references to the pattern idea in the Bible.

1. **The Tabernacle was built according to a heavenly pattern.** The word 'pattern' (Hebrew: tabniyth) is used in the Old Testament (Exodus 25:9, 40) and also in the New Testament (Hebrews 8:5 and 9:23) concerning the Tabernacle.

   "According to all that I shew thee, after the pattern of the tabernacle, and the pattern of all the instruments thereof, even so shall ye make it." Exodus 25:29.

   "And look that thou make them after their pattern, which was shewed thee in the mount." Exodus 25:40.

   "Who serve unto the example and shadow of heavenly things, as Moses was admonished when he was about to make the tabernacle: for, See, saith he, that thou make all things according to the pattern shewed to thee in the mount." Hebrews 8:5.

   "It was therefore necessary that the patterns of things in the heavens should be purified with these; but the heavenly things themselves with better sacrifices than these." Hebrews 9:23. (Here 'patterns' is the Greek word 'hupodeigma' which means copy, example, and representation.)

2. **The Temple of Solomon was built according to a pattern.**

   "Then David gave Solomon his son the pattern of the porch, and of the houses thereof, and of the treasures thereof, and of the upper chambers thereof, and of the inner parlours thereof, and of the place of the mercy seat,
   And the pattern of all that he had by the spirit, of the courts of the house of the Lord …" 1 Chronicles 28:11, 12.

   "… and gold for the pattern of the chariot of the cherubims …"

   "All this, said David, the Lord made me understand in writing by his hand upon me, even all the works of this pattern." 1 Chronicles 28:18, 19.

3. **The Temple of Ezekiel was according to a pattern.**

   "Thou son of man, shew the house to the house of Israel, that they may be ashamed of their iniquities: and let them measure the pattern.
   And if they be ashamed of all they have done, shew them the form of the house, and the fashion thereof, and the goings out thereof, and the comings in thereof, and all the forms thereof, and all the ordinances thereof, and all the forms thereof, and all the laws thereof: and write it in their sight, that they may keep the whole form thereof, and all the ordinances thereof, and do them." Ezekiel 43:10, 11.

   The word 'sum' in Ezekiel 28:12 is also the (same) Hebrew word (tokniyth) for 'pattern'. "Thou sealest up the sum, full of wisdom, and perfect in beauty."

4. **Adam is called a pattern of Jesus.**

   "Nevertheless death reigned from Adam to Moses, even over them that had not sinned after the similitude of Adam's transgression, who is the figure of him that was to come." Romans 5:14. (The Greek for 'figure' is tupos, which means type, example, and pattern.)

5. **Jesus, the pattern for believers, who themselves must be patterns for other believers.**

   "Howbeit for this cause I obtained mercy, that in me first Jesus Christ might shew forth all longsuffering, for a pattern to them which should hereafter believe on him to life everlasting." 1 Timothy 1:16.

   "But we all, with open face beholding as in a glass the glory of the Lord, are changed into the same image from glory to glory, even as by the Spirit of the Lord." 2 Corinthians 3:18.

   "Brethren, be followers together of me, and mark them which walk so as ye have us for an ensample." Philippians 3:17. The Greek for 'ensample' is also 'tupos'.

   "In all things shewing thyself a pattern of good works …" Titus 2:7.

   "Neither as being lords over God's heritage, but being ensamples to the flock." 1 Peter 3:5.

Theophanies in the Bible

The following events that have been described in the Bible and that relate to theophanies (appearances of God) could be interpreted to refer to one or more aspects of the Pattern as described in *The Science: The Pattern of All Things*.

- Jacob's vision of the 'gate of heaven'. Genesis 28:10-22 (see PP1:30 *Jacob's Ladder*).
- God's instruction to Moses to build the Tabernacle. Exodus 24:12-18.
- God shows His glory to Moses. Exodus 34:5.
- God's glory enters the Tabernacle. Exodus 40:34-38.
- God's glory fills the Temple that Solomon built. 2 Chronicles 5:13b, 14.
- Elijah's ascent into heaven in the chariot of fire. 2 Kings 2:11.
- Elisha's servant's vision of the horses and chariots. 2 Kings 6:17.
- The calling of Isaiah. Isaiah 6:1-4.
- Ezekiel's visions of God's Glory. Ezekiel 1:4-28, 3:12-13.
- Ezekiel's visions of God's Glory. Ezekiel 8:2-4.
- Ezekiel's visions of the coals of fire and the cherubim. Ezekiel 10:1-22.
- Ezekiel's visions of the king of Tyre (Lucifer?). Ezekiel 28:11-19 (see PP1:31 *Lucifer's Pattern*).
- Ezekiel's visions of God's Glory filling the Temple. Ezekiel 43:2-12.
- Daniel's vision of God. Daniel 7:9.
- Zechariah's vision of the four horses. Zechariah 6:1-3.
- Zechariah's vision of the split Mount of Olives. Zechariah 14:4-7.
- Zechariah's vision of the Jerusalem's reconstruction. Zechariah 14:10-11.
- The transfiguration of Jesus on the Mount. Luke 9:28-36.
- The ascension of Jesus. Acts 1:9-11.
- John's vision of Jesus between the candlesticks. Revelation 1:12-20.
- John's vision of Jesus on the throne. Revelation 4:1-11.
- John's vision of the New Jerusalem. Revelation 21:1-27, 22:1-5.

A careful study of the descriptions of these theophanies reveals some commonly used terms. These regularly used terms could be shown to correspond to key aspects of the Pattern. Some of these biblical terms are listed in PP1:25 *The Pattern Language of the Bible*.

The Pattern Cluster, in particular, is recognisable in the descriptions of the appearances of God's Glory (Shekinah). The animation 'The Glory of God' illustrates the many correspondences between the Cluster and the Glory of God in a graphical manner. (The link to the animation is at the bottom of PP1:26 *The Glory of God*.)

The close association throughout the Bible between the Glory and the buildings (the Tabernacle, the Temple and the New City) could lead to an observation that the Glory represents the Spirit of God and the buildings represent the Body of God. The fact that Jesus spoke, in John 2:21, of 'the temple of his body' gives credence to such an observation.

The Pattern Language of the Bible

Bible authors used specific words or expressions when they were describing visions where the Pattern, or aspects of it, appears to have been involved. Some of these words and expressions are listed here as a rough guide for the interpretation of their writings.

**Biblical terms that typically refer to elements of the static (cubical) instance of the Pattern:**
- Earth, heaven, mountain, stones, rock, city, temple, tabernacle, building, steps, pillars, wall, foundation, room, house.

City   **Mountains**   **Pillars**

- Seat, altar, cross, throne, stairs, lamp.
- Street, pavement, sea of glass, firmament like crystal, garden, river, fountain, tree; with leaves and fruit.

Biblical terms that typically refer to elements of the dynamic (spherical) instance of the Pattern:
- Glory of the Lord, brightness, rainbow.
- Whirlwind, great cloud.
- Thundering, lightning, a fire infolding itself, colour of amber, burning coals of fire, flames.
- Chariot, wheels, turn (rotate), voice like the noise of great waters.

Cloud   **Chariot**   **Wheel**
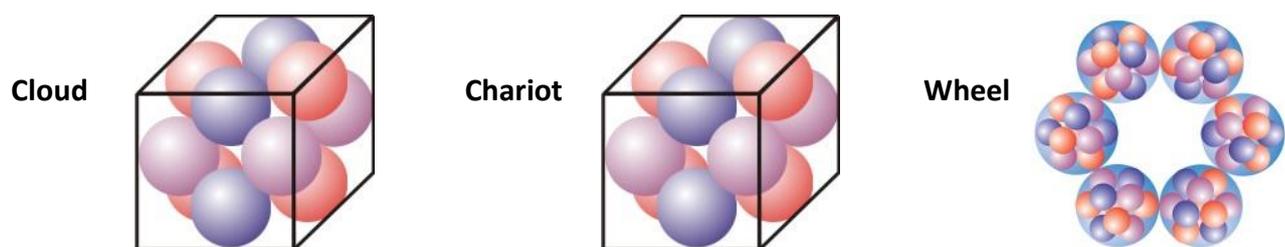
- Likeness of living creatures, likeness of a man, elders, voice, body, cherubim, beasts, horses, heads, wings, horns, eyes all over, feet, hands, faces, crowns, white clothes.
- Work, harps, bowls, trumpets, swords, candlesticks, gates, up & down, goings out and comings in, ran and return, back and forth, ascending and descending.

Biblical terms that typically refer to elements of the cylindrical (core) instances of the Pattern:
- Fiery stones, living stones, stars.
- Name(s), engravings, marks.
- Scroll, book, seal.

It should, however, be remembered that the terms used to describe the visions should be taken as the best earthly analogies of some highly stylised and abstract imagery.

The Glory of God

God's Glory is an earthly manifestation of God. The description of God's Glory by Ezekiel is the most detailed (geometric) description of God's Glory to be found in the Bible. The visions of God's Glory that Ezekiel had, as described in Ezekiel 1, 3, 8 and 10, are generally referred to as Ezekiel's 'chariot' (also called the 'Merkabah') because of the reference in the description to wheels. Aspects of God's Glory could be shown to resemble the Pattern Cluster and also certain parts of the Cluster.

The Cluster
(Chariot)

(Cloud)

One Cluster Ring
(A wheel)
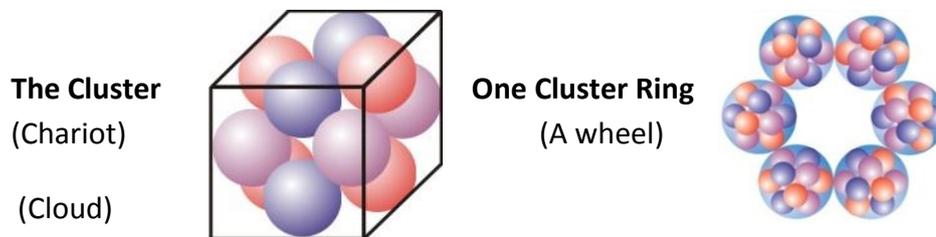
1. **The cloud**: The Cluster resembles the cloud, the whirlwind and 'a fire infolding itself'.
2. **The four wheels**: The four intersecting wheels that Ezekiel describes could be distinguished in the Cluster above. Each (inclined) wheel consists of a ring of six spheres, two of which are always touching the bottom of the cube and two of which are always touching the top of the cube. (Note that the same spheres form part of different wheels.) Each one of the six spheres of a wheel consists of a Cluster itself (twelve small spheres) that represents the 'eyes' that Ezekiel refers to.
3. **The four creatures**: The four purple spheres (those are the spheres in the horisontal plane in the middle of the cube) could represent the four creatures. Each creature would then have a wheel attached to the 'back' of it. In each case the bottom red and a blue sphere, touching a purple sphere, would then be part of that creature's wheel. The four spheres (blue and red) touching each purple sphere represent the four wings of each creature. (Note that the same spheres represent parts of wheels and wings. Also, the self-similarity of the Cluster means that the four (small) purple spheres inside each purple sphere represent the four faces of each creature.)
4. **The spirit of the creatures**: The virtual sphere in the centre of the Cluster could represent the Spirit of the creatures.
5. **The movement of the creatures**: Each creature moved straight ('ran back and forth', 'toward any one of four directions') only in one direction. This in consistent with movement in spacetime where everything that moves at light speed only moves 45° with respect to the x-, y-, z-coordinates.
6. **Four-in-one creature**: The four creatures are also referred to as one. (Ezekiel 10:20. *"This is the living creature that I saw under the God of Israel by the river of Chebar; and I knew that they were the cherubims."*) It embodies the 'sphere of spheres' idea which represents the self-similarity of the Cluster.
7. **The Wheel**: The wheel that Ezekiel refers to in chapter 10:13 ('O Wheel') represents the 'wheel of wheels' idea (self-similarity again). The Wheel also relates to the idea that the Cluster represents a 'rotating hypercylinder' as described in *The Science:The Pattern of All Things.*

The abstract nature of the Pattern Cluster requires that only broadly defined associations be drawn. It should, however, be remembered that the terms used by Ezekiel to describe the visions should be taken as the best earthly analogies of some highly stylised and abstract imagery.

Click here to view *The Glory of God* animation on-line
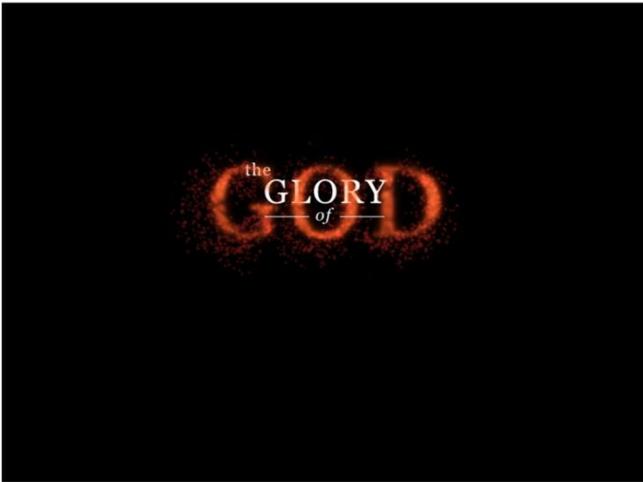
THE GLORY OF GOD   1
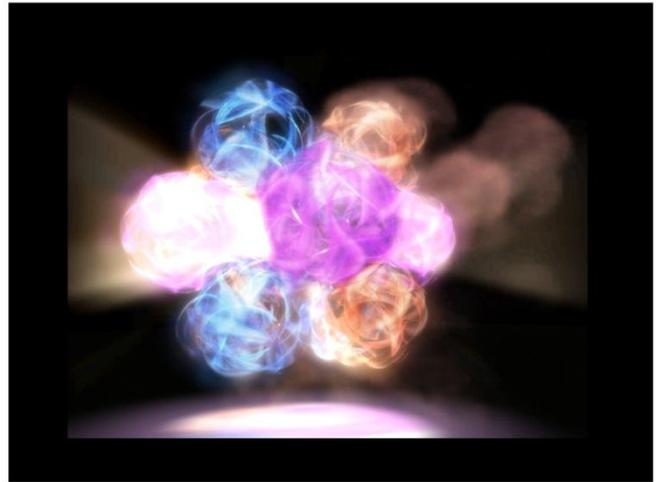
THE WIND   2

THE CLOUD   3
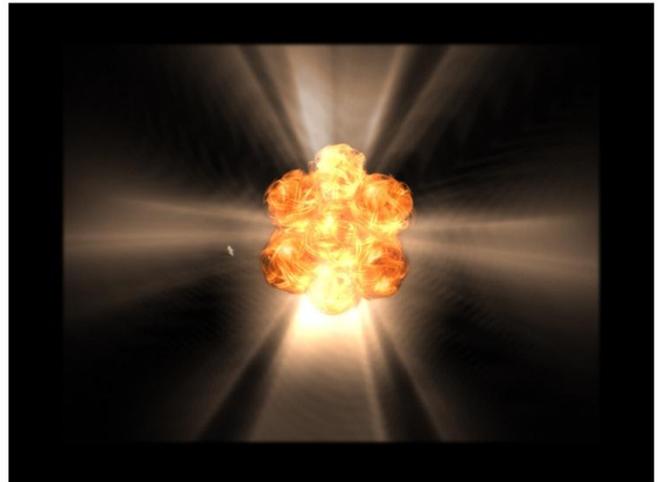
THE FIRE   4
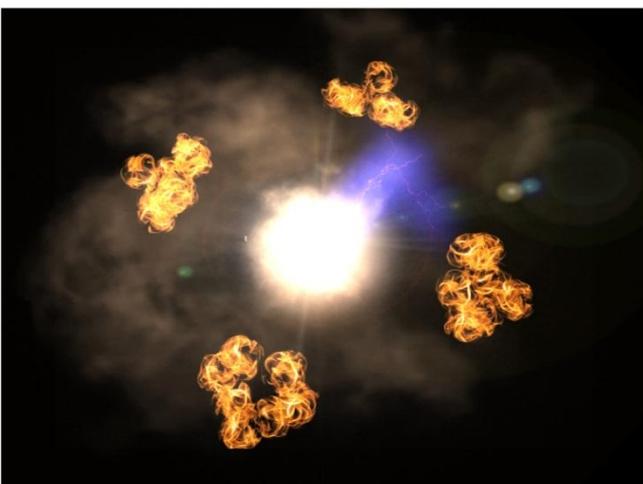
THE FOUR CREATURES   5

AND THEIR WHEELS   6
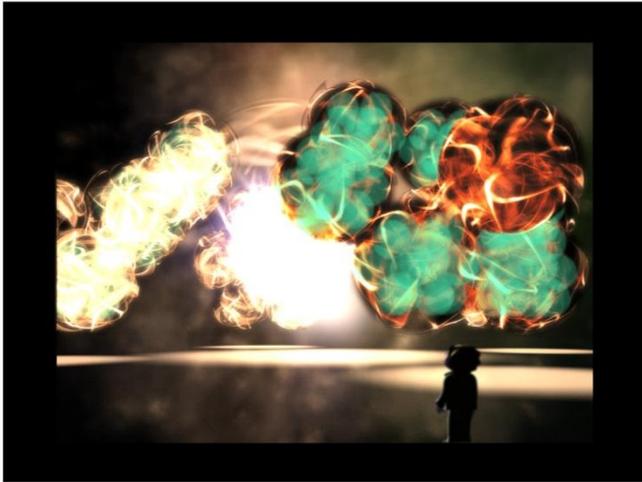
THE WHEELS FULL OF EYES   7
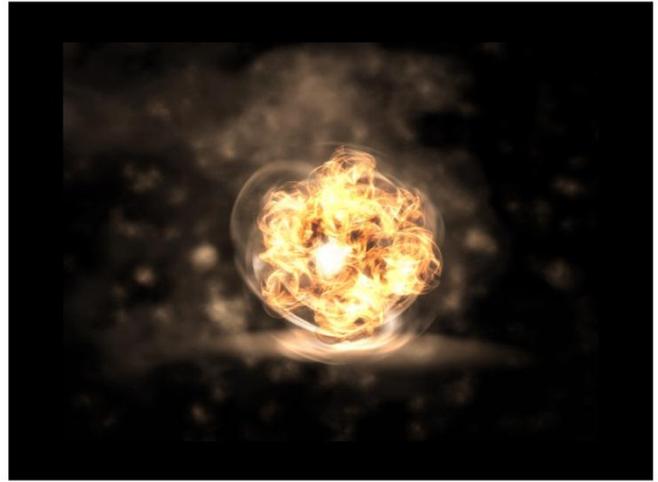
THE WHIRLING WHEEL OF WHEELS   8
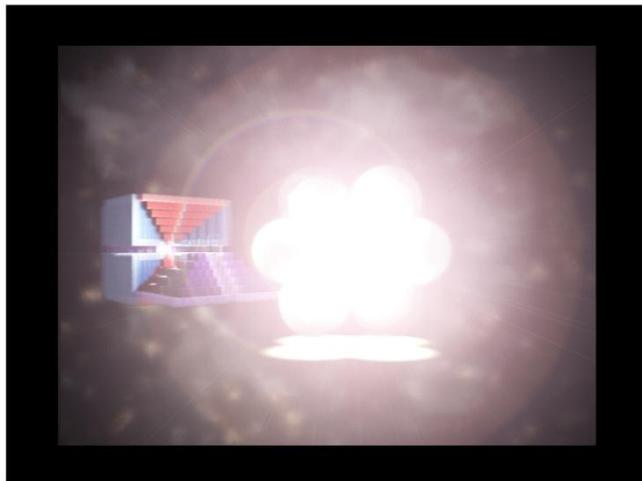
THE LIGHT BEFORE THE CITY   9
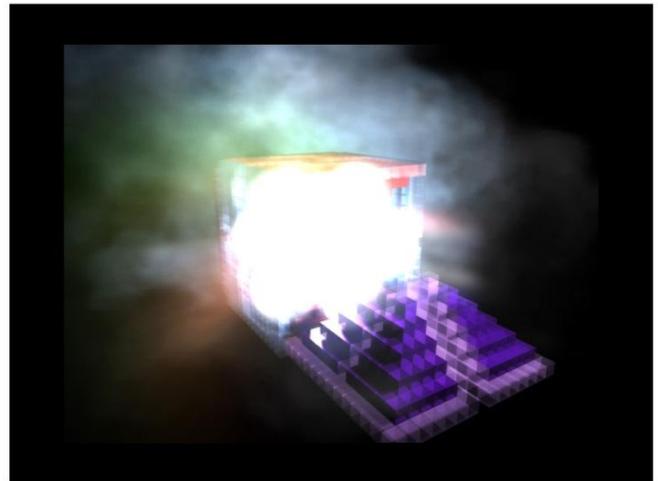
THE LIGHT ENTERS FROM THE EAST   10
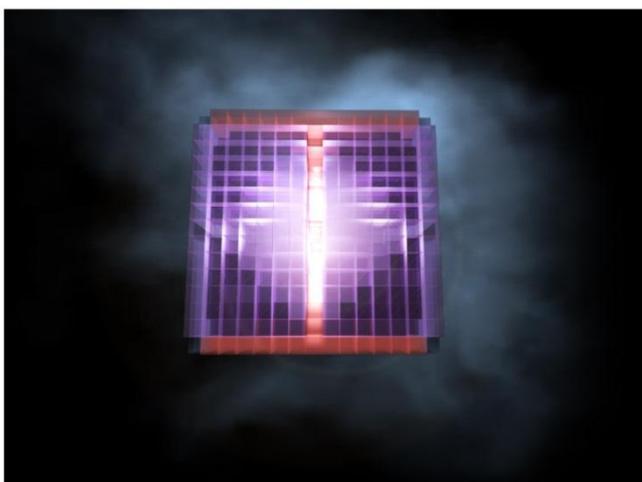
THE GLORY FILLS THE CITY   11

for the glory of God did lighten the city

Revelation 21:23
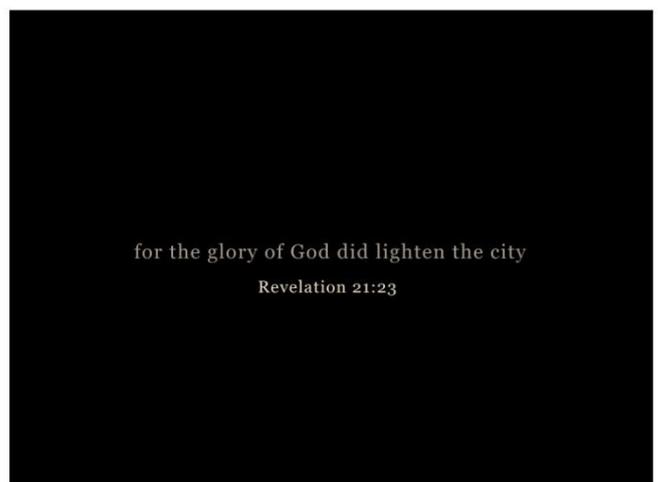
AND THE LAMB IS THE LIGHT THEREOF   12

The Pattern of the Ark

The Ark of the Covenant was the centrepiece of the Tabernacle of Moses. Like all the furniture in the Tabernacle it was made according to the pattern that God showed to Moses. Exodus 25:9: *'According to all that I shew thee, after the pattern of the tabernacle, and all the instruments thereof, even so shall ye make it'* (see PP1:23 *Biblical References to a Pattern*).

The centres of the spheres of the Pattern Cluster suggest geometrically significant points for the construction of the Ark of the Covenant. Unlike the four cherubim (represented by the four purple spheres) of the Glory of the Lord that Ezekiel saw (see PP1:26 *The Glory of God*), the Ark had only two cherubim. The two wheels (of the chariot) of these two cherubim would then intersect where the remaining two purple spheres were. The Core of the Cluster could be the position from where God communicated: *'And there I will meet with thee, and I will commune with thee from above the mercy seat, from between the two cherubim which are upon the ark of the testimony'* (Exodus 25:22).

View of the Ark from the side   **View of the Ark from the end**

Wings (arms) of the cherub

Cherub

Direction in which the eyes are looking
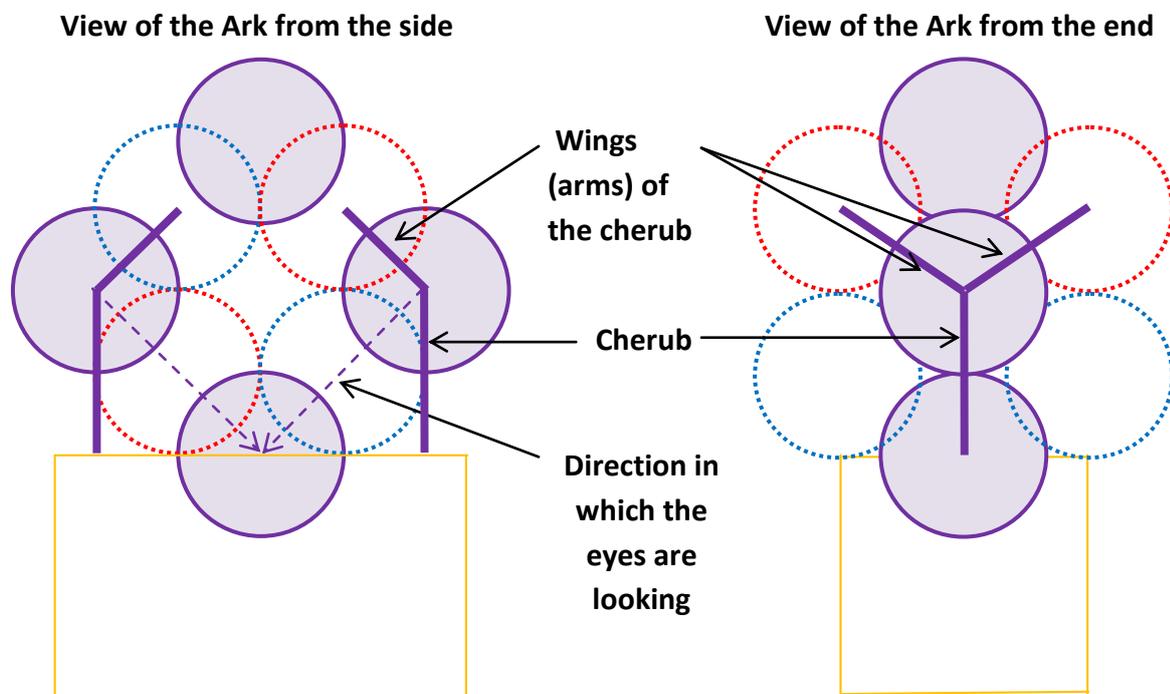
The Ark's dimensions as given in Exodus 25:10 (2½ by 1½ by 1½ cubit) flow from the Cluster configuration in a simple, unforced manner if the diameter of a sphere is taken as one cubit.

The description of the cherubim by Ezekiel is the most detailed geometric description of the Glory of the Lord and gives some clues that could relate to the shape of the cherubim of the Ark, e.g. the position of a cherubim head in the centre of a purple sphere and the pointing of (the flesh and bone part of) a wing to the centre of an adjacent blue or red sphere.

The Pattern Cluster seems to match the geometric descriptions of the Glory of God in the Bible in a remarkable way.

The House of God

God's House is an earthly manifestation of God's Body (John 2:21). In the Sinai desert His House was the Tabernacle, in Israel it was the Temple and in the end it is (will be) the New Jerusalem. While the 'Glory of God' represents 'God in motion', the 'House of God' represents 'God in situ'. As indicated in PP1:26, *The Glory of God*, the Pattern Cluster could be seen to model God's Glory. (The House of God represents God's Body that houses God's Glory; 'the glory of the Lord filled the temple', Ezekiel 43:5.)

In *The Science: The Pattern of All Things* it is shown that the Pattern Cube could be viewed as a model of God's house. The City Match Map shows an overlay of the floor plans of the Tabernacle of Moses, the Temple of Ezekiel and the Holy City as described by John in Revelation.
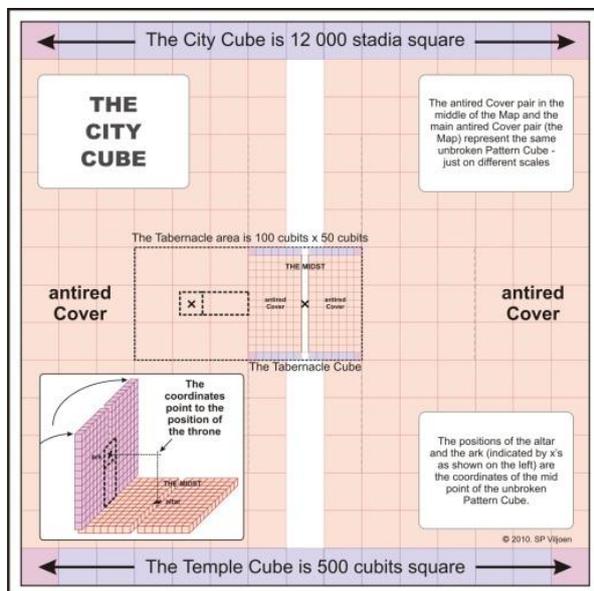
The City Match Map
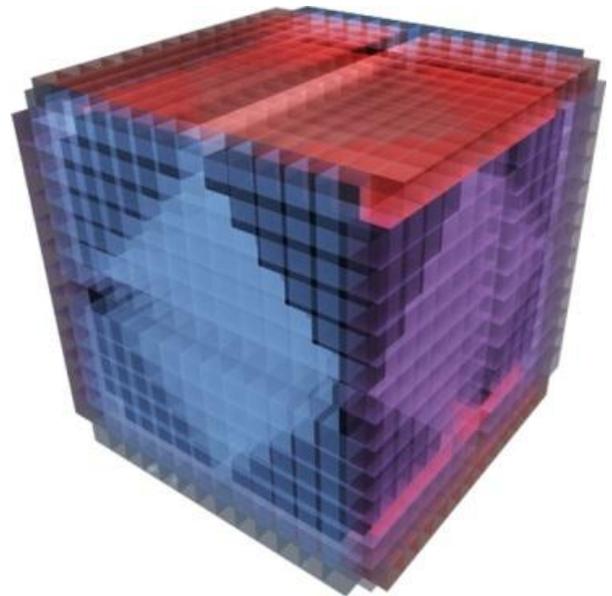
The Pattern Cube

The City Match Map also shows a cross section of the Pattern Cube which matches the overlaid plans of the three biblical structures. The conclusion is that the Pattern Cube represents the Pattern of the 'House of God'. In *The Science: The Pattern of All Things* certain properties of the City, as described in Revelation 21 and 22, are compared with the corresponding parts of the Pattern Cube. *The Sequel: Peter in the Pattern City* further illustrates the similarities between the New City and the Pattern Cube.

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 stylised and abstract imagery.

Zechariah's Pattern

Much of what is described by the prophet Zechariah matches the Pattern Cube structure, but the following match in Chapter 14 is particularly important due to its explanation of some critical events.

Verse 4: *And his feet shall stand in that day upon the mount of Olives, which is before Jerusalem on the east, and the mount of Olives shall cleave in the midst thereof toward the east and toward the west, and there shall be a great valley; and half of the mountain shall remove toward the north and half of it toward the south.*

The Pattern Cube: The description of the split Mount of Olives compares directly with the (right-hand) purple cleft step pyramid of the broken Pattern Cube.

**The broken
Pattern Cube**
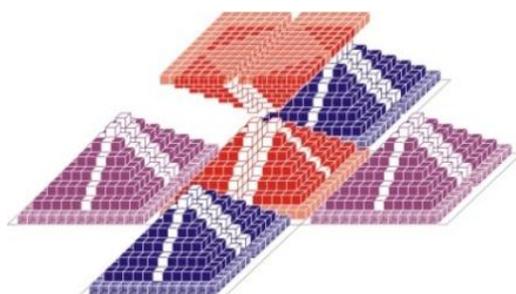
**The unbroken
Pattern Cube**
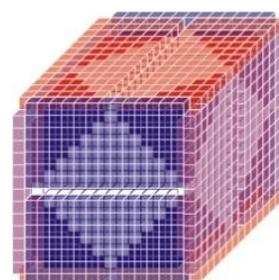
Verse 8: *And it shall be in that day that living waters shall go out from Jerusalem; half of them toward the former sea and half of them toward the hinder sea: in summer and in winter shall it be.*

The Pattern Cube: The two rivers, one towards the east and one towards the west, compare directly with the clefts of purple step pyramids on the left and the right.

Verse 10: *All the land shall be turned as a plain from Geba to Rimmon south of Jerusalem: and it shall be lifted up, and inhabited in her place, from Benjamin's gate unto the place of the first gate, unto the corner gate, and from the tower of Hananeel unto the king's winepresses.*

If other possible meanings for the Hebrew words in this verse are taken into consideration, the phrase: *'All the land shall be turned as a plain (arabah)'* could be rephrased as: *'All the land shall be like a valley between mountains (arabah actually refers to a rift valley) that turn (rotate on a hinge)'*. Also the next phrase: *'and it shall be lifted up and inhabited in her place'*, could be rephrased as: *'and it (the mountains) shall be lifted up and set in her place'*.

The Pattern Cube: These two phrases compare directly with the closing up of the purple (and blue) step pyramids to convert the broken Pattern Cube into an unbroken Pattern Cube.

The place of Jesus' feet on top of the Mount of Olives (as represented by the right-hand purple pyramid) will be at the centre of the Pattern Cube when the sides of the Pattern Cube close. This idea, that the land be lifted, is similar to the idea that the West part of the Tabernacle (see The Science part of *The Pattern* book) be lifted to form two coordinates that crosses in the centre of the Tabernacle cube. The Tabernacle closes from the left and the Mount of Olives closes from the right; both point to the position of the throne in the centre of the City. (The Pattern Cube represents the New City of Revelation. See PP1:28 *The House of God*.)

The conclusion is therefore that Zechariah's vision as described in these verses could resemble the broken Pattern Cube just before the formation of the unbroken Pattern Cube.

Jacob's 'Ladder'

In Genesis 28 the story of Jacob's dream is told.

Verse 11: *"And he lighted upon a certain place and tarried there all night, because the sun was set; and he took of the stones of that place and put them for his pillows and lay down in that place to sleep."*

Verse 12: *"And he dreamed and behold a ladder set up on the earth and the top of it reached to heaven and behold the angels of God ascending and descending on it."*

Verse 13: *"And behold the Lord stood above it and said, I am the Lord God of Abraham thy father and the God of Isaac; the land whereon thou liest to thee will I give it and to thy seed."*

Verse 16: *"And Jacob awaked out of his sleep and he said: Surely the Lord is in this place and I knew it not."*

Verse 17: *"And he was afraid and said: How dreadful is this place! This is none other than the house of God and this is the gate of heaven."*

Verse 18: *"And Jacob rose up early in the morning and took the stone that he had put for his pillows and set it up for the pillar and pour oil on top of it."*

Verse 19: *"And he called the name of that place Bethel, but the name of that city was called Luz at the first."*

Verse 22: *"And this stone, which I have set for a pillar shall be God's house."*

The House of God
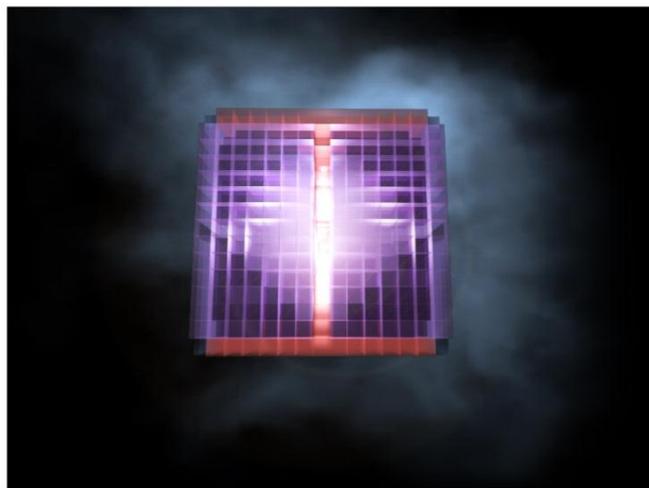
The Hebrew word for ladder is 'sullam', which also means staircase. This staircase from earth to heaven with God standing at the top could resemble the purple cleft of the Pattern Cube with its six steps leading up to the Core of the Cube. (There would be seven steps if the red Cover underneath the steps, which is the threshold, is included.)

The scene that Jacob describes is very similar to the scene in *The Story: Peter in the Pattern City*, where Peter arrives at the entrance of the Cube and where Wisdom waits for him.

The resemblance between the '*house of God*' and '*the gate of heaven*' that Jacob saw and the gate of the Pattern City and the six steps leading up to the throne that Peter saw, is quite remarkable.

Another intriguing thing that Jacob said (verse 22) is that "*this stone, which I have set for a pillar shall be God's house.*" How a stone in the shape of a pillar could be God's house is not clear. The fact that the pre-transformation shape of the Pattern Cube is a pair of pillars (referred to as a column pair in *The Science: The Pattern of All Things*) is perhaps relevant in this regard.

Lucifer's Pattern

The description in Ezekiel 28:11 to 19 is generally accepted to refer to Lucifer, 'light bearer', the cherub who was very important in God's very first creation. It tells of the 'perfect' covering cherub that had been cast out of the mountain and who will subsequently be destroyed by fire to ashes upon the earth because of his rebellion.

Verse 13: *Thou sealest up the sum, full of wisdom, and perfect in beauty.*
'sum' is in Hebrew 'tokniyth,' pattern, the same word as in Chapter 43 verse 10 where it refers to the pattern of the house of God that is to be measured.
Verse 13: *Thou hast been in Eden the garden of God …*
Verse 14: *… thou wast upon the holy mountain of God …*
The garden and the mountain are mentioned here as being one and the same place. ('Thou' refers to Lucifer in Heaven as it cannot refer to the king of Tyre.)
Verse 13: *… every precious stone was thy covering.*
Verse 14: *… thou hast walked up and down in the midst of the stones of fire.*
Precious stones and stones of fire are both mentioned and could refer to the same things.
Verse 13: *… the sardius, topaz, and the diamond …* (Only nine different stones are mentioned.)
Verse 14: *Thou art the anointed cherub that covereth …*
The covering (precious) stones and the covering cherub may also refer to the same aspect of the Pattern Cube, i.e. the twelve covers. (Only nine stones are listed here but it should perhaps be twelve stones to correspond to the twelve precious stones of the New City – See Revelation 21.)
Verse 16: *… therefore I will cast thee as profane out of the mountain of God and I will destroy thee.*
Verse 18: *… therefore will I bring forth a fire from the midst of thee, it shall devour thee, and I will bring thee to ashes upon the earth …*

Twelve Covers   **The Pattern Cube**
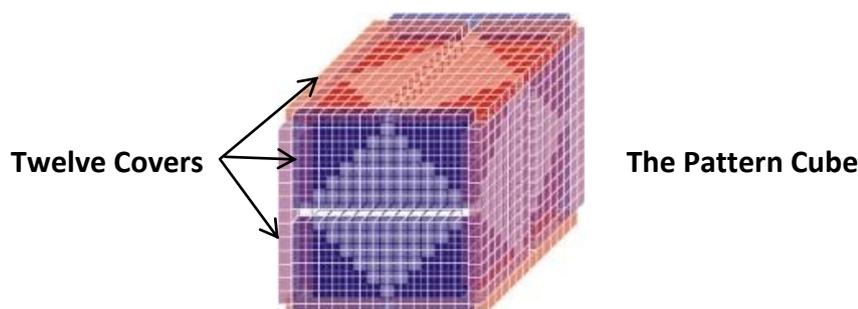
These quotes from the Bible point to a structure that resembles the Pattern Cluster.
-   The *mountain of God* could refer to the red cleft step pyramid of the broken Pattern Cube.
-   The *garden of God* could refer to the area enclosed by the covers of the Pattern Cube.
-   The nine *precious stones* could refer to the (twelve) covers of the Pattern Cube.
-   The *cherub that covers* could refer to the cover of the Pattern Cube.
-   The *stones of fire* could refer to the small cubes inside the Pattern Cube.
-   The Pattern could be 'the sum of it all' as indicated by the two different words used in the Bible for the same Hebrew word (tokniyth).

The Gold Cross

The Gold Cross is a two-dimensional representation of the eight codon chains of the Pattern Cube. The codon chains form two intersecting 'X's and looks the same when viewed from any face of the Cube.

The codon chains could be seen as the collection of all the virtual 'corner stones' of the seven concentric cubes that the Pattern Cube consists of. This collection of stones could be called 'the stone – the head of the corner' which refers to Jesus as in Mark 12:10 and many other places in the Bible.

In another context the codon chains, if they are from gold, could represent the settings (like those of a diamond ring) of the six cleft pyramids that make up the Pattern Cube. The six cleft pyramids would then be like precious stones held in place by the gold chains that look like two intersecting 'X's.

There are, however, other references in the Bible that could refer to the two-dimensional Gold Cross.

Ezekiel 9 verse 4: *"And the LORD said unto him, Go through the midst of the city, through the midst of Jerusalem, and set a mark upon the foreheads of the men that sigh and that cry for all the abominations that be done in the midst thereof."*
This text in the book of Ezekiel describes the scene where some people are marked by the angel with a writer's inkhorn. The mark that is referred to is the *taw* which is the final letter of the Hebrew alphabet. The letter was originally (Phoenician) written as an 'X', the form of a cross.

Revelation 7 verses 2 and 3: *"And I saw another angel ascending from the east, having the seal of the living God; and he cried with a loud voice to the four angels, to whom it was given to hurt the earth and the sea. Saying, Hurt not the earth, neither the sea, nor the trees, till we have sealed the servants of our God in their foreheads."*
This text in Revelation deals with a similar situation as was described in Ezekiel. The mark is identified as the seal of God, and the name of God (Revelation 14:1). The number of people from Israel to be sealed is 144,000.

Exodus 29 verses 36 to 38: "*And thou shalt make a plate of pure gold, and grave upon it, like the engravings of a signet, HOLINESS TO THE LORD. And thou shalt put it on a blue lace that it may be upon the mitre; upon the forefront of the mitre it shall be. And it shall be upon Aaron's forehead …"*
The engraving on the plate which was on Aaron's forehead, HOLINESS TO THE LORD, reminds of the mark which is referred to in the above two passages. The Hebrew word used for 'holiness' is 'godesh', which is translated 'holy' most of the times in the Old Testament.

From the references quoted above it could be concluded that the seal of God takes the form of an X.

The Pattern of the Word

John 1:1 reads: *In the beginning was the Word, and the Word was with God and the Word was God.*

John 1:3 reads: *All things were made by him; and without him was not any thing made that was made.*

The Greek word for 'Word' is *logos* and means 'a word, speech that embodies a conception or idea, speech uttered by a living voice'.

Simply stated these verses mean that God made all things by the Word (Jesus who is also the Son of God).

Hebrews 11:3 reads: *Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear.*

The Greek word for 'worlds' is *aion* and means 'ages, worlds, cosmos'.
The Greek word for 'framed' is *katartizo* and means 'to put in order, to join together, to complete'.
The Greek word for 'word' is *rhema* and means 'that which has been uttered by the living voice'.

Simply stated the verse agrees that the cosmos had been put together by the Word of God and that the visible things were made from invisible things.

A word is the product of processes that typically consist of thinking and speaking. Thinking in this context deals with combining symbols and syntax to give form to a thought while speaking involves shaping and sounding the word in audible form.

The process of **thinking** (formulation) could be compared with the Pattern as follows:

- The **symbols** (phonemes, lemmas) to be used for the word could be compared to the Pattern Cluster (the (combined) set of symbols)
- The **syntax** (order, structure) of the symbols could be compared to the Pattern Code (the sequence of the symbols)

The process of **speaking** (articulation) could be compared with the Pattern as follows:

- The **shaping** (by bodily organs) could be compared to the Pattern Cube (the flesh that fashions the sound)
- The **sounding** of the word (by moving air) could be compared to the Pattern Sphere (the moving air stream that vibrates)

Writing is a further process that makes an invisible (spoken) word visible in some manner. This process could be compared to the use of models to represent abstract concepts. The Cluster (incl. the Code), the Cube and the Sphere could be seen as models that represent the (abstract) processes.

In *The Science: The Pattern of All Things* it is shown that a single pattern underlies all of creation. The Bible shows that the Word created all things (see the text references above). Therefore the Pattern could have been used by the Word in the creation process, like a potter that uses a mould to form clay vessels.

The Sum of It All

The invisible and the visible aspects of the Pattern and its models could be compared in General Terms, Biblical Terms and Scientific Terms as shown in the Sum of It All Table below. The visible aspects are divided into 'Duality – combined' (a kind of superposition) and 'Duality – separated' to distinguish between the states of created elements before and after sin, which is comparable to the idea of symmetry breaking in scientific terms.

	General Terms	Biblical Terms	Scientific Terms	
Invisible	The Pattern (The Wisdom)	The Word (The Life)	The Sum ($a + b = c$) *Hypercylinder*	Pre-duality (c: *Cluster*) ($a + b$: *Sphere + Cube*)
Visible	Pattern Prints Life-Light (word-sum)	The Works Heaven-Earth (Glory-House) (man-woman)	Sphere-Cube *Cluster* (time-space, wave-particle)	Duality – *combined* (good, noncursed) (entangled, nonlocal)
Humanly visible	Marred Prints Life & Light (word & sum)	Broken Works Heaven & Earth (Glory & House) (man & woman)	Sphere & Cube *Sphere & Cube* (time & space, wave & particle)	< Symmetry breaking Duality – *separated* (nongood (evil), cursed) (nonentangled, local)
	Imprinting The Prints of The Pattern	**Creating** The Works of The Word	**Modeling** The *Models* of The Science	The Pattern Diagonal

Note that the two elements of a duality typically consist of two opposites.   © 2012. SP Viljoen

Spacetime could be used as an example to interpret the contents of the SOIA Table. The Cube that is referred to in the 'Duality – separated' row (Scientific Terms, bottom row) is the Pattern Cube. It is shown in *The Science: The Pattern of All Things* that the Cube is one model that represents spacetime (referred to as time-space in the Table). However, the Sphere also represents spcetime separately from the Cube (as indicated by the '&' symbol linking them) and the two separate models therefore belongs in the bottom row. The Cluster is a combined Sphere-Cube model that represents the constant **c** of the Pattern equation (**a** + **b** = **c**) and belongs therefore in the 'Duality – combined' row.

The Pattern Diagonal (indicated by the arrow) shows the way in which blocks in different rows in the three columns of the Table could be used to illustrate aspects of the Pattern. The Pattern concept (as a mould for creation) lies in the 'Pre-duality' row in the General Terms column. The perfect (unbroken) Creation, 'The Works' in the centre block of the Table, was created by the Word using the Pattern as a mould. The (separate) Sphere and Cube in the bottom row of the Scientific Terms column models (in a scientific manner) the broken version of Creation. The unbroken Creation (the centre block of the Table) is indicated as 'Heaven-Earth', but also as 'Glory-House' and 'man-woman'. 'Glory-House' refers to the Glory of the Lord as explained in PP1:26 *The Glory of God* and to the house of God as explained in PP1:28 *The House of God*. 'Man-woman' refers to Adam and Eve in Eden but also to the Bridegroom and Bride of the New City as described in Revelation 21. The centre block of the Table therefore represents the perfect summation or 'sum of it all'.

These two examples illustrate that the SOIA Table could be a useful tool to relate different aspects of the Pattern in different contexts.

The Absolute Pattern

The Pattern is not derived from anything and it is not a representation of anything. It is the true invariant. It is the constant. It is the pre-duality, the pre-creation.

The Pattern is the Absolute.

True description of the Pattern defies the use of any words or pictures but because they are all we have, the following words could perhaps give some idea what the Pattern is: Love, Perfection, Beauty, Truth, Wisdom, Sum, Peace and Power.

Everything and all things are derived from the Pattern and are made according to the Pattern.

The Pattern is invisible, but models could be used to represent it. The models that are used in the Science part of *The Pattern* book are: the Pattern Cluster, the Pattern Cube and the Pattern Sphere. These models are independent of any coordinates, reference frames or anything that presupposes any kind of framework. They are self-sustained and are based only on configurations that represent the invisible Pattern as a kind of code, or equation.

The Pattern equation is a mathematical manifestation of the Pattern but it 'operates' on the level of pre-duality. It is derived from the Pattern Cluster. The Pattern Cube and the Pattern Sphere are both manifestations of the Pattern equation.

Characteristics of the Pattern are recognisable in the spiritual creation as well as the physical creation. Four representative matches of the Pattern are described in the Science part of *The Pattern* book. These are: the Atom match, the Body match, the Cosmos match and the City match. Two additional matches, the Glory match and the Word match are described in the Pattern Pieces (see PP1:26 *The Glory of God* and PP1:33 *The Pattern of the Word*). These matches link the abstract Pattern to physical and spiritual phenomena on all levels in all areas.

The Pattern represents a radical new way of looking at things. The classical method of science to study things could be compared to looking at the shadows cast by a body in an attempt to understand the body. Or it could be compared to studying a moving light spot on the floor that is being made by a torch. The impossibility to know the torch intimately from studying the shape, intensity and dynamics of the moving light spot is self-evident. To get to know the torch it is necessary to look up and to study the torch itself. But as humans we are restricted by dimensions, we cannot see above the floor. We therefore need someone who can see above the floor to give us detail about the torch. This is what the Bible does. And the Bible tells us about the Pattern in many ways (see PP1:24 *Theophanies in the Bible* and PP1: 25 *The Pattern Language of the Bible*). It shows us the Tabernacle, the Temple and the New City. It tells us that man and woman are patterned after God (Genesis 1:26 *'And God said, Let us make man in our image'*). It also tells us about Jesus, the Word, patterned after God and himself the Pattern for all people. The pattern idea is a general theme in the Bible (see PP1:23 *Biblical References to a 'Pattern'*); it deals with patterns of things and patterns of behaviour - because life is all about pattern.

The Pattern Play

The Pattern Play aims to introduce the Pattern elements in a playful way. The board with its four quadrants represents reality (heaven and earth as described by the Bible and by science respectively), while the Pattern is represented by the Cluster and the Cube. (The use of the Cluster in the Play, rather than the more correct Pattern Sphere, is due to the simplicity achieved and the fact that the external form of the Sphere is no different from that of the Cluster.)

Blue
Show the City   Spin the Wheel   Yellow

Heaven   **The City**   **The Glory**   (Biblical information)

3 4
2 1

Earth   **The Cube**   **The Cluster**   (Scientific information)

Red   Break the Box   Crack the Code   Purple
Body   Spirit
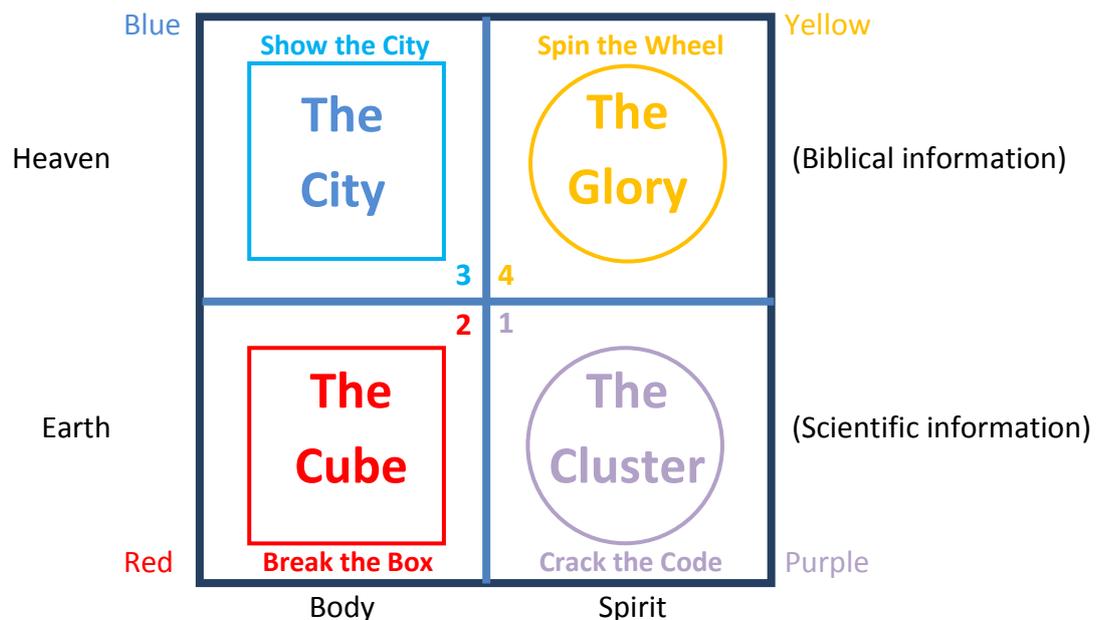
In the Cluster quadrant the Cluster model is analysed to discover its different configurations. The set of four configurations forms the basis of the Pattern Code.

In the Cube quadrant the cube-shaped box is cut open along its four vertical edges. The four sides are then flattened to show the broken state of the box and to reveal the footprints of the two blue and two purple cleft step pyramids that the four sides represent.

In the City quadrant the four sides of the box are closed up to show the unbroken state of the Cube.

In the Glory quadrant of the Cluster it is shown that the Cluster could represent a wheel. This is done by spinning the Cluster like a wheel by inserting the two index fingers of the two hands between two opposing sets of three balls. The thumbs are then used to rotate the Cluster like a wheel.

The Cluster is finally moved inside the box. This is done by opening up the right-hand (purple) side and moving the Cluster sideways inside the box. It fits squarely. The significance of this move is described by Ezekiel 43:9: *'And the Glory of the Lord filled the house (the temple)'*.

The main purpose of the Play is to illustrate Revelation 21:23: *'the Glory of God did lighten it (the city)'*. However, it illustrates beautifully the way in which a separated duality (a state represented by the separate Sphere (Cluster) and the Cube) is changed into combined duality (a state of oneness) (see PP1:34 *The Sum of It All*).

The Pattern Production

The Pattern production is a staged version of the Pattern Play (see PP1:36 *The Pattern Play*). The Pattern Play provides the background for the production. Key aspects of *The Pattern* are highlighted in the production.

The production happens in four stages that mimics the sequenced quadrants of the Play board.

The stage represents the four coloured board quadrants of the Play one after the other in time.

- The Cluster quadrant is purple and the aim there is to 'Crack the Code'.
- The Cube quadrant is red and the aim there is to 'Break the Box'.
- The City quadrant is blue and the aim there is to 'Show the City'.
- The Glory quadrant is yellow and the aim there is to 'Spin the Wheel'.

Peter is the main actor on stage but a commentator voice keeps the audience informed.

Stage one (the Cluster quadrant) shows a huge Cluster made from coloured balls. It is used by Peter to derive the Pattern Code which is displayed on the big screen. (It is also possible to start by constructing the Cluster from the balls, right there on the stage.)

Stage two (the Cube quadrant) represents the Patternland and Peter traverses the land according to *The Story: Peter in the Patternland*. (Frames that represent cubes are used to represent the Patternland.) The Atom match map, the Body match map and the Cosmos match map is displayed on the big screen at the appropriate times. Lastly, the animation 'The Pattern Panorama' is shown on the big screen.

Stage three (the City quadrant) represents the Pattern City and Peter traverses the City according to *The Sequel: Peter in the Pattern City*. (Frames are, once again, used to represent the Pattern City.) The City match map is displayed on the big screen at the appropriate time.

Stage four (the Glory quadrant) shows the huge Cluster again, while it is being rotated like a wheel. The animation 'The Glory of God' is shown on the big screen as the climax of the show.

The purpose of the Pattern production is to illustrate the progression from separated duality (the current, broken state) to combined duality (the future, ideal state).

The Pattern production aims to combine the most visually attractive aspects of *The Pattern* in a coherent way. It informs the audience of the key elements of the Pattern while avoiding the more theoretical aspects. It aims to convey the message of the Pattern in a concise and contemporary manner.
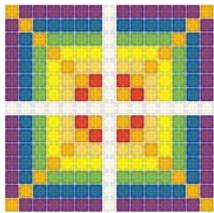
The Pattern Partnership

To partner the Church to show the City

(The Partnership is still to be developed)
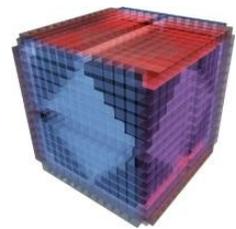
The purpose of the Pattern Partnership is the following:

- To show the New City: we use the Pattern Cube which is a pattern, or model, of the City.
- To partner the Church; we use the Partnership website, daily emails, weekly meetings and annual conferences.
- To represent the Pattern Partnership; we use the sign of the City, which is the cubical rainbow.

The Pattern Partnership's method is to work with churches all over the world to show the beauty of the Bride. It does so by showing the Pattern Cube, which is a model of the New City, as described in Revelation, Chapters 21 and 22 (see also PP1:7 *The Spacetime Cube*).

The Pattern of the City is recognisable in the Tabernacle and the Temple as described in the Bible (see PP1:28 *The House of God*). But the same Pattern is also recognisable all over the natural creation.

The Pattern is beautifully illustrated by the 'bow of God'. The spherical rainbow is God's sign of His covenant with all 'flesh' (Genesis 9:12-17). But the rainbow is also described in the Bible as an indication of the presence of Jesus Christ on the throne in the New City (Revelation 4:3). The cubical rainbow that is derived from the Pattern is used as a symbol to represent the New City (see PP1:16 *The Cubical Rainbow*).

Individual believers as well as churches can become Pattern partners. They can register at the Pattern Partnership website.

Pattern partners can download resources that are available for registered Pattern partners.

Pattern partners receive daily emails and meet once a week with other local Pattern partners to learn how to share and show the Pattern to other people. They could also participate in the annual national Pattern Partnership conferences to exchange information and to experience broader Pattern partnerships.

The website also contains various Pattern projects in which partners can participate.

Partners are invited to submit their own Pattern Pieces, i.e. one-page descriptions of any instance of the Pattern. Approved Pattern Pieces will be added to *The Pattern Pieces* to make it a true 'Pattern book'.

Join *The Pattern* people!

Patternology

The Pattern is a prime example of a pattern and is described here in an intuitive way. But patterns could be studied in a more formal manner. This idea has led to the concept of 'patternology', i.e. the science of pattern.

Patternology could include the following:

- The definition of pattern.
- The identification of pattern.
- The classification of pattern.
- The exploitation of pattern.

Related concepts are (see also PP1:3 *Pattern*):

- Patterning (verb): To form instances of pattern, the arrangement of objects, images or any other things in a regular fashion.
- Patterned (verb): To form instances of pattern. Also the past tense of 'pattern'.
- Patternate (new verb): To generate new patterns from an existing pattern.
- Patternism: The theory of pattern.
- Antipattern: Randomness, chaos, disorder.

Quotes from page 257 of Douglas Hofstadter's book, *I Am a Strange Loop,* illustrate the importance of patterns*.*

'The cells inside a brain are not the bearers of its consciousness; the bearers of consciousness are *patterns.* The pattern of organization is what matters, not the substance.'

'But if the molecules making you up are *not* the "enjoyers" of your feelings, then what is? All that is left is *patterns.* And patterns could be copied from one media to another, or even between radically different media.'

Another way to phrase this observation is to say: only patterns persist.

The statement on page 117 of Hofstadter's book, 'Where there's pattern, there's reason', could be expanded into '*Where there's a supreme pattern, there's a supreme reason*'.

The Pattern is perhaps the best evidence for God …

The Story of the Pattern

The period from the initial discovery of the Pattern until its publication was fourteen years. In December 1997 SP Viljoen's youngest daughter, at home from university for the December holidays, saw a model that he had made from marbles. (Twelve marbles were glued to a thirteenth one in the centre to form a big sphere. It represented business processes that he had modeled.) She picked it up, studied it for a while, and put it back on the table. But she put it back 'wrongly'. Where it stood on three marbles before, it was then standing on four marbles. SP was just about to rectify the 'mistake' when he noticed that the Cluster, as he called it, could also fit inside a cube. He had built it to fit inside a sphere and now he realised that it could also fit inside a cube.

Somehow he sensed that it was special for the same object to fit inside both a sphere and a cube. But the idea linked with something that he became aware of a long time ago: almost all major objects in the universe are spherical but almost all objects, like buildings, that are described in the Bible were square or cubical. Perhaps the Cluster could be something to help him understand why.

After careful analysis of the Cluster he noticed the symmetries of the Cluster; he also found that he could slice it at different angles. When he drew the resulting configurations of the marbles, he noticed that the different configurations formed parallel sequences. The sequences became the Pattern code.

SP studied the configurations of the code for years to try and fit the resulting shapes in some kind of pattern. Eventually he succeeded in developing the Pattern Cube from the code. However, it was only when he realised that they could be generalised into a simple pair of equations that he started to make rapid progress. Another major breakthrough came when he could match the elements of the Periodic Table of the chemical elements with the small cubes (cells) of the Pattern Cube.

At first SP drew the configurations by hand in pencil on paper with grid lines. Later he started to use colour pens. It was only on the advice of his wife that he decided to pay a graphic designer to do the drawings on computer. The development of the Pattern ideas progressed quickly until SP decided that he needed models of the Pattern Cube. First he tried paper models, then he tried to build a model from dice, then with Lego blocks and, lastly, he tried to make Perspex models by laser cutting sheets of Perspex. None of these attempts satisfied him and he abandoned the idea of a mass produced Pattern Cube. He eventually settled for computer models and that proved to be the best solution for showing the intricacies of the Pattern. The animated sequence of the Pattern Panorama scene of the story, available on YouTube, became the best model for SP to show the Pattern's exquisite detail.

The four parts of the book came about after many failed attempts to condense the material in a coherent and simple way. The story, *Peter in the Patternland*, was an attempt to give older children some insight in the Pattern. The sequel, *Peter in the Pattern City,* came about after listening to sermons by John MacArthur about *The Capital City of Heaven.* The book had been published for free on the Internet to make it accessible to as many people as possible.

The Pattern Pieces is the latest addition to the book, i.e. part four.