



laetus in praesens

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31 December 2017 | Draft

Reconciling Symbols of Islam, Judaism and Christianity

Catalytic methodology for effective interfaith dialogue

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Introduction

Importance of the highest degree is attached by their respective believers to the symbols of the monotheistic Abrahamic faiths. Their mutual hostility over millennia is focused by and through those symbols. They are displayed and brandished on ever possible occasion -- and are associated with both constructions and designs to protect their distinct integrities, in their efforts to sustain and extend their communities and their territory, and in the violence exerted by each against the other. The most radically fundamental of each religion may cultivate this violence against unbelievers interpreting their sacred scriptures to justify both this violence, inequality and even new forms of enslavement.

Much is made by some of the efforts of interfaith initiatives to remedy this historic pattern. Given the levels of violence sustained by these faiths it can only be concluded that these are purely token palliative measures, a case of "virtue signalling" and essentially ineffectual -- except perhaps for their participants as individuals ([Damon Young, *Virtue Signalling*, *New Philosopher*, 31 July 2017](#)). Primary examples include the [Parliament of the Worlds Religions](#) from which Catholicism tends to exclude itself -- preferring instead to promote a competitive focus through the successive [International Meetings of Prayer for Peace](#) in Assisi ([Learnings for the Future of Inter-Faith Dialogue](#), 1993). Less evident are initiatives inspired by Judaism and Islam. Each of the Abrahamic religions sees itself as the only viable nexus of truth and peace. There is little indication that the situation is improving.

The complementary approach explored here is to treat the central symbols of those faiths as elements of a puzzle embodying the essence of the sacred texts with which each is associated. The details of such symbols are typically the focus of meditation and commentary over centuries. Their lines, points and symmetry are carriers of significance and insight -- with which particular words, precepts and stories may be associated. Disparate symbols are therefore indicative of unreconciled insights -- although some "points" and "lines of argument" may be readily shared.

Metaphorically, as a kind of symbolic jigsaw puzzle, the two-dimensional symbols obviously do not "fit together" -- a condition highly indicative of the current condition. The question here is whether they can be "fitted together" in three dimensions, if not four or more, as previously suggested ([Cognitive Implications in 3D of Triadic Symbols Valued in 2D](#), 2017). Do the Abrahamic religions constitute a symbolic jigsaw puzzle as yet unrecognized as such -- especially since there is no recognized singular symbol of the monotheism by which they are together inspired? What is the "spiritual geometry" that they share? This could be explored in terms of the potential of mathematical theology ([Mathematical Theology: Future Science of Confidence in Belief](#), 2011).

The issue here is not **whether** disparate symbols fit together but rather **when** they fit together -- perhaps as a transitional phase in a dynamic cycle, possibly as emergent perspectives from a viewpoint to be discovered (even one in higher dimensional configurations). "Visions", can then be understood as fundamental perspectives with which some resonate to a far greater degree. These insights then tend to be reframed as intellectual or cultural property, to be institutionalized as "denominations" -- derivatives of the "nameless" in the

theological understanding of [apophysis](#) or unsaying. One approach to such configuration was previously explored in terms of the possibilities of spherical geometry (*Middle East Peace Potential through Dynamics in Spherical Geometry*, 2012).

Whilst the symbols can be understood in each case as serving metaphorically as a cognitive or spiritual "aerials" in two dimensions, there is the possibility of a more complex aerial in three or more dimensions which could serve as means of enabling resonance with insights of a more fundamental nature. In emphasizing resonance, the question is whether such a complex nexus would be more than an interesting device -- a cognitive gadget. In the emerging context of virtual reality, fundamental to organizing and sustaining a knowledge-based civilization, would the possibility of a dynamic symbol be even more capable of evoking the kind of resonance valued in the two-dimensional symbols? Would this enliven the symbolic dimension to a greater degree than their current display on fluttering flags?

Expressed otherwise, are the individual symbols effectively elements of a pattern in a [pattern language](#) which merits exploration in the spirit of [Christopher Alexander](#) (*A Pattern Language*, 1977) as the design of a place where one could "feel at home". This sense of "home" is the "quality without a name" which Alexander identified as the quality of "a place to be" (*The Timeless Way of Building*, 1979). It is in this sense that the configuration of symbols could serve as such -- in knowledge space.

Is each symbol better understood as a distinctive "window" onto a more fundamental order of higher dimensionality which it has as yet proved impossible to embody in a form which resonates with those preferring other windows? Rather than "window", is it a question of viewpoint and perspective calling for a more complex symbol which must necessarily be viewed from a variety of perspectives for its integrity to be implied and comprehended to some higher degree?

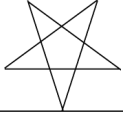

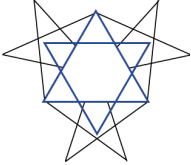
Could such a language enable forms of mapping of the contrasting arguments and occasional sympathies of the Abrahamic religions? In those terms it is curious to note the seeming total absence of any form of concept map of the positions in interfaith discourse -- one respectful of both dissonance and consonance. Is there a superordinate pattern as yet to be discovered (*Using Disagreements for Superordinate Frame Configuration*, 1992)? The approach explored here is effectively a form of mapping using symbols rather than the features of such mapping when undertaken through [mind mapping](#) and the like (University of Glasgow, *Philosophy of Religion Mind Mapping Project*; Ibrah Leman, *Road to Interfaith: "mind mapping" method*, 2016).

The approach here follows from a previous argument with regard to Jerusalem as a symbol -- perhaps the only one -- valued by all the Abrahamic religions (*Jerusalem as a Symbolic Singularity: comprehending the dynamics of hyperreality as a challenge to conventional two-state reality*, 2017). The intention is to demonstrate potentially fruitful possibilities which merit further exploration -- rather than seeking closure, necessarily premature. It is a "proof of concept" exercise to elicit further insight.

Interrelating religious symbols from a two-dimensional perspective

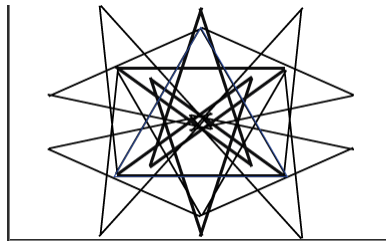
The basic approach is illustrated by the following, using the primary symbols of Islam and Judaism. Note that the six-pointed "Star of David" (also known as *Magen David*) is also recognized in Islam as the [Seal of Solomon](#) and is mentioned in the *Quran*. That hexagram appears in turn in Islamic artifacts and mosques worldwide (*Star of David in Judaism; Star of David in Islam; Star of David in Christianity*). Such a 6-pointed star is actually a common symbol in many different religious traditions. The pentagonal star is now widely associated with Islam by countries of that faith (especially on flags bearing the [star and crescent](#)), although the association does not derive from the origins of Islam. In the form of a [pentagram](#), it has associations with many belief systems, including Christianity.

Both symbols are the subject of much speculation and a wide variety of controversial interpretations (especially when inverted), as usefully summarized by [Catherine Beyer](#) (*The Hexagram's Use in Religion*, *ThoughtCo*, 12 October 2017; *Pentagrams*, *ThoughtCo*, 24 October 2017; *Complicated Polygons and Stars: enneagram, decagram, endekagram, and dodekagram*, *ThoughtCo*, 8 March 2017). The pentagonal star is of major global significance at this time through its use by the Pentagon -- as a "world religion" in its own right -- as it may be variously considered (*Reframing NATO and The Pentagon?* 2017).

Indication of combining symbols through their geometry		
	Fitting together symbols from left-hand column	
Pentagonal star and Star of David	Single star of David and pentagonal star	3 Pentagonal stars around one Star of David
		

The approach above suggests more complex possibilities which are not readily comprehensible or meaningful in two-dimensions -- unless colour coding is used.

Further complexification of the symbol



By adding a pentagonal star to each of the 6 edges of the Star of David, these may be understood as a network that can be "folded" into three dimensions along the shared edges in order to interlock with a second Star of David. This then constitutes a form of container composed of 6 pentagonal stars and 2 Stars of David.

Rather than use of the Star of David as the "base", the same approach may be used with the Islamic pentagonal star

Progressive arrangement around Islamic pentagonal star of the Star of David			
single Star of David	two Stars of David	four Stars of David	five Stars of David

In three dimensions the Stars of David are able to rotate along the particular edge they share with the pentagonal star as indicated in what follows. Alternatively, this rotation may be understood as enabling them to interlock with a second pentagonal star to create a form of container with 2 pentagonal star sides and 5 sides in the form of Stars of David.

Simple pattern interrelating Islamic pentagonal stars and Star of David from a 3D perspective

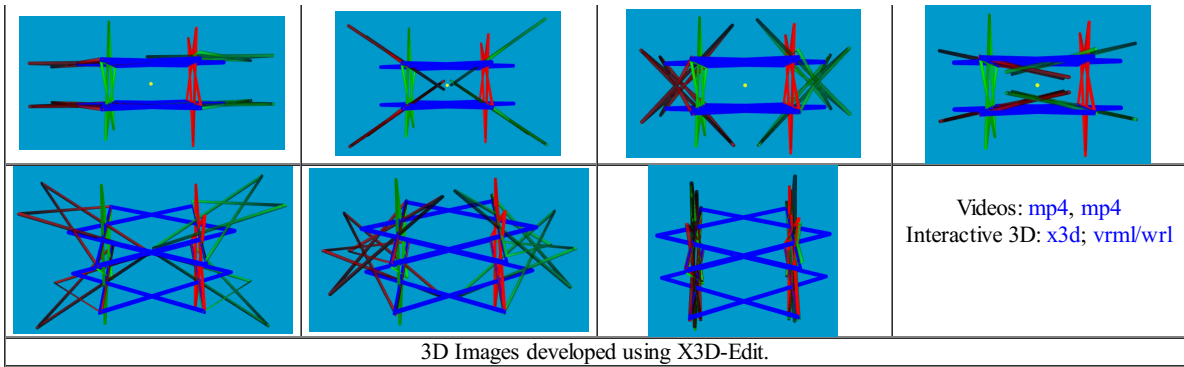
The following images are from a single dynamic model based on interlocking two Islamic pentagonal stars with two Stars of David from Judaism. This model provides a basis for using 2 facing Stars of David as a template for 12 Islamic pentagonal stars bridging between them, according to the approach indicated in the previous section, namely with the horizontal bar of the pentagon rendered identical with one side/edge of a Star of David. Each side/edge thus has one pentagon associated with it -- which, as a line or edge in three dimensions, provides an axis of rotation for the pentagon. This dynamic is only very partially indicated in the following set of images (with the thinner lines).

Screen shots along the coaxial dimension of 2 Stars of David (blue) with 2 Islamic pentagonal stars horizontal and providing the linkage between them (red and green, "into" the page in 3D)			

3D Images developed using X3D-Edit. Videos: [mp4](#), [mp4](#); Interactive 3D: [x3d](#); [vrm/wrl](#)

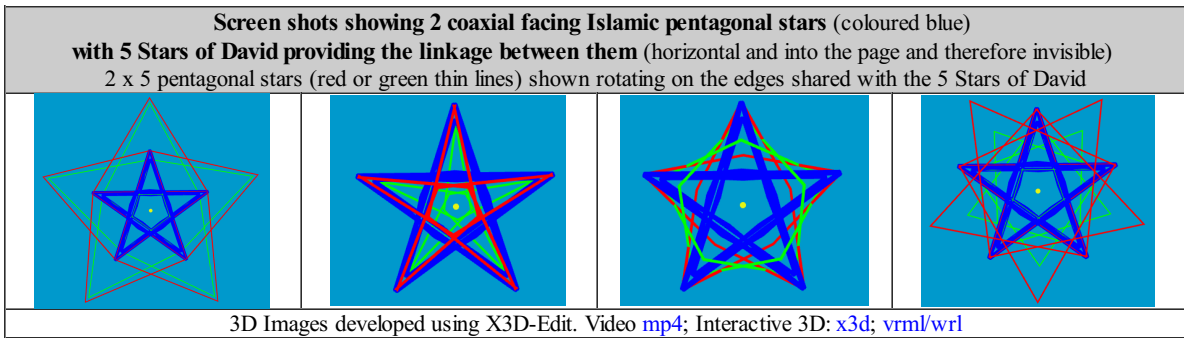
In the following set of images of the same model as the images above, some of the rotational movements of a limited number of pentagons are evident around edges of the Star of David (in blue). Note that these **dynamics** are distinct from the 2 basic Islamic star pentagons (red and green) which are **static** in relation to the 2 **static** Stars of David.

Screen shots showing 2 facing Islamic pentagonal stars (red and green) with 2 Stars of David shown horizontally and providing the linkage between them (blue, across the page)

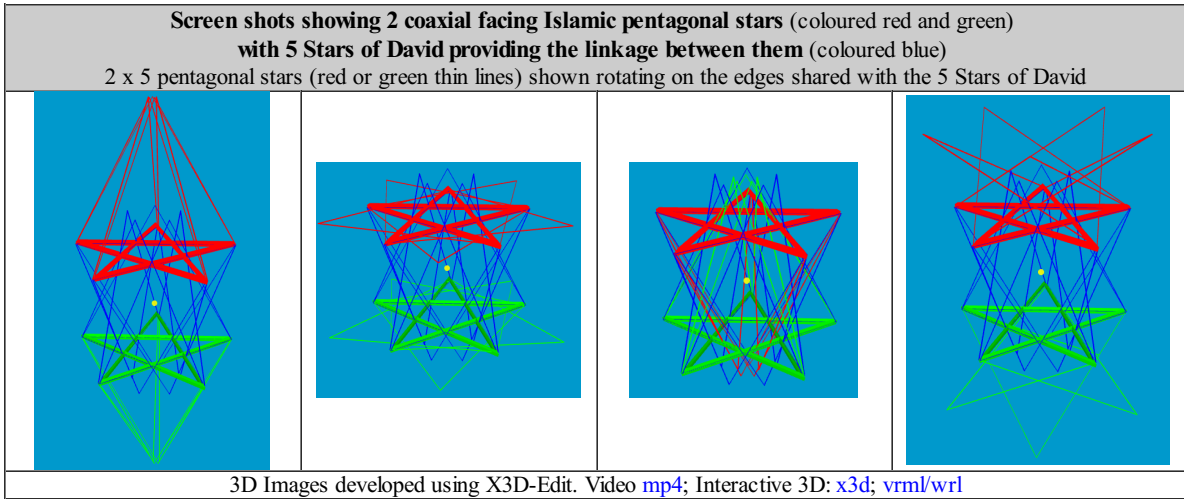


Alternative simple pattern interrelating Islamic pentagonal stars and Star of David from a 3D perspective

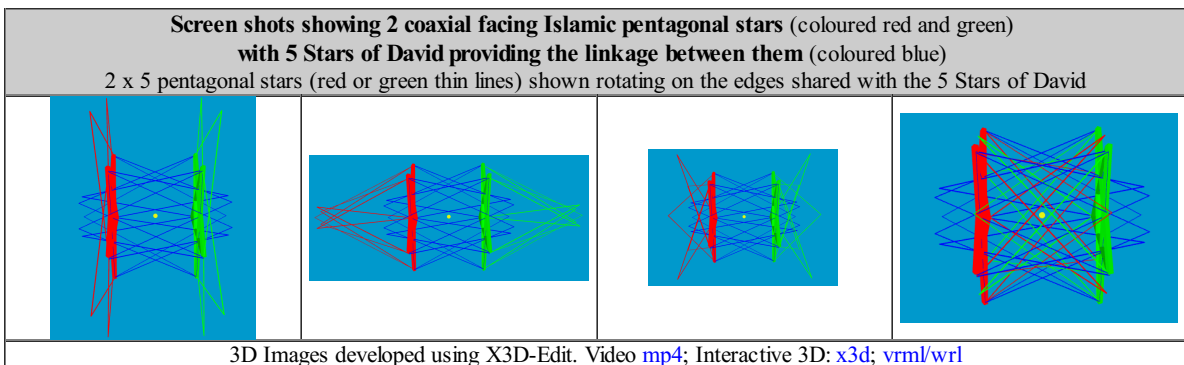
A similar approach, following the alternative indicated in two dimensions in the earlier section, using 2 facing Islamic pentagonal stars -- but with 5 Stars of David providing the interlocking linkage between them. Again, in its simplest form, this can be illustrated by the following screen shots. Note that a third alternative, using flat symbol elements rather than cylindrical, is presented and illustrated in a [later section](#) below.



In the images below, the same model is tilted forward to make apparent both pentagonal stars (here coloured red and green) and the pattern of 5 Stars of David linking between them (coloured blue) -- together with rotating pentagonal stars (thinner lines).



The model above may be turned sideways to clarify the structure and dynamic.



Elaboration of 3D model using 2 Stars of David and 12 Islamic pentagons -- potentially rotating

The first simple model can be elaborated further by increasing the number of Islamic pentagons around the 2 Stars of David. Understood **statically**, each edge of a Star of David then shares a horizontal edge of a pentagonal star. Using both Stars of David in this way gives rise to 12 pentagons effectively constituting a **static** containing ring. Understood **dynamically**, the pentagonal stars can then rotate around that shared edge -- whether from that **static** position or in addition to it, if to each **static** pentagon there is a **dynamic** rotating equivalent.

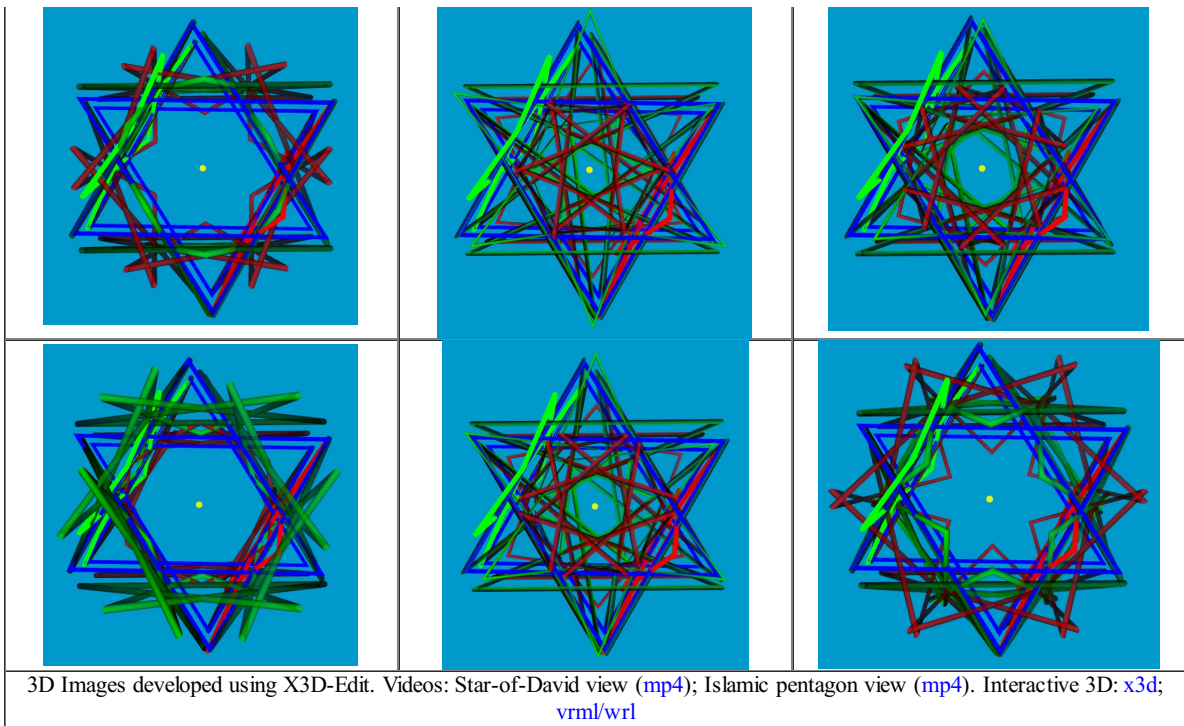
In the following screen shots, for the sake of a greater degree of clarity, only two pairs of **static** pentagonal stars (coloured bright red or green) are included to link between the 2 Stars of David. The remaining 5 pairs of pentagonal stars have been rendered invisible. The **dynamics** shown derive from the rotation of 6 pairs of pentagonal stars (coloured a darker red or green).

A 3D model with these elements is necessarily far more complex and necessarily more difficult to comprehend through the variety of static images as shown below. It is better understood through a video or -- even better -- through interaction with the 3D model in virtual reality (from which the static images are derived). These variants are accessible below.

Screen shots showing 2 coaxial facing Stars of David (coloured blue) with 2 pentagonal stars shown providing the static linkage between them (coloured brighter red or green) 2 x 6 pentagonal stars (thinner red or green thin lines) shown rotating on the edges shared with the 2 Stars of David			
3D Images developed using X3D-Edit. Videos: Star-of-David view (mp4); Islamic pentagon view (mp4). Interactive 3D: x3d; vrml/wrl			

The same model, and its dynamics, can be presented from a different orientation.

Screen shots (of the model above) showing 2 coaxial facing Stars of David (coloured blue) with 2 pentagonal stars shown providing the static linkage between them (coloured brighter red or green) 2 x 6 pentagonal stars (thinner red or green thin lines) shown rotating on the edges shared with the 2 Stars of David			

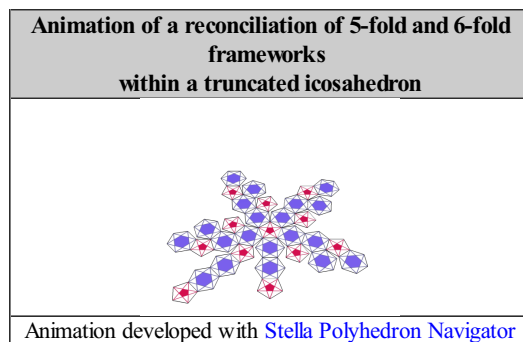


Elaboration of 3D model using 2 Islamic pentagons and 10 Stars of David -- potentially rotating

Based on the alternative model indicated earlier, the method applied in the preceding section would result in a different configuration

Combination of both alternative configurations in a single model with greater potential dynamics

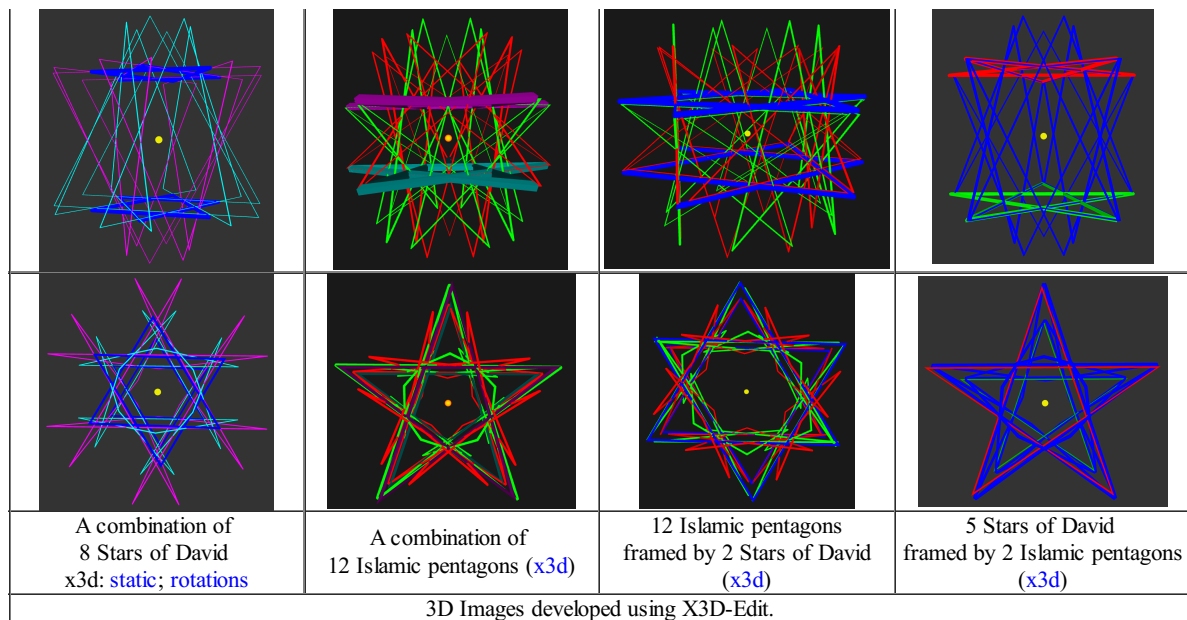
As complementary configurations in their simpler forms, each of the above alternatives is effectively a **dual** of the other in geometrical terms. The question is whether a more complex geometrical framework would allow the 5-fold and 6-fold symbols to be configured together more fruitfully. As an indication of possibilities, one experiment towards that end was made separately and gave rise to the following animation (*Middle East Peace Potential through Dynamics in Spherical Geometry*, 2012). Stars of David (blue) and Islamic pentagonal stars (red) are embedded in a network folding into a **truncated icosahedron** with 12 regular pentagonal faces, 20 regular hexagonal faces, 60 vertices and 90 edges.



More fruitful possibilities could be explored in geometries of higher dimensionality. As shown above, the various stars do not rotate with respect to one another around their shared edges. This feature could of course be added.

Of relevance as a preliminary step is recognition of the complementary "cognitive cages" formed by various combinations of the Islamic pentagonal star and the Star of David hexagonal patterns, as shown below. In each case a shared edge is used to form the frame. The models elaborated in the earlier sections above were derived from those used to generate the images in the last two columns on the right. In those below no rotation around a shared edge as been activated (although the *technical quality of the earlier models has been partially improved in those rendered accessible below*).

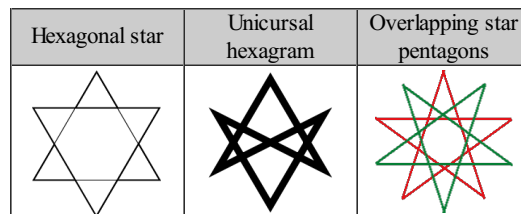
"Side" and "Axial" views of "cognitive containers" -- whether "cages" or "fortresses"			
Hexagonal / Hexagonal (2 Stars of David framing 6 Stars of David)	Pentagonal / Pentagonal (2 Islamic pentagons framing 2x5 Islamic pentagons)	Hexagonal / Pentagonal (2 Stars of David framing 2x6 Islamic pentagons)	Pentagonal / Hexagonal (2 Islamic pentagons framing 5 Stars of David)



The question raised by this set of four models is whether and how they might be understood as combined in any way, given the manner in which they result from shared edges between hexagonal and pentagonal stars. They can be explored in terms of geometric duality and the alternation between necessarily complementary forms. They might all emerge from a configuration in 4D or more.

Clearly the patterns can be further elaborated by ensuring that all edges are shared in some way to encompass greater insights into complexity. It is especially intriguing that the complexification is rendered comprehensible primarily through rotation on a shared edge in 3D. As shown in the animations accessible above, it is the cycle of phases which provides a sense of coherence, otherwise obscured by a multiplicity of seemingly minimally related lines.

Of relevance to further exploration is the [unicursal hexagram](#) that can be traced or drawn unicursally, in one continuous line rather than by two overlaid triangles. In relation to the rotation on a shared edge, the images below render comparable the manner in which the hexagonal Star of David is composed of two triangles (not distinguished in the rotational explorations above), the doubling of the pentagonal Islamic star (as currently featured in the models above), and the unicursal hexagram constitutes a form of "compromise" between the two (meriting exploration through rotation of its elements).



As a knot (with overlapping lines), the unicursal hexagram has evoked speculation unrelated to the symbolism of the Star of David. Drawn as a knot it is a specific instance of the far more general shape which features in [Pascal's Hexagrammum Mysticum Theorem](#) (1639). Mathematically if six unordered points are given on a conic section, they can be connected into a hexagon in 60 different ways, resulting in 60 different instances of Pascal's theorem and 60 different Pascal lines. This configuration of 60 lines is termed the *Hexagrammum Mysticum* and has proven to be a particular confluence of significance with respect to:

- **Kirkman points:** The 60 Pascal lines intersect three at a time in 60 points known as Kirkman points.
- **Steiner points:** The 60 Pascal lines intersect three at a time in 20 points known as Steiner points.
- **Cayley lines:** Each Steiner point lies together with three Kirkman points on a total of 20 lines known as Cayley lines.
- **Plücker lines:** The Steiner points also lie, four at a time, on 15 Plücker lines.
- **Salmon points:** The 20 Cayley lines pass four at a time through 15 points known as the Salmon points

Given the "points" made in interfaith discourse (possibly even as "bullet points" in a presentation), and the associated "lines" of argument, what relation might these bear to these points and lines distinguished mathematically? How do either relate to "perspectives" and "visions" as discussed below?

Of corresponding relevance in spherical geometry, and vital to global navigation, has been the *Pentagramma Myrificum* of Gauss, as discussed separately (*Global Psychosocial Implication in the Pentagramma Mirificum: clues from spherical geometry to "getting around" and circumnavigating imaginatively*, 2015).

Embodied and emergent symbols: Christian cross, rose windows, mandalas and Wu Xing?

The introduction argued that the approach was designed to reconcile at least the key symbols of the Abrahamic religions. The obvious question is how the Christian cross figures in the above models or in their further development. Again the assumption is not **whether**

such a key symbol fits in but rather **where** it fits in -- for **whom**, and from **what** perspective.

Already phases in the dynamics of the models above can be construed in terms of a Christian cross, most notably of the kind depicted below.

Selected varieties of Christian crosses					
Bolnisi cross	Coptic cross	Macedonian Orthodox cross	Maltese cross	Triquetra cross	Lazarus cross
Images reproduced from <i>Wikipedia</i>					

Given the extensive range of Christian crosses indicated by *Wikipedia* (*Christian cross variants*), it might be asked whether there is a case for treating them all as pieces of a puzzle which together make a larger picture -- if appropriately configured into a pattern as yet to be discovered (in three dimensions or more). How is the disparate set of denominations to be understood as related?

As a "puzzling facility", it is also possible to add the more conventional so-called Latin cross to either the Star of David or the Islamic pentagon -- or to both in a more complex model. This is suggested by the following.

Association of the geometry of the Christian cross with the Star of David and the Islamic pentagon				

Built into the geometry in 3D, it can be readily imagined that the Christian cross could rotate around the edge it shares with either the Star of David or the Islamic pentagon. To the extent that the model has multiple pentagonal or hexagonal forms, there could then be as many crosses, variously rotating. [model in preparation, but see incorporation of the cross in the model presented in a [later section](#) below]

Various pentagonal symbols can obviously be seen as reflective of alternative appreciations of that pattern, as separately discussed (*Cycles of enstoring forming mnemonic pentagrams: Hygiea and Wu Xing*, 2012). The point may be made otherwise by reference to Leonardo da Vinci's famed *Vitruvian Man* (animation below centre).

Hugieia Pentagram of Pythagoreans	Vitruvian animation	Chinese 5-phase Wu Xing cycle
<i>Reproduced from Hygieia entry in Wikipedia (G. J. Allman <i>Greek Geometry From Thales to Euclid</i>, 1889, p.26) with labels added</i>	Adapted from that of Leonardo da Vinci	<i>Adapted from Wu Xing entry in Wikipedia</i> Interaction arrows: black=generating; white=overcoming

Configurations of symbols within a sphere and implications of higher dimensionality

Circumspheres: Religious symbols are frequently circumscribed by a circle when depicted in 2D. Clearly this suggests the merit of embedding 3D symbolic configurations (like those above) within a circumsphere. Consideration can also be given to inscribing a suggestive insphere within any such configuration -- when it takes the form of a hollow container. Those above already include a small (yellow) sphere as a central point of reference. Several further examples are shown below.

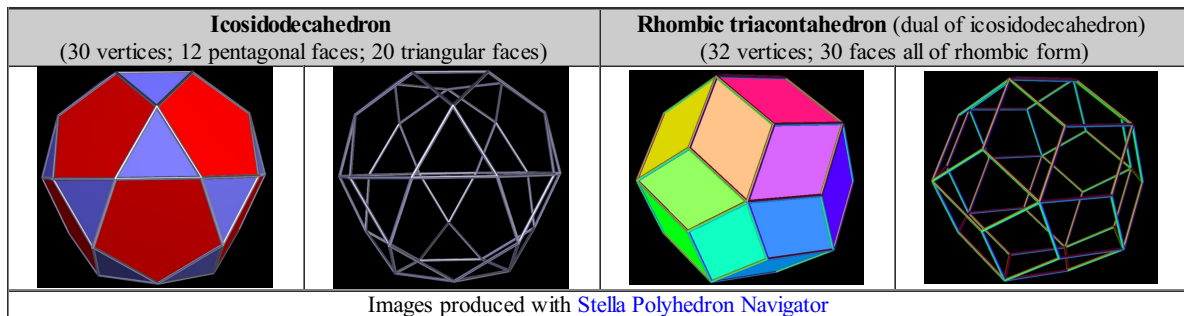
Embedding of 3D model of Stars of David and Islamic pentagonal stars within a circumsphere (variously rendered visible)			

A circumsphere is especially interesting in relation to the number of vertices in the configuration of symbols. One model, with 5 Stars of David (configured around 2 Islamic pentagonal stars), potentially gives rise to 30 vertices (5x6). The other alternative presented, with 6 Islamic pentagonal stars (configured around 2 Stars of David), also potentially gives rise to 30 vertices (6x5). If the number of such sets is doubled by including the mirror elements, this gives rise to 60 vertices.

Polyhedra with relevant characteristics (as illustrated below) include:

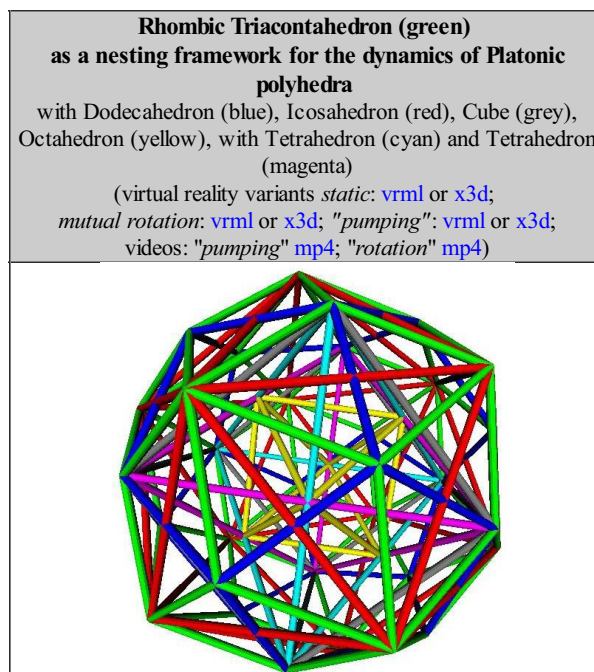
- the **icosahedron**, a regular polyhedron with the **dodecahedron** as its dual (each with 30 edges)
- the **icosidodecahedron**, a semi-regular polyhedron with the **rhombic triacontahedron** as its dual
- the **truncated icosahedron** (60 vertices), a semi-regular polyhedron with the **pentakis dodecahedron** (60 faces) as its dual

The last, indicated above with respect to reconciling 5-fold and 6-fold stars, is especially well known in the form of the stitching pattern on the traditional soccer ball.



These polyhedra feature in various relevant mappings previously discussed (*Embodying Global Hegemony through a Sustaining Pattern of Discourse*, 2015; *Geometrical configuration of Alexander's 15 transformations*, 2010; *Configuring Globally and Contending Locally: shaping the global network of local bargains by decoding and mapping Earth Summit inter-sectoral issues*, 1992).

Nesting spherically symmetrical symbols: The role of the icosidodecahedron as a "container" is especially intriguing in that its dual provides a unique container for the dynamics of the set of 5 **Platonic polyhedra** which are so fundamental to the form of some symbols in 3D due to their symmetry, as separately discussed (*Nesting polyhedra to enable comparison of patterns of discourse*, 2015).



The rhombic triacontahedron has proven to be fundamental to a new and unexpected state of matter termed a **quasiperiodic crystal** (quasicrystal) with local five-point symmetry (Guy Inchbald. *A 3-D Quasicrystal Structure*, 2002; Walter Steurer and Sofia Deloudi, *Crystallography of Quasicrystals: concepts, methods and structures*, 2009). For this discovery of a pentagonal network that acted like hexagonal nets, **Daniel Schechtman** received the Noble Prize in chemistry in 2011 -- following an extensive period of hostility dating from the announcement of the discovery in 1984. A remarkable articulation of the relation between the icosidodecahedron and its dual in **8-dimensional geometry** is provided by **Tony Smith** (*E8 Physics and Quasicrystals: Icosidodecahedron and Rhombic Triacontahedron*, 2013). As [images](#), the orthogonal projections of that geometry are strangely reminiscent of those of Islamic patterns.

Is the reconciliation between the religions only to be comprehended through 8-dimensional geometry -- through an unforeseen pattern of order? Given the manner in which Jerusalem is presented as a "territorial" challenge, should this rather be explored as a tiling problem of **tessellation**? This would point to the possibility of reconciliation in "higher" dimensions, given that it has long been demonstrated

mathematically that certain tiling configurations are not possible in two dimensions -- where only orthogonal projections offer symbols of such higher dimensionality.

Temples and crowns: It is of course the case that the most obvious rendering in 3D of valued symbols is through the architecture of temples and the design of crowns -- variously featuring "domes", typically hemispherical. The images and animations above are variously suggestive of that form -- with the added perspective as to how either temple or crown might take a dynamic form of cognitive significance.

An indicative metaphor in that respect is the modern [planetarium](#) in which configurations of constellations are variously highlighted and named, with the possibility of representing the patterns seen in previous and future millennia, or from distant perspectives. This technology suggests the possibilities of cognitive temples in which patterns of cognitive constellations could be variously projected -- notably reminiscent of the patterns in Islamic mosques (Keith Critchlow, *Islamic Art and Architecture: system of geometric design*, 1999; Keith Critchlow and Seyyed Hossein Nasr, *Islamic Patterns: an analytical and cosmological approach*, 1976).

With respect to any reconciliation of the Abrahamic faiths, the possibilities for an appropriate temple have been discussed separately (*Imagining the "architecture" of the temple of Jerusalem*, 2017). This included sections on: the Third Temple?, Scriptural ambiguity, Temple as a form of container?, and Modes of imagining "temple design".

The implications with regard to crown design have also been discussed separately (*Engaging with Globality through Cognitive Crowns*, 2009). This included sections on: *Engaging with globality through "triple crown" cognition?*, *Understandings of "crowning experience"*, and *Organization of memory*.

Imagining a "hyperdimensional" Jerusalem: With the remarkable development of fundamental physics and its exploration of the dimensionality of physical reality, it is appropriate to ask how such thinking could be reconciled with the insights framed by religion in terms of the subtleties of mystical insight. This was discussed in a previous document (*Comprehending the nature of a potentially hyperdimensional Jerusalem*, 2017).

Of particular relevance, as noted there, are the possibilities of facilitating such comprehension to some degree through virtual reality technology. It is appropriate to recall that the polyhedra in 3D are understood in terms of geometry as 3-polytopes and merely part of increasingly complex forms of higher dimensionality (*List of regular polytopes: 4-polytopes, 5-polytopes, 6-polytopes, 7-polytopes, 8-polytopes, 9-polytopes, 10-polytopes*, and many more). The renderings of many of these bear a striking resemblance to patterns of religious significance (mandalas, rose windows, and the like).

It is potentially remarkable that so little is heard of 4-polytopes ("4D polyhedra"). for example, otherwise known as [polychora](#). Their potential relevance and comprehensibility, through understandings of climate dynamics, is discussed separately (*Enhancing Strategic Discourse Systematically using Climate Metaphors: widespread comprehension of system dynamics in weather patterns as a resource*, 2015). The latter includes sections on:

- [Four-dimensional requisite for a time-bound global civilization?](#)
- [Comprehending the shapes of time through four-dimensional uniform polychora](#)
- [Five-fold ordering of strategic engagement with time](#)
- [Interplay of cognitive patterns in discourse on systemic change](#)
- [Five-fold cognitive dynamics of relevance to governance?](#)

Eliciting new symbolic configurations using artificial intelligence: With respect to reimagining a Jerusalem of higher dimensionality, this is discussed separately (*Artificial intelligence and the Middle East peace process?* 2017). Given the remarkable recent demonstrations of such facilities, the question is whether they can be used to elicit new patterns and render them comprehensible from a variety of perspectives.

- [Merkaba](#)

Perspectives, insights and "visions" in relation to configurations of symbols

"Perspectives" as "visions": Although the Abrahamic religions are inspired by a shared monotheism. This "principle" is so elusive that there is little deriving from it which enables them to reconcile their highly contrasting perspectives. The "perspective" of each is considered dangerously misguided by the others -- essentially missing the "point". A merit of the geometric models in 3D is that these offer, and require, multiple "viewpoints" to enable the whole to be comprehended. Use of a dynamic allows a sequence of patterns to be viewed from a single viewpoint -- as with a kaleidoscope. Understood as a mandala or rose window pattern, this is continuously shifting through a cycle of phases. Whilst this is indeed evident in 3D with the dynamic to be recognized as engendering a 4D model, it is obviously challenging to imagine the nature of the cycles in 5D (or more) and the patterns which emerge during those cycles.

It is useful to recognize the "visions" so central to religious experience as corresponding to some degree to recognition of particular patterns and cyclic phases. The puzzle is how such "visions" then engender such disparate articulations, with their associated assertions and possible institutionalization. More problematic is understanding how a "vision" can be so so radically transformative -- so fundamental -- as to render irrelevant those which may be articulated by others. Arguably the "rightness" associated with the experience of the "vision" could be understood as recognition of an especially complex form of symmetry, rendering other perspectives as secondary or tertiary -- basically derivative.

"Higher" dimensionality: As with the symmetry in 5D, 6D, and the like, it may be virtually impossible to articulate these other than through a variety of indications in whose underlying integrity others are called upon to believe. This could be considered the case with the multidimensional insights of fundamental physics whose nature can only be partially articulated in mathematical form -- for those

who can interpret such script.

There is clearly a whole mystery as to how a perspective can shift in comprehension from 3D to 4D, from 4D to 5D, and so on. This is especially the case when the nature of "dimension" is called into question at each stage, beyond the formalism of mathematics -- as a perspective in its own right, with its own forms of fundamentalism, readily appreciated as alienating by some. Particularly intriguing is the sense in which "higher" dimensionality is called into question when this may rather be experienced as a more intimate experience rather than an elusive abstraction.

Shifting patterns: Missing from this sense of "vision" is the consequence of movement, recognized in the process through which the "vision" fades away and can be recalled only with increasing difficulty. This process is readily recognized through use of psychoactive drugs, the aftermath of the experience, and the difficulty of communicating it. The "perspective" which may encompass this fading away tends to be articulated in process philosophy and poetry regarding the sense of passing -- as with the surprise of emergence of revelation.

Together these may be framed by some sense of eternal return. Such elusive insights are essentially difficult to communicate and do not lend themselves to the kinds of declarative assertions typical of the Abrahamic and other religions. Arguably, it is the fixity of fundamental religious perspectives -- and deemed essential to their identity -- which is called into question to some degree.

Problematic inversion: The use of movement in the above models is especially valuable with respect to encompassing the "degradation" of a vision of much-valued symmetry. This is evident in the case of the highly controversial inversion of symbols such as the pentagonal star -- then readily associated with the most fundamental evil. Such an association is also evident in the case of the Christian cross. Traditionally use has been made of an inverted variant of the conventional Latin cross, known as the [Cross of St Peter](#). As described by Wikipedia, this has more recently come to be associated with anti-religious groups.

Set within a process, the inversion is then better recognized as part of a cycle whose movement as a whole -- as with birth and death -- is essentially healthy in a larger sense, however tragically elusive this may remain. The larger cycle is also appreciated through an understanding of [eternal return](#). Although elusive, the insight has been variously suggested:

- The First Shall be Last, and the Last First (*Matthew 20:16*)
- We shall not cease from exploration / And the end of all our exploring / Will be to arrive where we started / And know it for the first time. (T. S. Eliot, *Little Gidding*, 1942).

The poignancy of loss, and the nostalgia for past integrity, have merit in their own right -- better appreciated through the metaphor of the seasons. This metaphor is particularly valuable in a global context in which winter for some is experienced elsewhere as a time of summer. Any regrettable inversion perceived from one viewpoint of the above models, would be experienced otherwise from a different perspective.

A related issue, occasioning the greatest controversy, is the sense in which the rendering secondary of other perspectives can be interpreted from a fixed perspective as justifying attitudinal and social consequences which may take the form of "enslavement". The models suggest that this may be interpreted in geometrical terms. The Abrahamic religions could be considered notorious in this respect for having condoned the enslavement of those of other faiths down the centuries -- and in new forms at this time.

Holomovement: explication and implication: The models above offer one interesting means of encompassing the sense of the [holomovement](#) which is a fundamental concept of [quantum mechanics](#) as articulated in the worldview of [David Bohm](#) (*Wholeness and the Implicate Order*, 1980). From this perspective, wholeness is not a static oneness, but a dynamic wholeness-in-motion in which everything moves together in an interconnected process, notably explicated as follows to include not just physical reality, but life, consciousness and cosmology:

- Our basic proposal was that what is the holomovement, and that everything is to be explained in terms of forms derived from this holomovement. (p. 178).
- The implicate order has its ground in the holomovement which is, as we have seen, vast, rich, and in a state of unending flux of enfoldment and unfoldment, with laws most of which are only vaguely known (p. 185).
- Our overall approach has thus brought together questions of the nature of the cosmos, of matter in general, of life, and of consciousness. All of these have been considered to be projections of a common ground. This we may call the ground of all that is. (p. 212).

The cognitive implications were later evoked with [Jiddu Krishnamurti](#) (*The Ending of Time*, 1985; *Limits of Thought*, 1999).

Multiplicity of religion and deities: The focus of this argument is on the unreconciled relationship between the Abrahamic religions -- given the points, lines and sides they engender in society. Arguably it could be said that the variety of polyhedra has not been ordered in any usefully definitive manner. However that variety, as with the multiplicity of stellar bodies, suggests the merit of recognizing focal points in addition to the Abrahamic religions.

One effort in extending the framework is the argument of [Stephen Prothero](#) (*God Is Not One: the eight rival religions that run the world -- and why their differences matter*, 2010; *A Nation of Religions: the politics of pluralism in multireligious America*, 2006). In terms of geometry, the more fundamental point is made by the existence of an alternative focus, as with that of [Jason Boyett](#) (*12 Major World Religions: the beliefs, rituals, and traditions of humanity's most influential faiths*, 2016). How best to ask questions about [religious pluralism](#) -- or about the disciplinary pluralism of academia and beyond? As noted above, efforts at encompassing the variety in the case of religions through mind-mapping is still at an early stage (University of Glasgow, [Philosophy of Religion Mind Mapping Project](#)). Mapping the relationships between the disciplines is at an equally primitive stage -- unfruitful with respect to any interdisciplinary endeavour.

It is in this sense that the multiplicity of deities and other elusive entities identified by other religions merits careful consideration rather

than unthinkingly automatic rejection. Just as the Abrahamic religions have their angelic and demonic hordes, other religions have a multiplicity of spiritual entities -- Hinduism being most frequently (and critically) cited in this respect (Krishnan Ramaswamy, et al., *Invading the Sacred: an analysis of Hinduism studies in America*, 2007).

Whilst the Abrahamic religions may each pride themselves on their unitary nature, it is only too evident that they engender a multiplicity of denominations and schismatic forms -- variously inspired by individuals as a consequence of revelatory visions. Within those frameworks it is therefore interesting to note how this multiplicity may in each case be ordered, as partially explored separately (*Engaging with Hyperreality through Demonique and Angelique? Mnemonic clues to global governance from mathematical theology and hyperbolic tessellation*, 2016).

Metaphorical limits and clues: It is intriguing that the governance of global civilization is currently so constrained by vision-related perspectives -- even to the point of highlighting the "optics" in the political context (*Optics*, *The New York Times*, 7 March 2010). At the same time much is valued in music and other modes by the peoples of the world. The argument can be made that the future merits consideration through a variety of metaphors corresponding to the variety of senses -- vision, touch, taste, smell, and sound (*Metaphor and the Language of Futures*, 1992). Why indeed, for example, is no real effort made to articulate the "visions" of global governance in music and song, as argued separately (*A Singable Earth Charter, EU Constitution or Global Ethic?* 2006; *Knowledge Gardening through Music: patterns of coherence for future African management as an alternative to Project Logic*, 2000).

As a metaphorical alternative, especially relevant is the work of musicologist Ernest G. McClain (*The Pythagorean Plato: prelude to the song itself*, 1978; *Meditations through the Quran: tonal images in an oral culture*, 1981; *Children of Abraham*, 1984/2007). The latter is introduced in the following terms:

The tension today between Muslim, Jew, and Christian who claim descent -- and in that order -- from Father Abraham can be traced in part to the effort of Bible authors to illuminate three very different aspects of Deity. This is the story I missed in the first edition of my book, and for which I now try to make amends writing from a musical perspective that has endured for more than 5000 years.

The unusual feature of this detailed scholarly study is that all those named in the scriptures, and the proportions of the structures indicated, are interpreted in musical terms as tones and tuning systems. This includes an understanding of "slaves" and "enslavement", which the scriptures variously envisage -- thereby inviting controversial deprecation. A musical metaphor tends to switch cognitive engagement from "interest" to "resonance", namely whether an articulation elicits some form of cognitive resonance, as indicated by speculation on the *music of the spheres*.

Sensual pattern? In the light of the above argument, this 5-fold "sensual" pattern can be "confronted" by the 6-fold pattern extensively articulated by Edward de Bono (*Six Frames for Thinking about Information*, 2008), *Six Thinking Hats*, 1985; *Six Action Shoes*, 1991; *Six Value Medals*, 2005). It is argued there that each "frame" is a direction or method in/with which to look, based on a different shape - triangle, circle, heart, square, diamond, slab. However each might also be understood as a generic equivalent to his distinction of the modalities of "thinking", "values" and action" (*slide show*). The attribution of Edward de Bono's categories in the table below is a tentative exercise, especially since it is their generic form which is of potential interest as a memetic complex of functions integrating thinking, action and values.

Here again, however, the "looking modality" is usefully to be called into question through the other senses. It is obviously the case that the Abrahamic religions variously take account of such modalities --beyond their theological assertions -- as in the use of hearing/music or smell/incense, for example. Their use may be even more developed in other religions.

These distinctions can notably be seen as relevant to the dynamics between the Abrahamic religions, as articulated by de Bono (*Water Logic: the alternative to I am right you are wrong*, 1993). The above models could be explored in the light of this confrontation as giving rise to "sensepoints" rather than "viewpoints" -- with the perspectival equivalent for which a neologism may be required, although the concept of "point" might itself call for rethinking. Both the dimensions of the table and their conjunctions in the cells of the table merit careful consideration as metaphors beyond the conventional significance of the terms.

Metaphorical confrontation of 5 "senses" and 6 "frames" to distinguish 30 "sensepoints" (indicative juxtaposition of categories calling for refinement)										
	"hats"	"shoes"	"medals"	symbols		5 senses				
	thinking	actions	values	"frames"		"vision"	"touch"	"smell"	"taste"	"hearing"
6 frames (Edward de Bono)	managing (blue)	routine procedures (navy)	goals (silver)	"triangle"	purpose					
	information (white)	information gathering (grey)	quality implications (steel)	"circle"	accuracy					
	discernment (black)	hard work (brown)	ecological impacts (wood)	"square"	alternative "points of view"					
	emotions (red)	emergency actions (orange)	what matters (gold)	"heart"	matters of interest					
	optimistic response (yellow)	empathy (pink)	perceptions (brass)	"diamond"	value					

	creativity (green)	authority (purple)	innovation (glass)	"slab / rectangle"	outcomes conclusions					
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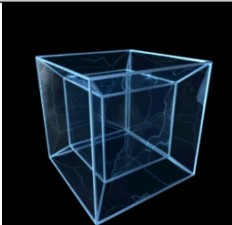
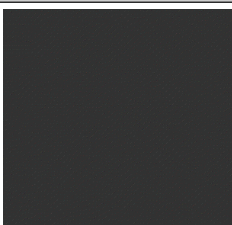
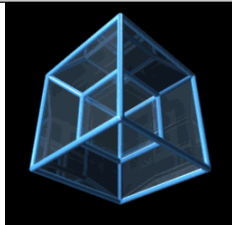
Together, in geometrical terms (as argued above), this 5x6 pattern frames 30 "points" in the case of an icosidodecahedron, or 30 edges in the case of an icosahedron/dodecahedron, or 30 "sides" in the case of rhombic triacontahedron -- with the implications of the other features of such polyhedra. Such a pattern has been explored from a management cybernetic perspective by [Stafford Beer](#) in relation to [syntegrity](#) and [modelling a viable system](#) (*Beyond Dispute: the invention of team syntegrity*, 1994).

Edward de Bono's "frames" can be compared with other metaphorical uses of the simplest geometrical forms (*Engaging with Globality through cognitive lines, circlets, crowns or holes*, 2009; *Radical Localization in a Global Systemic Context: distinguishing normality using playing card suits as a pattern language*, 2015). He has also made use of a 5-fold pattern of tools, termed the *Five Stages of Thinking*. In presenting his particular articulation it should be stressed that it is the generic tendency to identify such categories which is of relevance -- his articulation being only one that has been widely publicized ([Jeremy Lent](#), *The Patterning Instinct: a cultural history of humanity's search for meaning*, 2017).

Four dimensional integration? Of further interest are the cognitive implications of such a 30-fold pattern in 4D where it might indeed take the form of 30 so-called "cells". The quest for insight on this matter detected a page of commentary on [discrete Hopf fibrations](#) (which had been partially deleted from *Wikipedia*). Both there, and in the remaining text in the user section of *Wikipedia* ([Regular polychoric rings](#)), it is noted that:

The [600-cell](#) partitions into 20 rings of 30 [tetrahedra](#) each in a very interesting, quasi-periodic chain called the [Boerdijk-Coxeter helix](#). When superimposed onto the 3-sphere curvature it becomes periodic with a period of 10 vertices, encompassing all 30 cells.

Whatever the future cognitive implications for such insights, the deleted page includes the animation (below centre), also presented here as an indication of the elusive quality of thinking that may be appropriate to integrative insight into the reconciliation of the Abrahamic religions.

Geometric clues to reconciliation of Abrahamic religions in 4D		
3D projection of a 4D tesseract performing a simple rotation about a plane which bisects the figure from front-left to back-right and top to bottom	Challenging implications of discrete Hopf fibrations	3D projection of a 4D tesseract performing a double rotation about two orthogonal planes
		
Reproduced from <i>Wikipedia</i>	Reproduced from discrete Hopf fibrations	Reproduced from <i>Wikipedia</i>

Using the language of "cells" in 4D, the 3 Abrahamic religions could be understood as embedded in a [tesseract](#) -- which has 3 cubic cells (3-faces) per edge, as depicted in two animations above. The extensive commentary in *Wikipedia* notes that the the tesseract is the four-dimensional analogue of the cube -- with the tesseract being to the cube as the cube is to the square. Just as the surface of the cube consists of six square faces, the hypersurface of the tesseract consists of eight cubical cells. These could be explored as the 8 global religions noted by Prothero. The tesseract can however be understood as constructed with 3 cubes folded together around every edge -- possibly an indication of the distinctiveness attributed to the the 3 Abrahamic religions.

Use of the phrase "folding together" recalls that of fundamental physics in referring to the [extra dimensions](#) needed for a unified description of physical reality. [String theory](#) has one notable feature that requires extra dimensions for mathematical consistency. Spacetime is 26-dimensional in [bosonic string theory](#), 10-dimensional in [superstring theory](#), and 11-dimensional in [supergravity theory](#) and [M-theory](#) Understood in terms of "[compactification](#)", it is assumed these extra dimensions are "wrapped" up on themselves, or "curled" up on [Calabi-Yau spaces](#), or on [orbifolds](#). As noted above, this may imply a form of cognitive intimacy more familiar to aesthetic and mystical experience than the formalisms of physics -- and more cognitively accessible than the latter imply.

Missing with respect to the reconciliation of the Abrahamic religions is the equivalent to the quest for any such "M-theory". It is intriguing that the tesseract itself can be recognized as holding patterns of fundamental significance to those religions -- notably the 3-fold, the 4-fold, the 6-fold, the 8-fold, the 10-fold and the 12-fold.

Mutually orthogonal Abrahamic symbols from the perspective of projective geometry

Polyhedral "trinity": There is an intriguing sense in which the "geometry" of the relationship between the Abrahamic religions as an essentially incomprehensible trinity is explicated to a degree in the elusive relationship between the points, lines/edges and faces/sides by which polyhedra are formed -- potentially engendering a volume of higher dimensionality. Viewpoints and perspectives offer a pattern of

understanding of a polyhedron, as of the models above.

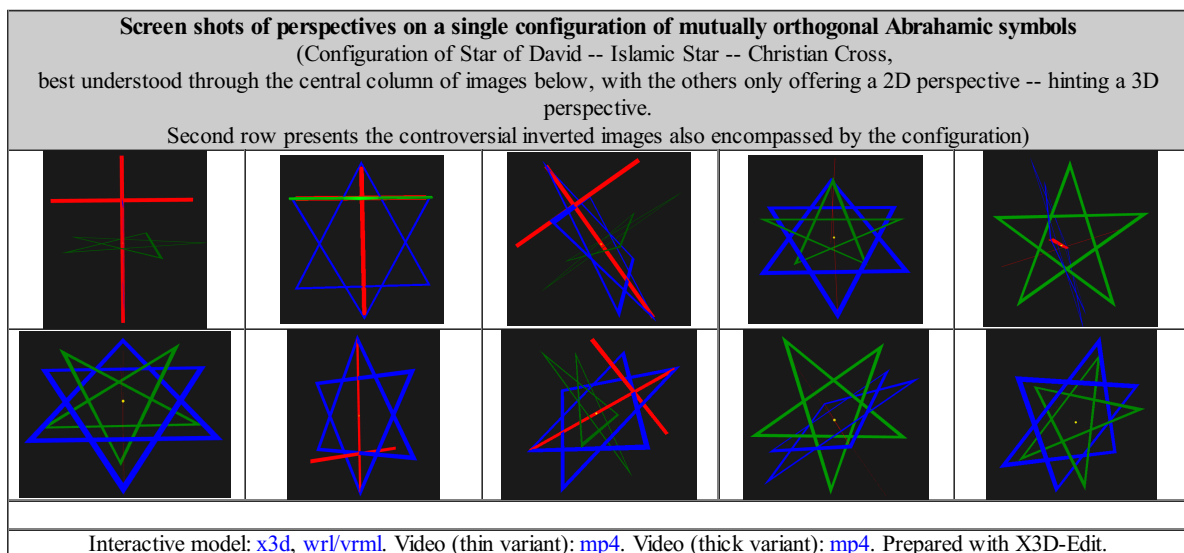
This metaphor (possibly only of potential interest) necessarily avoids associating point, line/edge or face/side with a particular religion. Each may indeed make points, develop lines of argument, or be associated with a particular side in any engagement with otherness. It is the elusiveness of how those geometric elements are to be understood more generically that is analogous to how the Abrahamic religions might be reconciled. Their interrelationship in psychosocial terms clearly engenders the space within which many move and have their being -- whether or not each such religion is to be compared with a planet which believers inhabit and may never leave -- or do so at a cost.

Projective geometry: The rendering comprehensible of higher dimensional configurations through orthogonal projection, as indicated above, provides a reminder that any question of viewpoint and perspective in interfaith discourse may well be clarified by the mathematical discipline of [projective geometry](#). It is the study of geometric properties that are invariant with respect to [projective transformations](#) (H. S. M Coxeter, *Projective Geometry*, 2003; Lawrence Edwards, *Projective Geometry*, 2004; David Hilbert and S. Cohn-Vossen, *Geometry and the Imagination*, 1999).

There have seemingly been few interpretations of its significance for comprehension of the "higher dimensional" subtleties valued by the Abrahamic religions -- with the exception of its adaptation to the insights of [Rudolf Steiner](#), as described by Olive Whicher (*Projective Geometry: creative polarities in space and time*, 1971).

Mutual orthogonality: In these terms a strikingly simple possibility is to consider that the symbols of the Abrahamic religions can be reconciled through a [mutually orthogonal](#) configuration, namely with their 2D planes at "right angles" to one another -- perhaps consonant with the sense in which each perceives itself to be uniquely "right". Consistent with the difficulty of each to attach significance to the others, the perspectives then offered reduces others to a line "crossing" that preferred. The variety of perspectives offered by the 3D model of that configuration allows different narratives to be elaborated, thereby serving to justify the understandings which may be associated with the individual symbols in 2D. The manner in which each may be "crossed" is indicative of the challenge each experiences from the other in practice.

The simplicity of the model is more readily comprehensible through the videos (accessible below with interactive variants).



The model could be elaborated further with features such as the following:

- allowing the symbols to rotate with respect to one another in a more dynamic configuration -- with the cross offering the possibility of rotation on either axis or with respect to its end points.
- increasing or reducing the visibility (transparency) of the individual symbols relative to one another
- increasing or decreasing the size of one or other symbol with respect to the others
- unfolding the geometry of the symbols from a common element (a single line) and collapsing them back to such an element -- effectively folding them into one another
- sliding the 2D symbols along their respective orthogonal axes -- away from their contiguous position, or passing through it
- incorporating such changes into a cycle -- possibly privileging one or other symbol during the cycle.

Emphasizing two-dimensionality of symbols: In exploring the significance that might be associated with such "special effects", the cross-section of the linear elements of a symbol can be modified such that that it becomes so "thin" that it is virtually invisible from a particular direction, even though it may be much "thicker" from another perspective. This procedure was used in a second variant which gave rise to a sharper configuration. It is from this that the images above were then derived.

To a greater extent than with the first variant, the 3D model as a whole is best understood through a [second video](#). Perhaps significantly, it is quite difficult to illustrate the model with any single image and even the set above detracts from full understanding of its integrity. It is potentially significant that the conventional view of each symbol -- free of "interference" by the two others -- is only possible along the axis through the origin, a perspective from which the others are invisible.

This approach suggests that the first variant (as indicated in the [first video](#)) is inherently misleading -- as with the earlier models in which

the elements of the symbols were all given a circular cross-section, however small the radius. The cognitive implications of the assumption of "thickness" can be usefully challenged.

Emphasizing the thinness in 3D invites narratives to the effect that none of the 2D symbols has "depth" of significance, although that may indeed be inferred. Curiously that depth is traditionally associated to a degree with the "weight" of the cross, typically not a feature in its depiction. Similarly, the Star of David, as the Shield of David, implies three-dimensionality; this too does not feature in depictions.

This process could be related to use of lighting to ensure that the thicker lines cast a shadow even though a given symbol is invisible through direct observation from a particular angle. This supports any narrative suggesting that some patterns can only be "seen" by the shadow they cast. Other *trompe-l'oeil* effects might be explored.

The possibilities merit careful consideration given that the Islamic symbol is widely recognized as double -- [star and crescent](#). How indeed can the crescent, with its implication of three-dimensionality, be meaningfully integrated into the spherical geometry of the above model? The inclusion of a circumsphere (as discussed above) is of relevance. Another approach is to use a rotating circular band -- implying the sphericity variously evident in relation to the iconography of the 3 orthogonal symbols.

Given that the model enables recognition of each Abrahamic symbol along one of three orthogonal axes, this raises the question as to how symbols of other religions (say 8) might be uniquely recognized along axes in a higher dimensional space.

Controversial orientations: The visibility of the controversial inversions of the symbols from some perspectives offers a coherent means of integrating understandings valuable to some. These are notably associated with acknowledgment of the [psychological shadow](#), namely a part of the unconscious mind consisting of repressed weaknesses -- potentially consistent with the arguments of [John Ralston Saul](#) (*The Unconscious Civilization*, 1999). As noted above, the inverted variant of the cross recalls use of the [Cross of St Peter](#), just as the (omitted) horizontal cross recalls the [Cross of Saint Philip](#) and [Saint George's Cross](#), and the angled version that of the [Cross of Saint Gilbert](#).

Given the association of the Cross of St Peter with the symbolism of the [hanged man](#), it is appropriate to note the effort by [Aleister Crowley](#), highly controversial in his own right, to enable the design of a set of Tarot cards such that they could be placed contiguously so that their symbols formed a larger pattern.

Multidimensional implications of the Abrahamic "Fall": The narratives of the Abrahamic religions share a degree of understanding of the [Fall of Man](#). There is the fascinating possibility that this may be understood as a progressive constraint on comprehension as the number of dimensions of awareness is reduced. There is a fall "through the dimensions" to the lowest dimensionality -- that of 2D and 3D experience.

Mathematicians have produced classic studies of the experience of higher dimensionality at that interface (Edwin Abbott Abbott, *Flatland: a romance of many dimensions*, 1884; Ian Stewart, *Flatland*, 2001). A number of presentations make technical arguments in that respect (Sophie Weiner, *Here's a Cool Way to Visualize Higher Dimensions*, *Popular Mechanics*, 13 August 2017; Maureen J. St. Germain, *Waking Up in 5D: a practical guide to multidimensional transformation*, 2017; Rob Bryanton, *Imagining the Tenth Dimension: a new way of thinking about time and space*, 2007; Daniel Smilkov, et al., *Visualizing High-Dimensional Space*). Mystical experience has offered insights articulated otherwise.

Arguably those favouring a particular belief follow a particular pathway in their "fall". This suggests that the symbols they favour in 2D, as [orthogonal projections](#) of higher dimensionality, could be called into question as effectively different forms of "cognitive [flat pack](#)". These offer the potential of being "unpacked" into configurations of higher dimensionality -- through the imaginative engagement they elicit as sacred forms. Notions of any corresponding "ascent" then imply an increase in the dimensionality of awareness -- in which the role of time, [process philosophy](#), and movement may be relevant. (*Clues to 'Ascent' and 'Escape'*, 2002; *Clues to Movement and Attitude Control*, 2002). There is a sense in which movement and its embodiment imply the experience of 4D and 5D through "body thinking" ([Mark Johnson](#) (*The Meaning of the Body: aesthetics of human understanding*, 2007; [Maxine Sheets-Johnson](#) (*The Primacy of Movement*, 1999; *The Corporeal Turn: an interdisciplinary reader*, 2009). Radicalism may be justified when the dimensions articulated through movement are precluded -- as in the binary thinking which currently characterizes global policy-making.

It is especially intriguing the manner in which the unitary simplicity of conventional symbols is held to imply and reflect a unitary experience of the highest dimensionality. This is all the stranger in that the frequent appeals for unity by politicians and religious authorities take little account of its multidimensional form and the intimate cognitive experience with which that may be associated. Given the extent of [religious pluralism](#) -- each framing its perspective as "right" -- how might the "mutually orthogonal configuration" of 8 religions be understood in 4 or 8-dimensional space, for example? Is the tesseract indicative in that respect?

Geometrical entrapment: The challenging cognitive nature of any trinity -- whether between the Abrahamic religions or within the cognitive framework of any of them -- can be rendered more explicit through a triangular pattern basic to the mathematical argument of [q-analysis](#), as developed by [Ron Atkin](#) (*Multidimensional Man; can man live in 3-dimensional space?*, 1981). Subsequent to his work on the relevance of mathematics to social structures (1974, 1980), Atkin is most widely reputed for his work on chess computing -- anticipating the development of artificial intelligence.

As separately summarized (*Comprehension: Social organization determined by incommunicability of insights*), Atkin illustrates the challenge of comprehension in relation to experience "within" the geometry of a triangle -- especially with regard to the perspective necessary to comprehend the geometry of the triangle as a whole -- namely the trinity. He demonstrates how cognitively one can be trapped by:

- a single point in the triangle, with inadequate comprehension of the lines linking them
- a single line, or the sequence of lines forming the triangle, but without any comprehension of the triangle as a whole
- the side framed by the points and lines, enabling comprehension of the triangular form -- but not, by implication of the polyhedral

form of which it is a part

Model design inadequacies and future possibilities

Inadequacies: Closer inspection of the screen shots above, and of the models from which they were generated, reveals a number of imperfections. These derive from:

- the primary objective of "proof of concept" -- in anticipation of later improvements
- limited competence with respect to three-dimensional geometry
- limited competence in use of the 3D software used to produce the models (X3D-Edit)
- limited design skills with respect to choice of colour and proportions of the elements

An obvious consequence is that the geometries do not fit together as well as they might with further effort and greater skill. This undermines appreciation of pattern symmetries to an unfortunate degree. ***Further technical improvements to the models will be made as time and skills permit.***

Further constraints derive from the possibilities of presenting a 3D model:

- as screen shots, even with the use of colour (typically highly problematic in academic print media)
- as simple animations, possibly using a set of screen shots
- as videos, given feasible sizes and the need to allow for the multiplicity of dynamic configurations emerging from the model
- limited access to 3D software via the web for non-interactive displays
- ever more limited familiarity with interactive variants, especially given the variety of browsers and their constraints

Clearly there are even greater constraints if symbol reconciliation is only possible in 4D or more. Not to be forgotten is that fundamental physics envisaged the need for unitary understanding in terms of from 10 to 26 "dimensions", however these are to be comprehended. It may be naive to assume that the reconciliation of the concerns of the Abrahamic and other religions could be fruitfully comprehended in terms of lower dimensionality.

Learning: Hands-on elaboration of models is obviously a learning exercise -- a continuing struggle with relative ignorance in engaging with skills which others possess to a far higher degree. The imperfections are a valuable indication of the learning process -- and of degrees of understanding of the relationship between the symbols configured.

In that sense the production of the models bears a degree of similarity to the art of puzzle solving, especially when there is only a vague intuition of how the final result will appear. Aspects of the process bear some similarity to engaging with Rubik's Cube or its many variants -- with all the implications for the time that may be required to develop some skills, as discussed separately (*Interplay of Sustainable Development Goals through Rubik Cube Variations*, 2017).

The difficulties encountered make it understandable that many may prefer simpler symbols as carriers of fundamental significance. However it is obvious that acquisition of insight with that focus then precludes recognition of insights that may be possible otherwise.

Future possibilities: Design improvements are readily possible with existing software. Many can be achieved using a simple text file editor to modify the files rendered accessible for the models presented in this document. Possibilities include:

- modifications to colours to achieve better aesthetic effects, according to taste
- rendering invisible, or partially transparent, some features of the model to increase clarity or recognize hidden complexity
- increasing or decreasing the thickness of some elements, as illustrated in some of the images above
- recognition of the aesthetic value of wire frame versus solid renderings (as typically available as an option in 3D browser facilities)
- modifications to rate of movement from slow to fast, according to the manner in which a cycle of phases is appreciated
- modifications to the relative rate of movements of some features -- making some slower and others faster
- introduction of a greater variety of "viewpoints", namely the virtual reality software facility that allows the user to switch between numerous perspectives in a complex model (perhaps as a means of highlighting symbolic features which resonate more with one cultural perspective rather than an other)
- interactive highlighting of sets of features associated with particular numbers considered to be of significance (10, 20, 30, 60, etc)
- enabling the possibility of switching interactively between alternative models (as envisaged above)

Earlier experiments enabled the movement of small spheres along the structural elements of the model as being indicative of their systemic implications -- in contrast to the movements of those elements themselves, as demonstrated separately (*Framing Global Transformation through the Polyhedral Merkabah*, 2017). Since those elements are effectively constructed as cylinders, it is also possible for a viewpoint to "travel" along such pathways within any cylinder.

Some of these features can be made available as interactive options for users, rather than fiddling with the program itself. The purpose would however be to render such models accessible as a platform with which to play interactively -- an invitation to experiment as a means of eliciting insight.

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