

THE TREASURES OF THE SNOW

In what many claim to be the oldest Book of the Bible, the Lord God asks Job a question that should interest its readers: “Hast thou entered into the treasures of the snow...?” (Job 38:22). Unsurprisingly – the day of magnifying glass and microscope far distant – we gather that Job hadn’t – and thus infer that the question is really addressed to those more favourably placed. Indeed, we know that some will already have ‘entered into’ the wonders associated with a snow crystal – as ideally represented here...*



...and will have been informed that of the myriad of such crystals that have fallen to earth since the Creation, no two are identical. So, we may reasonably ask, “What does the Designer intend us to learn from this beautiful, super-abundant, structure?”

The beginnings of an answer must surely include the following:

6 is prominently displayed

1. in the outline of the central regular hexagon, and
2. in the overall form of the regular 6-pointed star, or hexagram.

We therefore gather that **six** is highly regarded in the courts of heaven. But also from man’s point of view, it is the first of what mathematicians refer to as a **perfect** number [the term associated with any number that is equal to the sum of its factors – in this case, $1+2+3$]. The sequence continues 28, 496, 8128.... – apparently without limit. Again, all known perfect numbers are **triangular** [meaning that they possess the geometry of an equilateral triangle when expressed absolutely as a close formation of uniform circular counters]. Thus 6 may appear as...

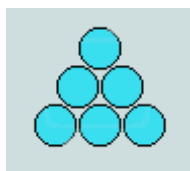
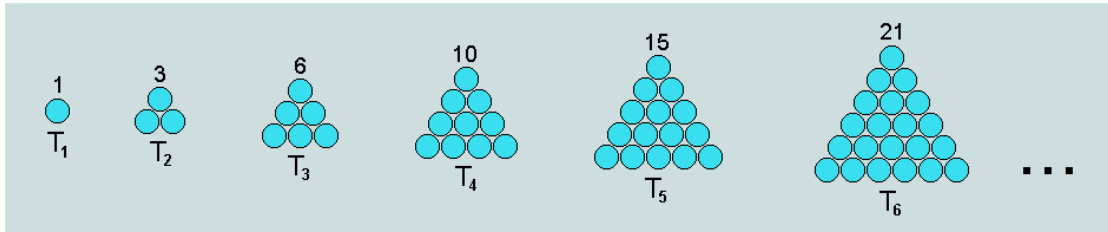


FIGURE 1

...and we see that all such numerical triangles represent the sum of a complete sequence of whole numbers, beginning 1 – in the case of 6, $1+2+3$. Observe that It appears as the 3rd term in the following infinite series:

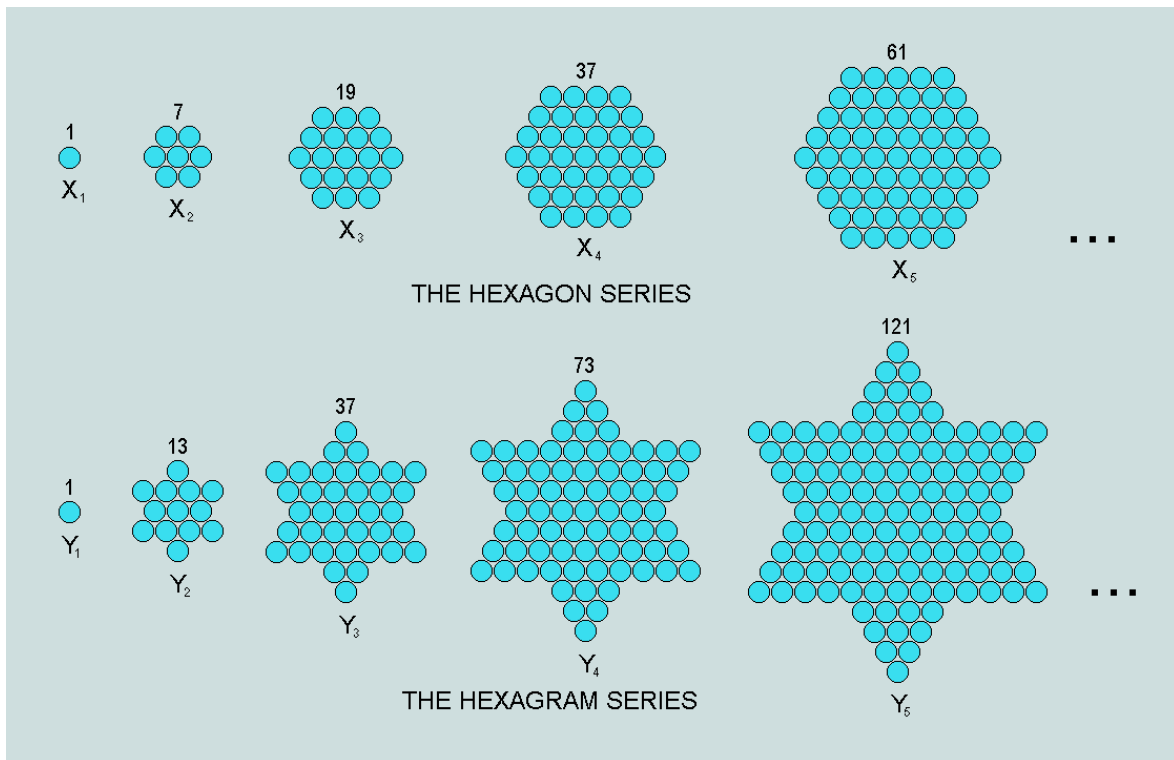
*A snow crystal appears when water vapour in the air converts directly into ice without becoming liquid water. As more water vapour condenses onto a nascent snow crystal, its 6-fold pattern grows and develops. However, it is important to observe that the vast majority of snow crystals are not as symmetrical as the example shown.



The opening terms of the Triangle Series

FIGURE 2

And what of the related shapes, hexagon and hexagram? They too may be represented by infinite sequences of **numerical geometries**. Here – denoted by X (hexagon) and Y (hexagram) – are the early terms of these series.



The opening terms of the Hexagon and Hexagram Series

FIGURE 3

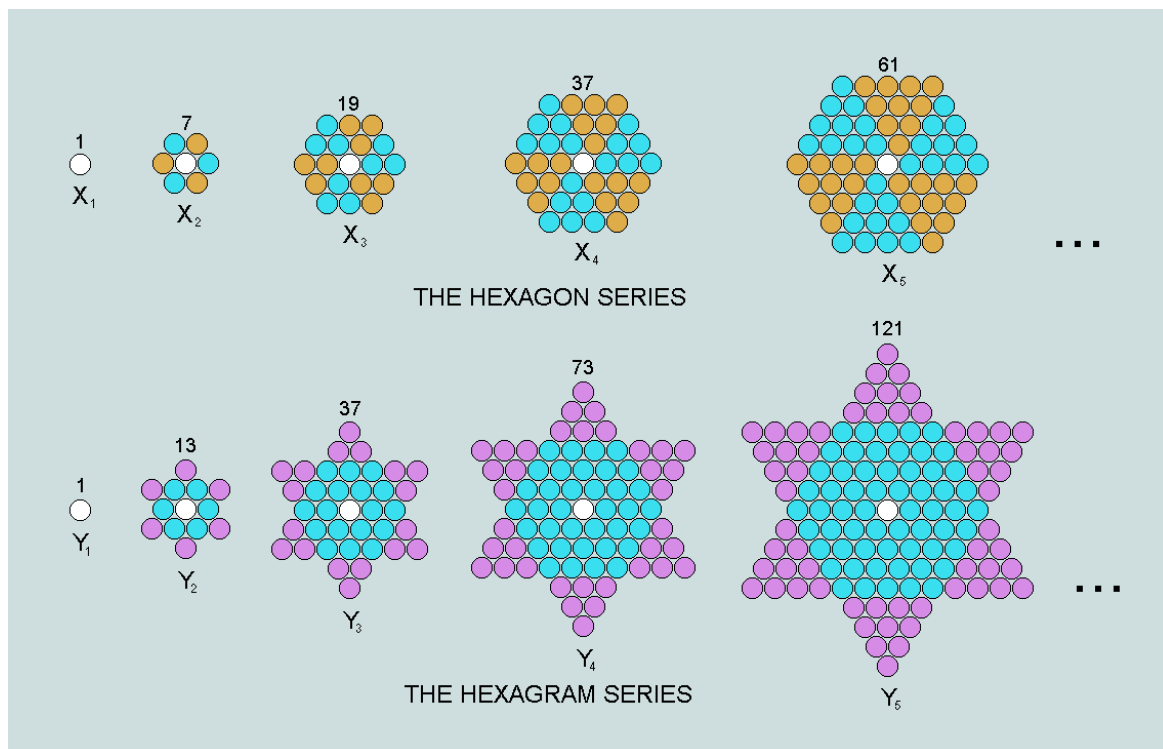
A particular term (designated the n^{th}) of each of the foregoing series may be obtained using a simple formula: thus,

$$\begin{aligned} \text{for triangles: } T_n &= n(n+1)/2 \\ \text{for hexagons: } X_n &= 3n(n-1)+1 \\ \text{for hexagrams: } Y_n &= 6n(n-1)+1 \end{aligned}$$

But also observe the progression of each series in respect of the step from one term to the next higher:

$$\begin{aligned} T_n &= T_{n-1} + n \\ \text{(Example: the 5}^{\text{th}} \text{ term in the T-series} &= 4^{\text{th}} \text{ term} + 5 = 10+5 = 15) \\ X_n &= X_{n-1} + 6(n-1) \\ \text{(Example: the 4}^{\text{th}} \text{ term in the X-series} &= 3^{\text{rd}} \text{ term} + 6(n-1) = 19+18 = 37) \\ Y_n &= Y_{n-1} + 12(n-1) \\ \text{(Example: the 3}^{\text{rd}} \text{ term of the Y-series} &= 2^{\text{nd}} \text{ term} + 12(n-1) = 13+24 = 37) \end{aligned}$$

As revealed in the following figures, the internal structures of both hexagon and hexagram are triangle-based: 6 'elemental triangles' around the central counter in respect of the first, and 12 around, in respect of the second.

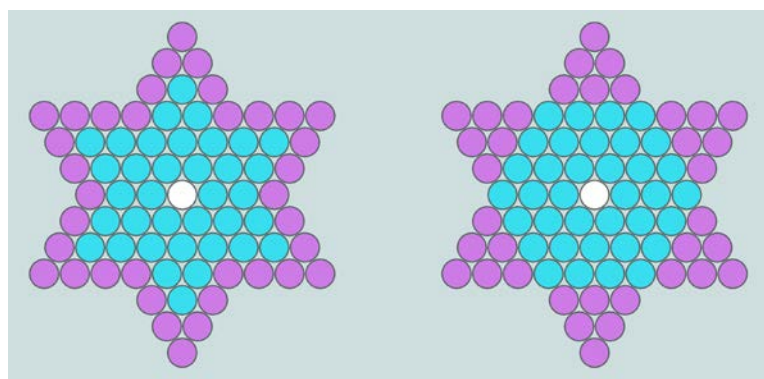


Revealing the triangular structure of Hexagon and Hexagram

FIGURE 4

An examination of these sequences reveals a number of the 'treasures' spoken of; particularly striking is the appearance of 37 in both series, and its digit reflection 73 in the second. But here is a complete list involving these and other features:

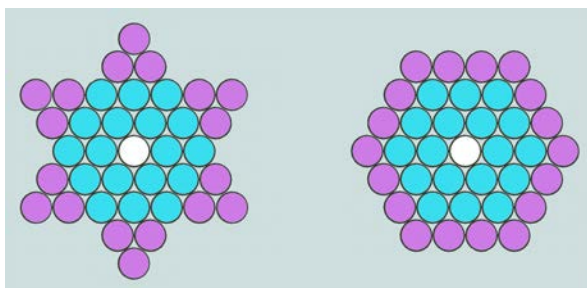
1. $X_4 = 37$ and $Y_4 = 73$: in other words, expressed in the normal way as decimal numbers, they exhibit reflection. This property is shared with just two other related pairs, viz. 397/793 and 3997/7993.
2. The same numbers have 6 as elemental triangle.
3. These numbers are also consecutive terms in the hexagram series, i.e. $Y_3 = 37$, $Y_4 = 73$...
4. ...and are related absolutely: both 37-as-hexagon and 37-as hexagon being seen to form a central feature of 73-as-hexagram, thus:



37 and 73 are related absolutely in two ways

FIGURE 5

5. A similar situation occurs with respect to 19 and 37: 19-as-hexagon forms a central feature of both 37-as-hexagram and 37-as-hexagon, thus:



19 and 37 are related absolutely

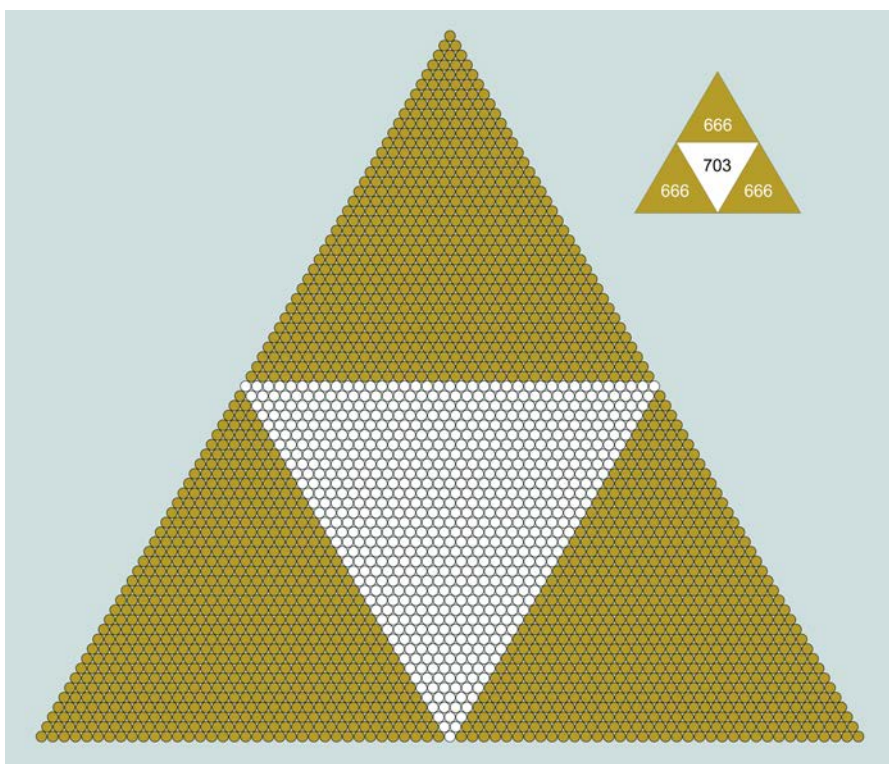
FIGURE 6

6. Mathematical analysis reveals the product $X_n \cdot Y_n$ to be a triangle, thus:

$$X_4 \cdot Y_4 = 37 \cdot 73 = 2701 = T_{73}$$

$$\text{and } X_3 \cdot Y_3 = 19 \cdot 37 = 703 = T_{37}$$

7. 703-as-triangle may be perfectly inscribed in 2701-as-triangle, thus:



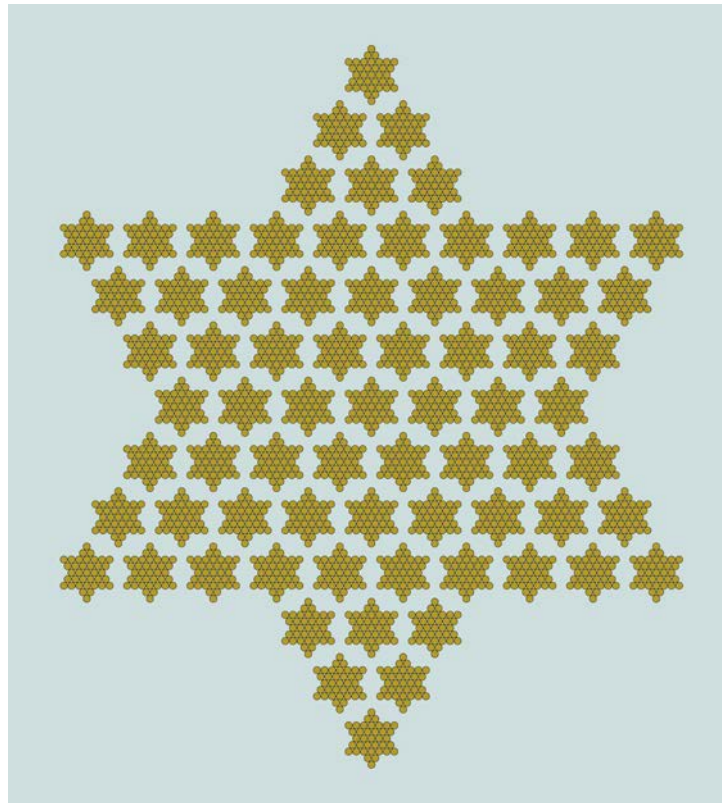
2701-as-triangle with 703-as-triangle inscribed

FIGURE 7

8. This operation produces three satellite triangles – each of 666 counters.
 9. Interestingly, the outline of 2701-as-triangle comprises 216 counters, or the cube 6.6.6.
 10. The product $Y_n \cdot Y_{n-1}$ may be interpreted as a hexagram of hexagrams (i.e. a 'star-of-stars'), thus:

$Y_4 \cdot Y_3$ as a star comprising 73 stars of 37, or 37 of 73 – the total in each case, 2701...

11. ...here is a most remarkable treasure: the fact that 2701-as-triangle (its factors, 37 and 73 – reflective and related absolutely) may also be realised as a symmetrical formation of seventy-three 6-pointed stars of thirty-seven, thus:



2701-as-Star-of-Stars

FIGURE 8

12. It transpires that the phenomenon **2701 = Triangle = Star-of-Stars** is exceedingly rare, as the following table of analogues suggests:

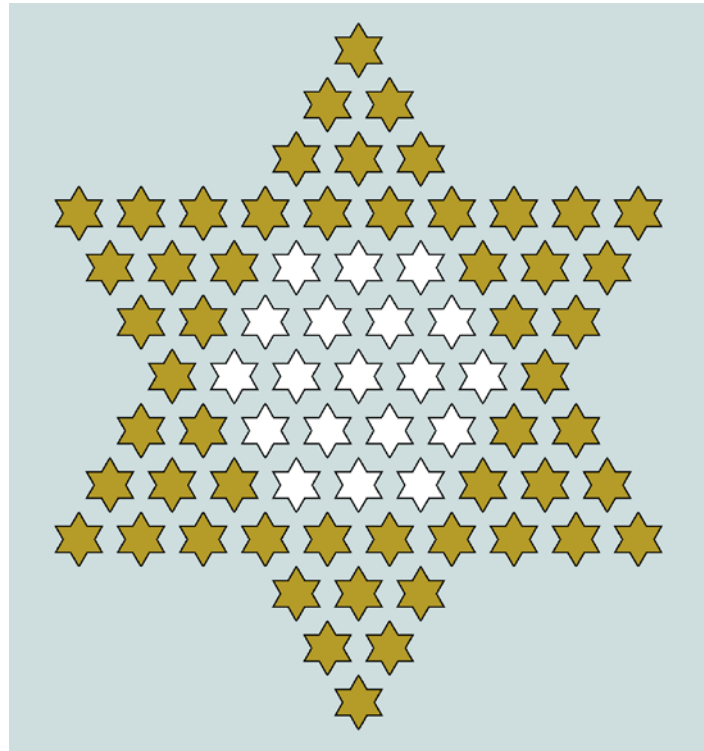
n	Larger Star [S1]	Smaller Star = Hexagon [S2=X]	2701 and analogues [S1.S2 = S1.X]
1	73	37	2701
2	2521	1261	3178981
3	85681	42841	3670659721
4	2910673	1455337	4236010111801
5	98877241	49438621	4888354443324661
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The first Triangle numbers which are also Star-of-Stars

FIGURE 9

As we observe (column 4), 2701 is one of an exceedingly sparse subset of the natural numbers. Because it is unique in this company – possessing the additional and exclusive features: reflective factors and the cubic outline of its triangle form – we conclude that it is most probably **one-of-a-kind** among the infinite series of natural numbers.

13. Further, in this format, the inner triangle of 703 may be represented as an inner hexagon of 19 units of 37-as-hexagram, thus:



The 2701 Star-of-Stars with 703-as-compound-Hexagon inscribed

FIGURE 10

Conclusion: With this depiction of a **synthetic snow crystal** we appear to have returned to our point of departure, viz. the contemplation of an image of the real thing! There is little more to be said – apart, of course, from the observation that **a fair numerical reading of the Hebrew of the Bible’s first verse (Genesis 1:1) reveals this singular number 2701 together with its coordinated companion 703.** Details of this most remarkable ‘coincidence’ – **which strongly suggests biblical inerrancy** – may be found in the author’s book,

“The Second Edge: A Role for Numerical Coincidence in the Pursuit of Truth”
(which may be freely downloaded from www.whatabeginning.com/book.pdf).

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