# The <br> SECOND EDGE 



ISSUE 3.
בראשית ברא אלהים את השמים ואת
The Ultimate Assertion:
EXTENDED VIEWS

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It is suggested that these booklets are read in the order of their publication, beginning with the introductory 'Issue 1 - The Ultimate Assertion: evidence of supernatural design in the divine prologue.'


Hard-copies of these monographs may be obtained by first emailing their author at mentor37@virginmedia.com (with 'Second Edge' in the subject field) to receive the current catalogue, price list and order form.

## Preamble

It becomes increasingly clear that the prophesied 'perishing of man's wisdom' (Isaiah 29:14) will involve its failure to explain in purely naturalistic terms the presence of the coordinated numero-geometric structures that inhabit significant words and passages of the JudeoChristian Scriptures - particularly those which speak of our Creator and the Creation.

Here, we continue with analyses of the more prominent Bible verses which speak of beginnings, commencing with a consideration of the Hebrew verse introducing the re-creation that followed the destruction of the old regime by water (the mabbul or Global Flood). Following this, an assessment of the numbers deriving from the original Greek of John 1:1 confirms this verse to be a fitting companion for the textually-parallel Genesis 1:1, and in which 'Word' is seen to occupy a particularly prominent numero-geometrical place in the divine scheme of things. This section concludes with an exposition of a Greek form of Revelation 21:1 which describes a New Creation; remarkably, it is shown to accommodate a pictorial form of the original creation (as represented by the Hebrew form of the Bible's first verse).

The final section deals with further surprising implications of the Genesis 1:1 and John 1:1 data, each leading to a good approximation of a prominent universal constant: $\pi$ (pi) in respect of the first, and e (Euler's number) in respect of the second. The calculations involve the application of the same simple formula and are detailed in Appendices 2 and 3 . Assistance with the application of these calculations is provided in Appendix 1, and a rebuttal of the much maligned matter of King Solomon's understanding of $\pi$ is offered in Appendix 4.

Our Anonymous Reporter (AR) again leads the discussion.

Vernon Jenkins

# The Second Edge: 

## continuing the Bible's complementary message

## I OBSERVE THAT YOU ARE HERE STILL VERY MUCH INVOLVED WITH THE SCRIPTURAL REFERENCES TO BEGINNINGS.

Indeed. Proceeding from Genesis 1:1, the next Old Testament event which deserves our attention is the re-creation which followed the destruction of the then current world order by the great flood of Noah's day. Here is the significant verse (Genesis 8:14):


The circumstances attending Genesis 8:14 are interesting: because of man's gross wickedness divine judgment has now been exercised; apart from Noah's family and the animals inhabiting the ark all terrestial life has been extinguished by the mabbul. We are about to read of a new beginning; the cleansed Earth is to be populated again at God's command: "Then God said to Noah, 'Come out of the ark, you and your wife and your sons and their wives. Bring out every living creature that is with you...so they can multiply on the earth and be fruitful and increase in number upon it'. So Noah came out..." (Genesis 8:15-19). The previous verse ("And in the second month, on the seven and twentieth day of the month, was the earth dried.") therefore stands at a critical point in Earth history: clearly, it is in the nature of an epilogue to the Antediluvian/Diluvian Age - to which Genesis $1: 1$ is the prologue. But it also functions as a prologue to the Postdiluvian experience of which we are part.

It is therefore a matter of some significance that the sum of the 8 Hebrew words of Genesis $8: 14$ is the large triangular number, 2701 - and thus identical to the sum of the 7 of Genesis 1:1 (as demonstrated in earlier pages). Here are the details:


The reading is from right to left - the numbers above the text representing the letters read as numerals in accordance with the Hebrew scheme of alphabetic numeration instituted c. 200 BC (see SE-1, p.3) and below, the characteristic value of each word as determined by the sum of its letters. For convenience, we shall designate this sequence of 8 word CVs the 'Mabbul'- or M-set.

Clearly, [M] = [320, 365, 379, 626, 56, 342, 317, 296] and its sum, $2701=37$ $x 73=73^{\text {rd }}$ triangular number and 'star-of-stars' (and thus having features in common with the Ultimate Assertion - Genesis 1:1). But there are further associations with the original creation, as outlined below.

- The triangle divisions

The triangles divide on the sums of the last two and first two CVs, respectively. Thus for Genesis $1: 1,407+296=703=37^{\text {th }}$ triangle (coloured blue); and for Genesis $8: 14,320+365=685=$ brown trapezium. Their complements are, of course, the trapezium 1998 and the $63^{\text {rd }}$ triangle , 2016.


- The tessellated trefoil

In SE-2, pp.29-30 the sum of [G], 2701, was shown to exist as a tiled arrangement of symmetrical figures. This came about because the odd CVs were found to total 1690 (or $10 \times 169=10 \times 8$ th hexagon) and the even CVs, 1011 (or $3 \times 337=3 \times 8$ th hexagram). A similar situation exists in Genesis 8:14 where the sum of CVs $1-4=320+365+379+626=1690$, and of CVs $5-$ $8=56+342+317+296=1011$. So both verses may appear as depicted on these earlier pages.

- A return to the chequerboard

In SE-2, pp.17-24 it was revealed that, inspired by an ancient artefact, the Creator's Name ('Jesus Christ') might be linked with Bible's first verse (Genesis 1:1). This involved constructing a $64 \times 64$ square (termed 'chequerboard of chequerboards') within which combinations of the opening words would appear as rectangular or triangular forms. The same procedure may be applied to Genesis 8:14 - with interesting effect.

As before, we begin with the basic structure,

and observe the following:

$$
\begin{gathered}
a=37^{2}=1369=\left(4^{3}-3^{3}\right)^{2} ; b=27.37=999=3^{3}\left(4^{3}-3^{3}\right) \\
c=27^{2}=729=9^{3}=9.9 .9 ; a+b=64.37=8.296=888+1480=2368 \\
b+c=64.27=1728=12^{3}
\end{gathered}
$$

Amidst this preponderance of squares and cubes the Creator's Name appears: Jesus Christ (CV $=2368$, see SE-1, p.18)

It is against this highly significant backdrop that both [G] and [M] are revealed. In the next diagram the sum of the first two CVs of the latter is presented as a symmetrical diamond $\mathbf{d}$ of 685 counters which fits precisely into the top left-hand square. Taking the upper two of the four triangles representing the remainder of the square, we find $2 e=342=C V$ of word 6 . The lower two triangles together with one complete row of 37 total $2 \mathbf{e}+37$ $=342+37=379=C V$ of word 3 . Below the upper square we have $f=296$ (occupying 8 rows of 37 ) $=$ CV of word 8 , and finally, the sum of CVs 4, 5 and $7=999$, here represented by the rectangle $\mathbf{b}$.


Thus, gathering these pieces together, 2701-as- Genesis 8:14 appears as an asymmetrical hexagon confined within the larger square of $16^{3}$ units, thus:


Observe that, in attendance, we have the unique number 666 and its visual relation, the cube of 9 , or 729 .

Interestingly, the Genesis 1:1 data can be made to fit precisely the same scheme, thus:


Here, each 999 represents the sum of the [G] CVs: $1+3=2+4+5 ; 407$ is the $6^{\text {th }}$; and 296 is the $7^{\text {th }}$.
It is clear that these verses which function as a pair of 'bookends' to what may be called 'Phase 1' of Earth history are securely bound together numerically! In addition it has been demonstrated that both are inextricably linked with the Creator's Name. It follows that Genesis 8:14 must be regarded as an integral part of the standing miracle which previous pages have sought to define.

Despite the clear words of of Genesis 6-9, it is widely believed that the mabbul was nothing more than an intense, but essentially 'local' flood. Without this understanding, evolutionists would find it impossible to justify their reading of the history of this planet. The direct, powerful , and logical language of the biblical narrative is now bolstered by a numerical affirmation. Is it therefore any longer reasonable to believe that the event was anything but global?

## AND, UNDOUBTEDLY, ACCOMPANIED BY A DRASTIC RE-SHAPING OF THE EARTH'S SURFACE. BUT I GATHER IT IS NOW YOUR INTENTION to focus on certain verses of New Testament Greek. I BELIEVE YOU MAY ENCOUNTER SOME PROBLEMS HERE BECAUSE OF VARIATIONS AMONG THE POSSIBLE SOURCES.

You are correct. In marked contrast to the Masoretic* Hebrew text of the Old Testament (the basis of all our translations) the Greek of the 'New' can presents problems. An expert in the matter has written
"The New Testament was inspired by God, and came from the pens of its writers or their amanuenses in infallible form, free from any defect of any sort, including scribal mistakes. However, God in His providence did not choose to protect that infallible original text from alterations and corruptions in the copying and printing process. Scribes and printers made both accidental (usually) and deliberate (occasionally) changes in the Greek text as they copied it. As a result, the surviving manuscript copies of the New Testament differ among themselves in numerous details."**
Our New Testament translations may therefore be specific to one or other of these alternative Greek sources, nevertheless many hold the view that no fundamental point of doctrine rests upon a disputed reading.
*http://www.gotquestions.org/Masoretic-Text.html
**http://www.bible-researcher.com/kutilek1.html
THANK YOU. I TAKE IT THEN THAT YOU WILL QUALIFY YOUR SOURCE AS APPROPRIATE. BUT NOW TO THE MAIN BUSINESS AS I SEE IT. YOU HAVE DESCRIBED THE NEW TESTAMENT ACCOUNT OF THE ORIGINAL CREATION, AS SUMMARISED IN JOHN 1:1, AS 'A GREEK

POSTSCRIPT TO THE ULTIMATE ASSERTION'. WOULD YOU PLEASE EXPLAIN?

Certainly. Let us begin with the observation that the principal versions of the Greek New testament speak John 1:1 with the same words, viz.


Observe here a feature that is easily overlooked: the final letter of word 2 has an 'iota subscript', i.e. in this case, a small iota written beneath the long vowel eta, forming the second element of a diphthong, but not pronounced. It follows that the 17 words incorporate a total of 52 letters (i.e. 1 more than those clearly visible).

Following a reiteration of the Greek scheme of alphabetic numeration, the numerical analysis of this verse proceeds as detailed opposite. As on previous occasions the letter values are given above and the word CVs (sum of the constituent letters) below. Representing the outcome as the [J]-set, we have

$$
\begin{aligned}
& {[J]=[55,719,58,70,373,31,70,373,58,450,420,134,31,284,58 \text {, }} \\
& 70,373] \text { and their sum } 3627
\end{aligned}
$$

$3627=39 \times 93$ (its reflective factors thus following the precedent established by $2701=37 \times 73$ ). Remarkably, when this number is added to 2701 (representing the Ultimate Assertion / Creation Triangle) the result is 6328 - the $112^{\text {th }}$ triangular number! This has been appropriately designated the Greater Creation Triangle (GCT). In this context, John 1:1 is revealed as a trapezium providing a perfect base and plinth upon which the Creation Triangle rests. Undoubtedly, there is much meaningful symbolism here.

| Place: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Letter: | $A \alpha$ | $B \beta$ | $\Gamma \gamma$ | $\Delta \delta$ | $E \varepsilon$ | $Z \zeta$ | $H \eta$ | $\Theta \theta$ |
| Name: | Alpha | Beta | Gamma | Delta | Epsilon | Zeta | Eta | Theta |
| Numeral: | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 |
| Place: | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Letter: | $I \lambda$ | $K \kappa$ | $A \lambda$ | $M \mu$ | $N v$ | $\Xi \xi$ | $O o$ | $\Pi \pi$ |
| Name: | lota | Kappa Lambda | Mu | Nu | Xi | Omicron | Pi |  |
| Numeral: | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |
| Place: | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Letter: | $P \rho$ | $\Sigma \sigma \zeta$ | $T \tau$ | $Y v$ | $\Phi \phi$ | $X \chi$ | $\Psi \psi$ | $\Omega \omega$ |
| Name: | Rho | Sigma | Tau | Upsilon | Phi | Chi | Psi | Omega |
| Numeral: | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |

The Greek alphabet and scheme of alphabetic numeration

John 1:1


The numerical analysis of John 1:1


## The Greater Creation Triangle (GCT)

For the Christian, these matters are highly significant and informative once the identity of 'the Word' has been ascertained. The answer is found in John 1:14 where we read 'And the word was made flesh and dwelt among us...'. Undoubtedly therefore, Jesus Christ is the Word; and because 'All things were made by him...' (John 1:3), He is also God the Creator.

Observe that 'Word' appears three times in John 1:1. Its CV $=373$ and this leads to its graphical expression as LOGOS STAR - 7 of 37-as-hexagram (= 259) combining with 6 of 19-as-hexagon (= 114) to generate this total. As may be seen, there are two solutions.


The two versions of the LOGOS STAR (CV = 373)


Two observations may be made here:

- when 2701 (CV of the Ultimate Assertion) is added to the number represented by its digits reversed, i.e. 1072, the result is 3773 - in which 37 and 73 (the factors of 2701) are uniquely revealed; remarkably, a telescoping of this result reveals 373, the Word
- the $6 / 7$ 'days of creation' motif is built into the Logos Star


## ASTONISHING!

But there is more. It may be remembered that one of the pictures of the Ultimate Assertion took the form of a 'star of-stars' (SE-2, pp. 10-12) which led to the depiction of significant divisions of the verse. Because this representation also accommodates 'the Word' as a central feature it is reproduced here.


The 73 stars, each of value 37, generate the total 2701. Within this structure, the name 'Jesus' is represented symmetrically in white as the outline hexagram of 24 units (i.e. a total of $24 \times 37=$ 888 counters), thus:


And within this boundary we find 13 units of 37 which total 481, the sum of the CVs of Hebrew words 3 and 5 (i.e. $86+395$ ) translated 'God' and 'heaven' (SE-1, p.3).

As the next diagram reveals, the second representation of 'the Word' may now be superimposed at the centre of this divine confluence - with impressive effect! Jesus is revealed as Creator and Word.


Depicting The Creator at the centre of His Creation

THIS IS POWERFUL SYMBOLISM, INDEED! AND IT IS QUITE REMARKABLE THAT THE CONTRIBUTIONS FROM THESE HEBREW AND GREEK SOURCES SHOULD INTEGRATE SO WELL.

It is undoubtedly yet another facet of the same standing miracle and reveals the work of the One Omnipotent Supervisor. The features of design continue when we consider Revelation 21:1 where John speaks of a New Creation thus: "Then I saw a new heaven and a new earth, for the first heaven and the first earth had passed away, and there was no longer any sea."(NIV) This is a case in which variations do occur in the Greek. We are here drawn to the version used by the NIV translators, viz.

#  <br> And I saw heaven a new and earth a new 

## 



It is appropriate that there is numero-geometric cohesion between the two verses which (in Hebrew and Greek, respectively) speak of the inception and dissolution of the 'first creation and re-creation' - of which we are part. These have already been examined and found to be numerically identical; the second remains to be analysed. We therefore begin by deriving the CVs of its 22 words in the usual manner.


The related set of CVs which we here designate [ $\mathbf{N}$ ] is therefore [ N ] = $[31,139,741,201,31,61,139,70,104,1550,891,31,8,1288,11$, $179,31,8,442,490,565,315]$ and its sum 7326

Now observe the following:

- Like 2701 (the CV of Genesis $1: 1$ ), 7326 is a multiple of 37 ; thus, $7326=198 \times 37$ whereas $2701=73 \times 37$
- Summing the CVs of the two verses, we therefore have

$$
\begin{gathered}
7326+2701=10027=(198+73) \times 37=271 \times 37 \\
=10^{\text {th }} \text { numerical hexagon } \times 37
\end{gathered}
$$

There follows a graphical representation of this outcome:


Observe that each stellar unit of construction in these diagrams represents 37-as-hexagram. Because the 'star-of-stars' form of Genesis 1:1 is of the same texture it may be symmetrically displayed at its centre, thus:


Here, the hexagram of 73 blue stars (recognizable as the 'star-of-stars') comprises a total of 2701 counters - sum of the CVs of the Divine Prologue. The containing hexagonal border is therefore formed from (271-73) stars, ie. a total $198 \times 37$, or 7326 - the CV of Revelation 21:1.

AGAIN, THE SYMBOLISM IS REMARKABLE: WE WITNESS THE 'OLD' SWALLOWED UP BY THE 'NEW' - THE STAMP OF DIVINE AUTHORITY CENTRAL TO THE ‘STAR-OF-STARS’ AND TO THE WHOLE STRUCTURE!

But there is a further independent aspect to this wonder. Here, the blue hexagram of the previous picture has been replaced by a hexagon of 19, representing 'and the earth' - the sum of words 6 and 7 of Genesis 1:1 (i.e. $407+296=703$ ).


As before, we form the sum $7326+703=8029=37 \times 217$. And since 217 is the $9^{\text {th }}$ numerical hexagon, this must be the value represented by the whole figure. It follows that the yellow stars total 7326 - the sum of the CVs of Revelation 21:1.

I UNDERSTAND IT IS YOUR INTENTION TO CONCLUDE THESE IMPRESSIVE DEMONSTRATIONS OF NUMERICAL DESIGN WITH EVIDENCES OF A COMPLETELY DIFFERENT KIND.

Indeed. In view of all that has gone before it should occasion no great surprise that the two foremost creation verses of Scripture, viz. Genesis 1:1 and John 1:1, between them deliver with consummate ease accurate values of the two principal universal constants $\pi$ (pi), and $\mathbf{e}$. These derive from the application of the same simple formula to data arising from the structure of each of these verses.

In mathematics, the sciences, and engineering, the two most widely known (and used) dimensionless constants are $\pi$ and e. Both are transcendental numbers, i.e. neither can be defined exactly by the ratio of two integers, nor by any algebraic process; it follows that for all practical purposes they must be represented by approximations.

The first is most famously involved in the mensuration of circle and sphere, and has been known from ancient times. Its value is $3.141592654 . .$. - commonly approximated by the simple fraction 22/7, or 3.142857... (error: + 0.04\%).

The second is of a more recent vintage (18th century). Known also as 'Euler's number', it occurs naturally in any situation where a quantity increases at a rate proportional to its value, such as a bank account producing interest, or a population increasing as its members reproduce.

Here is the required formula:

$$
\left(\mathbf{P}_{\text {letters }} \times \mathbf{N}_{\text {letters }}\right) /\left(\mathbf{P}_{\text {words }} \times \mathbf{N}_{\text {words }}\right)
$$

where $\mathbf{P}_{\text {letters }}=$ product of letters and $\mathbf{P}_{\text {words }}=$ product of words

$$
\mathbf{N}_{\text {letters }}=\text { number of letters and } \mathbf{N}_{\text {words }}=\text { number of words }
$$

## The evaluation of pi ( $\pi$ ) from [G]

As we have seen, the Bible's first verse comprises 7 Hebrew words formed from a total of 28 letters. Hitherto, attention has focused particularly on the sums of the word CVs in total and in part. Now however it is the word and letter products that occupy centre stage. Observe that, although each word CV is the sum of its letter CVs, the product of the latter bears no clear and obvious relationship to the former.

Here is the basic calculation:
$\frac{\text { Product of letters } \times \text { Number of letters }}{\text { Product of words } \times \text { Number of words }}$

$$
=\frac{2.3887872 \times 10^{34} \times 28}{3.0415352 \ldots \times 10^{17} \times 7}
$$

$=3.141554509 \ldots \times 10^{17}$

Observe that $3.141554509 \ldots$ underestimates $\pi$ ( $=3.141592654 \ldots$ ) by a mere $0.0012 \%$

The details are provided in Appendix 2.

## The evaluation of e from [J]

John 1:1 has 17 words and 52 letters. The basic calculation is therefore,

$$
\begin{aligned}
& \frac{\text { Product of letters } \times \text { Number of letters }}{\text { Product of words } \times \text { Number of words }} \\
& =\frac{8.436251456 \ldots \times 10^{75} \times 52}{9.493022414 \ldots \times 10^{35} \times 17} \\
& =\frac{4.386850757 \ldots \times 10^{77}}{1.61381381 \ldots \times 10^{37}} \\
& =\quad 2.718312812 \ldots \times 10^{40}
\end{aligned}
$$

Observe that $2.718312812 \ldots$ overestimates
e ( $=2.718281828 \ldots$ ) by a mere $0.0011 \%$

The details are provided in Appendix 3.

I OBSERVE THAT THE APPLICATION OF YOUR FORMULA GENERATES EXCEEDINGLY LARGE NUMBERS, BUT TAKE THE POINT THAT IT IS THE 'SIGNIFICANT FIGURES' OF THE RESULT (HELD IN THE MANTISSA) THAT REALLY MATTER. I THINK IT IS WORTH REPEATING THAT THE RATIO OF TWO WHOLE NUMBERS (THE BASIS OF YOUR CALCULATION) IS UNABLE TO DELIVER PRECISE VALUES FOR PI AND E. THEY MUST OF NECESSITY BE APPROXIMATIONS.

Correct. Even the Lord was bound by this restriction! But it is salutary to consider some of the implications of these approximations.

## A review of the $\pi$ and e evaluations

It is interesting, and undoubtedly significant, that the percentage errors involved in the foregoing derivations of $\pi$ and e, viz. -0.0012 and +0.0011 , respectively, are small, of the same order of magnitude, and of opposite polarity. It is appropriate that we derive a handle on the kind of odds against these results being chance happenings - bearing in mind the fundamental nature and close relationship of the sources involved. Here, again, are the first 10 digits of 'estimate : true value' for $\pi$ and e, respectively, with matching significant digits underlined:

## $\underline{\underline{3.1415} 54509: \underline{3.1415} 92654}$ and $\underline{\mathbf{2 . 7 1 8}} 312812: \underline{\mathbf{2 . 7 1 8}} \mathbf{\underline { 2 } 8 1 8 2 8 .}$

Clearly, they are each seen to be correct to 5 significant figures. Based upon a random distribution of the variables (a not unreasonable assumption in the circumstances), a simple estimate of the combined probability of these events may therefore be obtained as follows:

Since the first digit in each case could have been any one of nine in the range 1-9, and each of the remaining matching digits, any one of ten in the range $0-9$, each event is associated with a probability of 90,000 to 1 against; and because they are independent and represent the most significant of the physical constants, the final assessment (more than 8 billion to 1 against) must argue heavily against them occurring fortuitously.

[^0]- The Hebrew letters and words of the Old Testament and the Greek letters and words of the New Testament each have an uncontrived numerical dimension (the CV, or 'characteristic value') that arises directly from their involvement in the alphabetic numbering systems of these early peoples.
- The application of a simple numerical procedure to the Hebrew letters and words of the Bible's first verse (Gen.1:1) generates an approximation of $\pi$, correct to 5 significant figures (error: - 0.0012\%).
- The application of the identical procedure to the first verse of the Gospel of John (which speaks of the same event as Gen.1:1) generates an approximation of e, also correct to 5 significant figures (error: + 0.0011\%).
- Given the circumstantial evidence linking these two verses - both textual and geometrical - it would be extremely unreasonable to write off these coincidences as extremely remarkable accidents; indeed, far more likely that they are features of purposeful design.

Clearly, the planning of these wonders must have preceded the writing of Genesis 1:1 (2nd millenium BC), the Hebrew alphabetic system of numeration (c. 200 BC ), and the writing of John 1:1 (c. 100 AD ). Further, the fundamental constant 'e' could not have been known on earth before the 18th century AD. Quite obviously, therefore, what we have described here has to be viewed as a purposeful supernatural act! And because the verses on which the phenomena are centred speak of "Elohim" and "Jesus Christ", it is not hard to deduce the identity of their author.

This standing miracle (for it is nothing less!) informs us as follows:

- The statements of Gen.1:1 and John 1:1 were made by the same author (and scientist); henceforth, their truth cannot be questioned by any of rational mind.
- There are now strong reasons for believing the whole of God's Word - read literally - to be completely trustworthy.
- It is now clear that God has therein provided empirical evidence of his Being and Sovereignty; in this 'Age of Reason' - (and gross apostasy!) - he is acting decisively so that none should perish through ignorance or foolish presumption.

WELL SAID! Thank you for revealing more of the wonders CONCEALED IN THE SCRIPTURES. I BELIEVE YOUR NEXT OBJECTIVE WILL BE TO DEMONSTRATE THAT IN ITS METRIC DIMENSIONS THE COMMON A4 SHEET OF CUT PAPER DISCLOSES [G ${ }^{+}$], I.E. THE number set associated with the Bible's first eight Hebrew WORDS. I LOOK FORWARD TO THAT.

## AR

Yes, it is perhaps the most telling feature of all the standing miracles that, in God's Wisdom and Providence, such a prolific artefact should be delegated so important a role. But that is to be the subject of Issue 4 of this Series.

## Soli Deo Gloria!

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## Appendix 1 - The Standard Form of a Number

Standard Form is a convenient way of writing very large or very small numbers and of facilitating certain types of calculation. It involves writing the given number as two digit-sequences separated by the character ' $\mathbf{E}$ '. That part to the left is called the 'mantissa'; that to the right, the 'exponent'. Here are two examples:

- $5721000000=5.721 \times 10^{9}=5.721 \mathrm{E9}$
- $0.0000000896=8.96 \times 10^{-8}=8.96 \mathrm{E}-8$

Observe that the mantissa (usually represented as a number in the range 1 to 10) carries the significant digits of the given number and that the exponent simply determines the final position of the decimal point (moving it rightward or leftward according as its value is positive or negative - zeros being inserted as necessary to fill empty places).

By expressing numbers in this way the multiplication or division of a string of numbers (as required in Appendix 2, for example) is simplified. Here are two instances involving conversion to and from standard form which demonstrate the principle:

$$
\begin{aligned}
& 510 \times 1750000000000 \times 0.00000379=5.1 \mathrm{E} 2 \times 1.75 \mathrm{E} 12 \times 3.79 \mathrm{E}-6 \\
&=(5.1 \times 1.75 \times 3.79) \mathbf{E}(2+12-6)=33.82575 \mathrm{E} 8 \\
&=3.382575 \mathrm{E} 9 \text { (the standard form of the product) } \\
&= 3382575000 \text { (as it may subsequently be written) }
\end{aligned}
$$

- $(100745 \times 89923) /(0.007053)$

$$
\begin{aligned}
& =(1.00745 \mathrm{E} 5 \times 8.9923 \mathrm{E} 4) / 7.053 \mathrm{E}-3 \\
& =[(1.00745 \times 8.9923) \mathrm{E}(5+4)] / 7.053 \mathrm{E}-3 \\
& =9.059292635 \mathrm{E} 9 / 7.053 \mathrm{E}-3 \\
& =(9.059292635 / 7.053) \mathrm{E}(9+3)=1.284459469 \mathrm{E} 12 \\
& =1284459469000
\end{aligned}
$$

(observe here that division by $\mathrm{E}-3$ is equivalent to multiplying by E 3 )

## Appendix 2 －Details of the＇$\pi$＇calculation

［Please note：for those wishing to follow the details of these calculations Appendix 1 －＂The Standard Form of a Number＂－is essential reading．］

## PRODUCT OF LETTERS：

$$
\begin{aligned}
&(2 \times 200 \times 1 \times 300 \times 10 \times 400) \times(2 \times 200 \times 1) \times(1 \times 30 \times 5 \times 10 \times 40) \\
& \times(1 \times 400) \times(5 \times 300 \times 40 \times 10 \times 40) \times(5 \times 1 \times 400) \times(5 \times 1 \times 200 \times 90) \\
&=(4.8 \mathrm{E} 8) \times(4 \mathrm{E} 2) \times(6 \mathrm{E} 4) \times(4 \mathrm{E} 2) \times(2.4 \mathrm{E} 7) \times(2.4 \mathrm{E} 3) \times(9 \mathrm{E} 4) \\
&=(4.8 \times 4 \times 6 \times 4 \times 2.4 \times 2.4 \times 9) \mathrm{E}(8+2+4+2+7+3+4) \\
&=(2.3887872 \mathrm{E} 4) \mathrm{E} 30 \\
&= \underline{2.3887872 \mathrm{E} 34}
\end{aligned}
$$

| 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢ ${ }_{\text {吕 }}$ | 者－の | 古可古㟔 | 点 |  | －${ }_{\text {吕 }}$ | 点云㟔，管 |
| $: \because \sim N T$ | ก＊゙ | ロッ9ヅT | ก＊ | ロップ＊ | $\cdots$ | กッヅフコ |
| ．earth the | and | heaven the |  | God | created | beginning the In |
| 296 | 407 | 395 | 401 | 86 | 203 | 913 |

## PRODUCT OF WORDS：

$$
\begin{gathered}
913 \times 203 \times 86 \times 401 \times 395 \times 407 \times 296 \\
=\underline{3.041535258 \mathrm{E} 17}
\end{gathered}
$$

## Appendix 3 - Details of the ' $e$ ' calculation

## PRODUCT OF LETTERS:

$(5 \times 50) \times(1 \times 100 \times 600 \times 8 \times 10) \times(8 \times 50) \times(70) \times(30 \times 70 \times 3 \times 70 \times 200) \times(20 \times 1 \times 10) \times(70)$ $\mathrm{x}(30 \times 70 \times 3 \times 70 \times 200) \times(8 \times 50) \times(80 \times 100 \times 70 \times 200) \times(300 \times 70 \times 50) \times(9 \times 5 \times 70 \times 50)$
$x(20 \times 1 \times 10) \times(9 \times 5 \times 70 \times 200) \times(8 \times 50) \times(70) \times(30 \times 70 \times 3 \times 70 \times 200)$

$$
\begin{aligned}
& =(2.5 \mathrm{E} 2) \times(4.8 \mathrm{E} 6) \times(4 \mathrm{E} 2) \times(7 \mathrm{E} 1) \times(8.82 \mathrm{E} 7) \times(2 \mathrm{E} 2) \times(7 \mathrm{E} 1) \\
& \times(8.82 \mathrm{E}) \times(4 \mathrm{E} 2) \times(1.12 \mathrm{E} 8) \times(1.05 \mathrm{E} 6) \times(1.575 \mathrm{E} 5) \\
& \times(2 \mathrm{E} 2) \times(6.3 \mathrm{E} 5) \times(4 \mathrm{E} 2) \times(7 \mathrm{E} 1) \times(8.82 \mathrm{E} 7) \\
& =(2.5 \times 4.8 \times 4 \times 7 \times 8.82 \times 2 \times 7 \times 8.82 \times 4 \\
& \quad \times 1.12 \times 1.05 \times 1.575 \times 2 \times 6.3 \times 4 \times 7 \times 8.82) \mathrm{E} 66 \\
& =(8.436251456 \mathrm{E} 9) \mathrm{E} 66=8.436251456 \mathrm{E} 75
\end{aligned}
$$



## PRODUCT OF WORDS:

$(5.5 \mathrm{E} 1) \times(7.19 \mathrm{E} 2) \times(5.8 \mathrm{E} 1) \times(7 \mathrm{E} 1) \times(3.73 \mathrm{E} 2) \times(3.1 \mathrm{E} 1) \times(7 \mathrm{E} 1)$

$$
\begin{aligned}
& \times(3.73 \mathrm{E} 2) \times(5.8 \mathrm{E} 1) \times(4.5 \mathrm{E} 2) \times(4.2 \mathrm{E} 2) \times(1.34 \mathrm{E} 2) \times(3.1 \mathrm{E} 1) \\
& \times(2.84 \mathrm{E} 2) \times(5.8 \mathrm{E} 1) \times(7 \mathrm{E} 1) \times(3.73 \mathrm{E} 2) \\
& \quad=(9.493022414 \mathrm{E} 10) \mathrm{E} 25=\underline{9.493022414 \mathrm{E} 35}
\end{aligned}
$$

## Appendix 4 - An instructive example of 'circular reasoning'

"And he made a molten sea, ten cubits from the one brim to the other: it was round all about, and his height was five cubits: and a line of thirty cubits did compass it round about." (1 Kings 7:23, AV)

Thus does the Bible introduce its description of the bronze laver constructed by Hiram of Tyre for the ritual washing of King Solomon's temple priests. (The details are confirmed by repetition in 2 Chronicles 4:2). But there is a problem here: the distance around any circle (its 'circumference') is somewhat more than three times the distance across it (its 'diameter')*. This is a matter of simple observation requiring little more than a length of string; so it is hardly surprising to learn that by 1700 BC the neighbouring Egyptians were aware of it. The mystery deepens when it is remembered that the Hebrews were slaves in Egypt until c. 1270 BC, that their leader Moses was educated as a prince in the Egyptian court, and that the Phoenicians were well versed in Egyptian art and technology. So how could the Hebrew intelligentsia as late as 950 BC be ignorant seemingly of this simple truth?

Here, in the view of the critics, is clear evidence of the ineptitude of the very people who claim to be the sole trustees of God's Inerrant Word to man! They ask, 'Can anything these people have written or said be taken seriously'? Jews and Christians alike will be wise not to underestimate the strength and destructive nature of this argument, for true faith cannot be founded on sand!


What has been ignored of course is the fact that a vessel of the kind described has a wall, and that wall has thickness. Consequently the laver had an inner- and an outer- diameter and, correspondingly, an inner- and an outer- circumference. The writer does not qualify the dimensions he provides; his statement is ambiguous and invites misunderstanding. However, the following analysis should settle the matter and forever silence the critics.

Let d and D represent the inner- and outer- diameters, respectively; c and C , the corresponding circumferences; and t , the wall thickness. Further, let $\pi^{\prime}$ (pi dash) represent the ratio 'circumference to diameter' in each case. We then have the following 4 possibilities:
[1] $d=10 ; c=30$, and thus $\pi^{\prime}=c / d=3$
[2] $D=10 ; C=30$, and thus $\pi^{\prime}=C / D=3$
[3] $d=10 ; C=30$, and thus, because $c<30, \pi^{\prime}=c / d<3$
[4] $D=10 ; c=30$ and thus, because $C>30, \pi^{\prime}=C / D>3$
[Observe here the use of ' $<$ ' and ' $>$ ' to mean 'less than' and 'greater than', respectively]

Clearly, only (4) meets the requirement that $\pi^{\prime}$ is greater than 3 . Thus, if $\pi^{\prime}$ is to become $\pi$ the inner- circumference must equal 30 cubits and the outer- diameter, 10 cubits. However, against this interpretation is the fact that an inner-circumference is hard to measure - that is, until one remembers the practical matter of casting the laver: its mould must have had a raised solid circular centre around which a length of tightly pulled string would reveal what would later become its inner-circumference. [Further observe that for the technicians in charge of the casting the innercircumference and outer-diameter would have been readily measurable; consequently, it would probably have been taken for granted that these were the logical dimensions to record. So, from the writer's point of view, there was no ambiguity attending his use of the whole numbers 30 and 10 - and also in this way, avoiding the use of fractions].

At this point it becomes necessary to bring $t$ (the wall thickness) into the proceedings. Not forgetting that D (the outer diameter) incorporated a double thickness of metal, we have,

$$
(D-d)=2 t \text {; so that } d=D-2 t=10-2 t ; \text { and } c / d=30 /(10-2 t)=\pi^{\prime}
$$

Assuming $\pi^{\prime}=\pi$, this equation enables us to calculate $t$, thus: $10-2 \mathrm{t}=30 / \pi$ and $\mathrm{t}=(10-30 / \pi / 2=(10-9.55) / 2=0.225$ cubits Since the cubit is a unit roughly equivalent to 18 inches, the wall thickness of the laver was of the order of
$0.225 \times 18=4.05$ inches, i.e. about the width of a human hand

Significantly, in a parallel passage (2 Chronicles 4:5) the writer there adds the comment "And the thickness of it (the wall of the laver) was an handbreadth..." - which, in justifying our reading of $\pi^{\prime}$ as $\pi$, confirms our calculation and effectively rebuts the assumptions and accusations of the critics!

Clearly, if these writers of 1 Kings and 2 Chronicles now had the opportunity to qualify their description of the brazen laver, each would have said 'Its inner- circumference was 30 cubits; its outer-diameter, 10 cubits'.
*The ratio 'circumference/diameter' of any circle is a significant universal constant and is designated by the lowercase Greek letter $\pi$ (pi). For most practical purposes its value 3.14159... may be approximated by the fraction $22 / 7$, but so important is this number to the mathematician, scientist and engineer that it features on every scientific electronic calculator where it is now typically available to 7 decimal places at the touch of a button.

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Science is widely recognized as a primary source of man's reading of reality. Clearly, a first step in the establishment of true wisdom among men must therefore involve a recognition of its limitations. Science is defined as
"The intellectual and practical activity encompassing the systematic study of the structure and behaviour of the physical and natural world through observation and experiment."
At first sight, this appears to be a fair description of what scientists are engaged in. But for the Bible believer such an approach to the study of what life is all about is clearly incomplete, for nowhere does it allow for the possible intrusion of the supernatural into the world we know. Of course, for the atheist this is not a problem for he denies the supernatural anyway; on the other hand, for theistic scientists the standard defence is that while the supernatural certainly exists, God does not allow it to interfere with natural events (despite the many biblical accounts of such incursions, as particularly delineated in the prologue to the Book of Job). It follows that the committed Jewish or Christian believer must conclude that science as it is presently conducted is an imperfect discipline, and its assertions are therefore suspect - especially its claims with respect to the spontaneous appearance of life on Earth and elsewhere, of man being the ongoing product of an evolutionary process and of a universe that is very old.

The driving principle of science is methodological naturalism which establishes what may be called 'the rules of the game', viz. no supernatural activity is to be allowed to interfere with what is observed, or what is conjectured to have occurred. The matter is nicely summed up by the eminent geneticist Richard Lewontin when he declares "...we cannot allow a Divine Foot in the door." *

These monographs outline the Lord's method of achieving a 'forced entry'.

[^1]
mentor37@virginmedia.com


[^0]:    Let us briefly recap:

[^1]:    *http://creation.com/amazing-admission-lewontin-quote

