THE PLATONIC LAMBDA IS THE KEY TO STONEHENGE COMPOSITION

The modular multiples of diametres of Stonehenge circles are Pell numbers, arranged in the Pell number-pattern according to the code known today as the platonic lambda. With respect to the multiple meaning of a Pell term, they are comparable to the orbital distances of the Saturn satellites. Besides, the movement of counting with figured lambda numbers forms a track, connecting Pell terms pertinent to Stonehenge diameters, which is similar to the symbol of Saturn.

The composition of Stonehenge[1] follows an elaborate octagram[2]. Consequently, the diameters of Stonehenge circles are modular dimensions which can be expressed with Pell numbers[3] used as multiples of a module, 10 'megalithic feet' long[4], or M (10 mf).

Pell numbers in the ratio of Stonehenge diameters, 7, 10, 12, 17, 26, 29, and 34, can be found in the first three Pell series with the aid of the code, composed of the numbers 1, 2, 3, 4, 9, 8, and 27, said by Plato to be responsible for the planetary order[5]. In their figured

---

[1] T. Kurent, Stonehenge and the Vitruvian Amusium, *Architectural Association Quarterly*, vol 77 no 3, London 1975.

[2] P. H. Scholfield, *The Theory of Proportion in Architecture*, Cambridge: At the University Press, 1958.

[3] Pell numbers rationally approximate proportions in the composition of octagram.

[4] One 'megalithic foot' equals 335 mm. See note (1). Recently, Mr F, F. Kalin has sent me an offprint of A. Thom, A. S. Thom and A. S. Thom, Stonehenge, *JHA* V (1974), 71—90. describing the 'megalitic yard', two fifth of which are close to our 'megalithic foot'; Miss Helen Teltscher informed me about the 335 mm long 'northern foot' or 'Saxon foot'. Besides, the 332,9 mm long 'Benedictine foot' or Byzantine Alexandrian foot' is described by B. Hanftmann, Die Benedictiner als Architecten bis in die Zeit der Gotik. Ihr Werkschuh zu 0,3329 M.. *Studien und Mitteilungen zur Geschichte des Benediktiner-Ordens*, Kommissionsverlag R. Oldenburg, München 1930.

[5] T. Kurent, Stonehenge is a Platonic Cosmos Described in the Timaeus, paper sent to the *Architectural Association Quarterly*, London;
— Plato, *Timaeus* 35 b, c.
— Sir Thomas Heath, *A History of Greek Mathematics*, vol I, chapter *Plato, Astronomy*; Oxford, At the Clarendon Press 1921.

form[6] the platonic code numbers point out in the clockwise movement the terms 7, 5, 12, 17, 53, 29, and 17.

If we know that a Pell number means not only itself, but also its related numbers, which are 2, 4, 8... and/or 10, 100, 1000. ... times larger or smaller, and that a Pell number is always an integer, the term 5 can be regarded as 10, term 53 as 26 (which is its half made whole), and term 17 as 34.

Keeping in mind the above principle, the Pell numbers of Stonehenge diameters are practically in the same ratio as the distances between Saturn and its satellites, given in 10^5 stades[7].

The orbital distances of Saturn satellites are:

Ianus	152	$\times 10^3$ km or	7,56	$\times 10^5$ stades
Mimas	186	-,,-	9,25	-,,-
Enceladus	238	-,,-	11,84	-,,-
Tethys	295	-,,-	14,68	-,,-
Dione	377	-,,-	18,76	-,,-
Rhea	527	-,,-	26,22	-,,-
Titan	1220	-,,-	60,70	-,,-
Hyperion	1480	-,,-	73,63	-,,-
Iapetus	3558	-,,-	177,02	-,,-
Phoebe	12930	-,,-	643,28	-,,-

Radii of Stonehenge circles are:

Bluestone	7	M (5 'megalithic ft')
Sarsen	10	-,,-
Z-holes	12	-,,-
Y-holes	17	-,,-
-,,-	17	-,,-
Aubrey holes	26	-,,-
The Bank	58	M (10 'megalithic palms')
The Ditch	68	-,,-
-,,-	170	M (1 'megalithic ft')
-,,-	680	M (1 'megalithic palm')

Compare the numbers of orbital distances (in 10^5 stades) and the modular multiples of Stonehenge radii!

The numerical differences between the ratio of orbital distances of Saturn satellites in 10^5 stades and the radii of Stonehenge circles in M (5mf) for the Bluestone and Sarsen circles, Z-holes, Y-holes, and Aubrey holes, in M (10mp) for the Bank and the Ditch, in M (1 mf) for the Ditch, and in M (1 mp) for the Ditch again , are tolerable.

---

[6] Sir Thomas Heath, *A History of Greek Mathematics*, vol I, chapter *Pythagorean Arithmetic*, *Figured numbers*; Oxford, At the Clarendon Press 1921.
[7] One stade of 600 'megalithic feet' is 0,201 km long.

The radius of Saturn itself, which is 60×10^3 km, or $2{,}99 \times 10^5$ stades, can be numerically compared to the 28 M (5 'megalithic palms') radius of the Bluestone circle.

Visual analogy is often the source for a Greek mathematical conception. Numbers, e.g., can be triangular, oblong, square, pentagonal... cubic, pyramidal, etc, because pebbles[8] can be assembled in geometrical forms. The analogy of the ancient symbol of Saturn and of the lines connecting Pell terms relevant to Stonehenge diameters adds to the conclusion that Stonehenge is a platonic, or pythagorean, or Babylonian, or maybe still older, model of Saturn.

An Afterthought. In 1847 Rev. H. M. Glover placed the building of Stonehenge in the Saturnian Golden Age which was, perhaps, a poetic rendering of a mathematical analogy. And Rev. L. Gidley, who in 1873 belived that there is a connection between Stonehenge and Saturn, was not so wrong[9].

Illustration 1

Modular multiples of diameters of Stonehenge circles are terms of the first three Pell series. They are located in the Pell number-pattern according to the figured numbers of the platonic lambda. The pebbles forming lambda numbers point out the pertinent Stonehenge diameters in the clockwise movement. If the first stone covers term 7, the second one points out term 5, which means 10, the third one singles out term 12, etc. Note that term 5 stays for 10, term 53 for 26, and that the term 17 means also 34. This multiple meaning is due to the peculiar understanding of numbers and their families. A Pell number means not only itself but also its related numbers, which are 2, 4, 8 ... and/or 10, 100, 1000 ... times larger or smaller. Pell numbers are allways intergers and consequently one half of the the number 53 is not 26,5 but 26.

Radii of orbits of Saturn satellites in 10^3 km can be converted in 10^5 stades radii. In that case their modular mutliples are numerically nearly *equal* to modular multiples of Stonehenge circles. Thus, the Stonehenge radii of 7, 10, 12, 17, and 26, modules of 5 'megalithic feet' are close to orbital radii of Janus, Mimas, Enceladus, Tethis and Dione, and Rhea, which are 7,6 9,3 11,8 14,7 and 18,8 and 26,2, of 10^5 stades. (The greatest inaccuracy is in the 17 M radius of Y-holes circle, which simultaneously symbolizes the 14,7 and 18,8 M orbital radii of Tethiys and Dione, respectively). Radii of the Bank and of the Ditch equalling 58 and 68 modules of 10 'megalithic palms' (instead of saying 29 and 34 modules of 5 'megalithic feet') numerically ressemble the 60,7 and 73,6 distance of Titan and Hyperion. The radius of the Ditch in the form of 170 M (1 'megalithic foot'), and in the form

---

[8] cf. Gr. ἡ ψῆφος and Lat. *calculus* mean both, a pebble and a calculation.
[9] G. S. Hawkins, *Stonehenge Decoded*, Fontana-Collins 1975, pages 43 and 135.

680 M (1 'megalithic palm'), symbolizes also the 177 and 643 modules of 10^5 stades of Japetus and Phoebe.

Besides, the radius of 2,8 M (50 'megalithic palms') of the Bluestone circle is numerically comparable to the 2,9 of 10^5 stades, which is the radius of Saturn itself.

Thus, the ratios of scales to which the radii of rings and radii of orbits are compared overcome the enormous differences between the orbits of Saturn satellites and compress them in the model called Stonehenge.

Ljubljana.   *T. Kurent.*

RADII OF ORBITS OF SATURN
SATELLITES in 10^5 stades

RADII OF STONEHENGE RINGS
in M(5 megalithic feet)

Labels (left diagram): 643,28 PHOEBE · 177,02 JAPETUS · 73,63 HYPERION · 60,69 TITAN · 26,22 RHEA · 18,75 DIONE · 14,68 TETHYS · 11,84 ENCELADUS · 9,25 MIMAS · 7,56 JANUS · 2,98 SATURN

Labels (right diagram): 7 BLUESTONE CIRCLE · 10 SARSEN CIRCLE · 12 Z HOLES CIRCLE · 17 Y HOLES CIRCLE · 26 AUBERY CIRCLE · 29 THE BANK · 34 THE DITCH
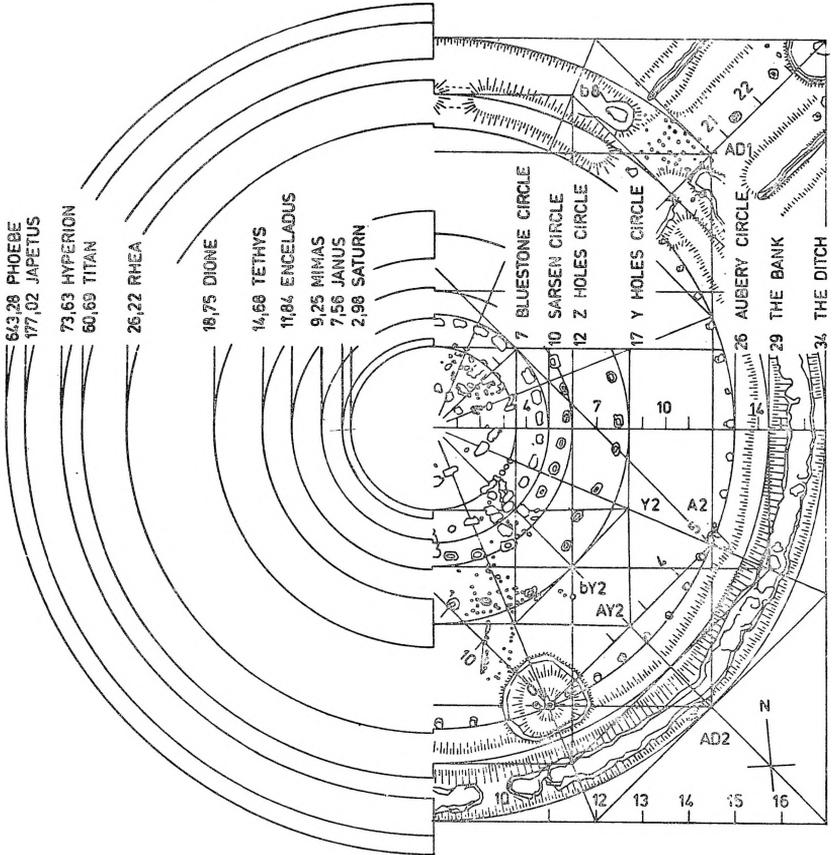
SATURN	$2,9854 \times 10^5$ stades	28 M	(5 m.palms)	BLUESTONE	$= 48 \times 10^6 : 1$
JANUS	7,562	7 M		BLUESTONE	
MIMAS	9,254	10 M		SARSEN	
ENCELADUS	11,841	12 M	(5 m.f.)	Z - HOLES	$= 120 \times 10^6 : 1$
TETHYS	14,677	17 M		Y - HOLES	
DIONE	18,756	17 M		Y - HOLES	
RHEA	26,219	26 M		AUBERY HOLES	
TITAN	60,697	58 M	(10 m.p.)	THE BANK	$= 240 \times 10^6 : 1$
HYPERION	73,632	68 M		THE DITCH	
JAPETUS	177,015	170 M	(1 m.f.)	THE DITCH	$= 600 \times 10^6 : 1$
PHOEBE	643,284	680 M	(1 m. p.)	THE DITCH	$= 24 \times 10^5 : 1$

RATIO OF SCALES OF ORBITS AND RINGS

1
: 2,5
50:12,5 : 5

$10 = 2 \times 5$

$53 : 2 = 26,5 \rightarrow 26$

$17 \times 2 = 34$

	0	1	2	⑤ →⑫→㉙	70
	1	1	3	⑦ ⑰ 41	99
	2	1	4	9 ←22←㊿	128

1 megalithic foot $\sim$ 335 mm