

Iceland's geodetic settlement pattern by Richard D. Heath

Einar Pálsson [1] saw the myths of foundation for Iceland's settlement (in 930) had Pythagorean roots. This manifested as a geometric connection between places on the landscape, especially on the south-western region near Reykjavik, its only city. Coherence was established through organising space according to centres (things), circles and their diameters, the circles punctuated with places and alignments to other places, horizon events or cardinal directions.

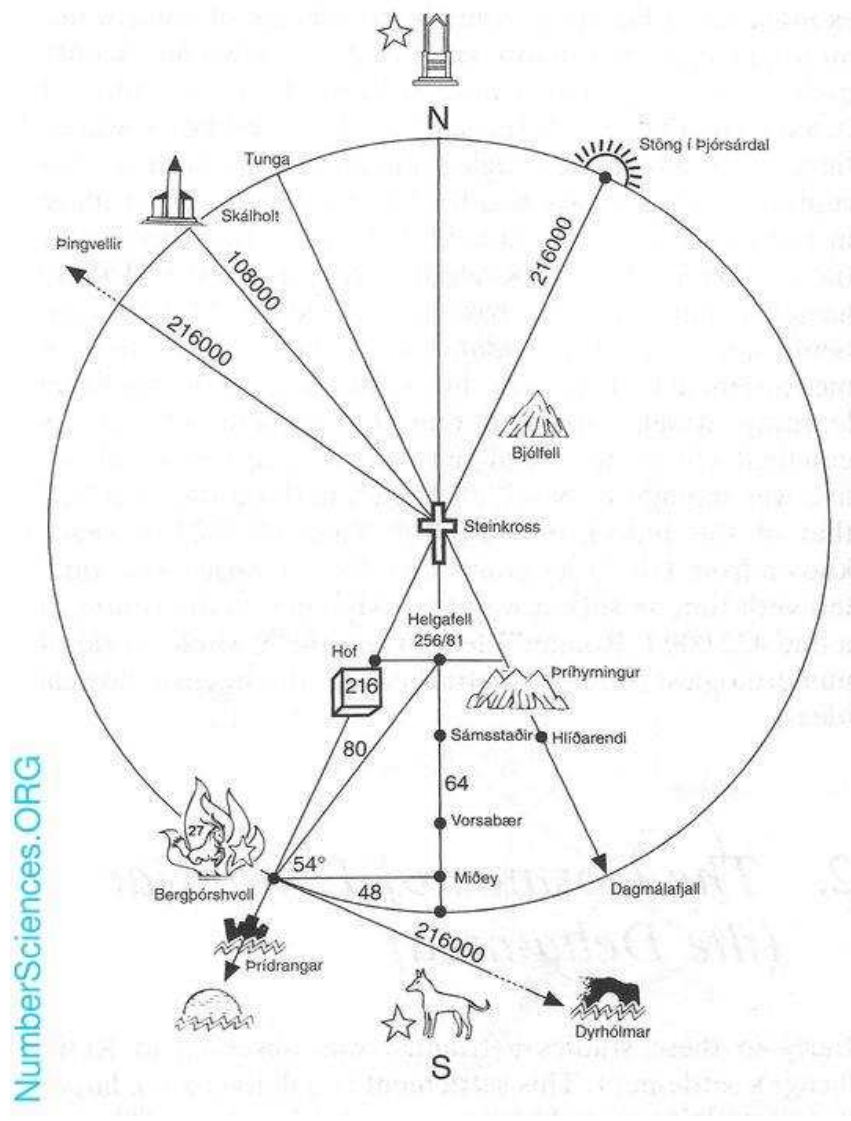


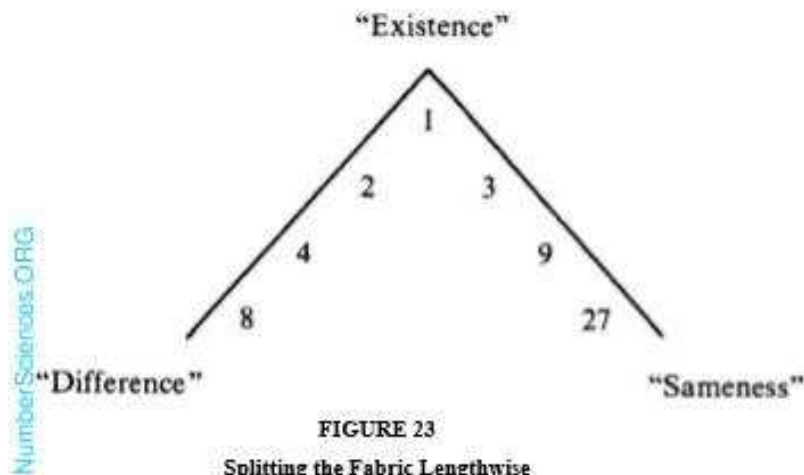
Figure 1 The Cosmos of Rangarhverfi

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Palsson drew attention to the presence of Number Symbolism within Icelandic epics in a manner compatible with Ernest G. McClain's interpretation of biblical, Vedic, Babylonian mythic texts. He found direct evidence for influences from Pythagoreanism where the 3:4:5 triangle stands for a myth of origin from, in Iceland, a race of giants and the element Fire. This source of creation is seen, for example, in the bottom left of figure 1 where a "Primeval Hill" is located within such patterns. Such new Creations arise and must surely return there, to formlessness, a myth congruent with the alignment of midsummer sunrise (top right) and midwinter sunset (bottom left). Palsson says:

The Primeval Hill, Fire, and the Number 27

If one accepts that the Primeval Hill in Iceland was based on the number 27, several otherwise unintelligible bits of information fall into place.... The Primeval Hill was based on Fire; the Earth was created through Fire and it is going to vanish in Fire. The pivotal event of Njals Saga is the destruction of the abode of Niall through fire. Its allegorical meaning is that of the bird Phoenix, which is destroyed every 500 years, in this case after two periods or life-cycles. In the year 1000 Christianity was formally accepted as the state religion of Iceland. The seven ages of paganism vanished; Time personified by Kari in the Saga escapes from the flames and flies northeast to the land of the sunrise... the abode of the apostle of Christianity, Hjalti Skeggjason. Kari flies a precisely measured distance, 216 M (M = 1000), that of the diameter of the world as understood in those days. The number 27 stands for Fire at the Primeval Hill. It also stands for kingship. It stands for the beginning and the end of time...



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Figure 2 The Lambda Diagram behind Plato's words showing the progression of powers of two and three leading to $8 \times 27 = 216$

The number 27 is, of course, the number 3 multiplied three times with itself ($3 \times 3 \times 3 = 27$). The importance of the number 27 is typical for learning attributed to the Greek thinker Pythagoras. For Plato, the soul of the world is divided according to a particular numerical series, which is thought to derive from the earlier Greek thinker. It is the Lambda-formula, so called because of its resemblance to the Greek letter. It consists of two "arms". One is 1-2-4-8 and the other 1-3-9-27. Multiplied together the 8 and the 27 make 216 - the basic number of the created world in pagan Iceland. Pythagoras and his followers are said to have believed that they would be reincarnated every 216 years. [Palsson. 26-27.]

John Neal discovered [2] that the 216-nature of Palsson's cosmogram (figure 1) was calibrated in Roman feet ($24/25 = 0.96$ feet) of a slightly increased (by $126/125$) length of $24/25 \times 126/125 = 0.9677$ feet so that 216,000 feet are exactly $1/100^{\text{th}}$ the mean earth radius of $7 \times 12^6 = 20,901,888 / 100 = 209,018.88$ English feet. By using this Roman foot the Icelandic geometers had demonstrated two things:

1. That they saw the need to integrate the third powers of two and three to make 216 units of 1000 Roman feet.
2. and to have their geometrical circle model the mean earth as a spiritual norm for temple building.

This Roman foot enabled the mean earth radius in feet, a fractional and non-regular number (209,018.88 feet), to be made regular as $60^3 = 216,000$ feet.

This type of Roman foot has special properties as a diameter, illustrated most clearly by using a single Roman foot as diameter. As a fraction, this foot is $3024/3125$ feet long and times $22/7$ leaves $3024/3125 \times 22/7 = 3.0413 \times 12 = 36.4956$ inches. This looks like 36 inches and so dividing by 36: $36.4956/36$ gives an inch of 1.01376 inches - the so-called geographical inch of the English/Greek module.

In simple terms: one (Roman foot) on the diameter gives 36 (geographical) inches on the circumference. Multiply this situation by 6 gives 216 on the circumference, whilst a diameter of $6^2=216$ gives 1296 and $6^3=216$ gives $6^5 = 7,776$.

The same is true with powers of 60, so the diameter of Palsson's cosmogram of $60^3 = 216,000$ Roman feet giving $60^5 = 777,600,000$ geographical inches around its perimeter. In terms of numerical symbolism, $60^5 = 777,600,000$ is associated with the god YHWH in the Bible and also (it is believed) Apollo, whilst that number of

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geographical inches then corresponds the meridian length of the mean earth since $12^6 \times 22 \times 12 = 788,299,776 / 1.01376 = 777600000$ geographical inches.

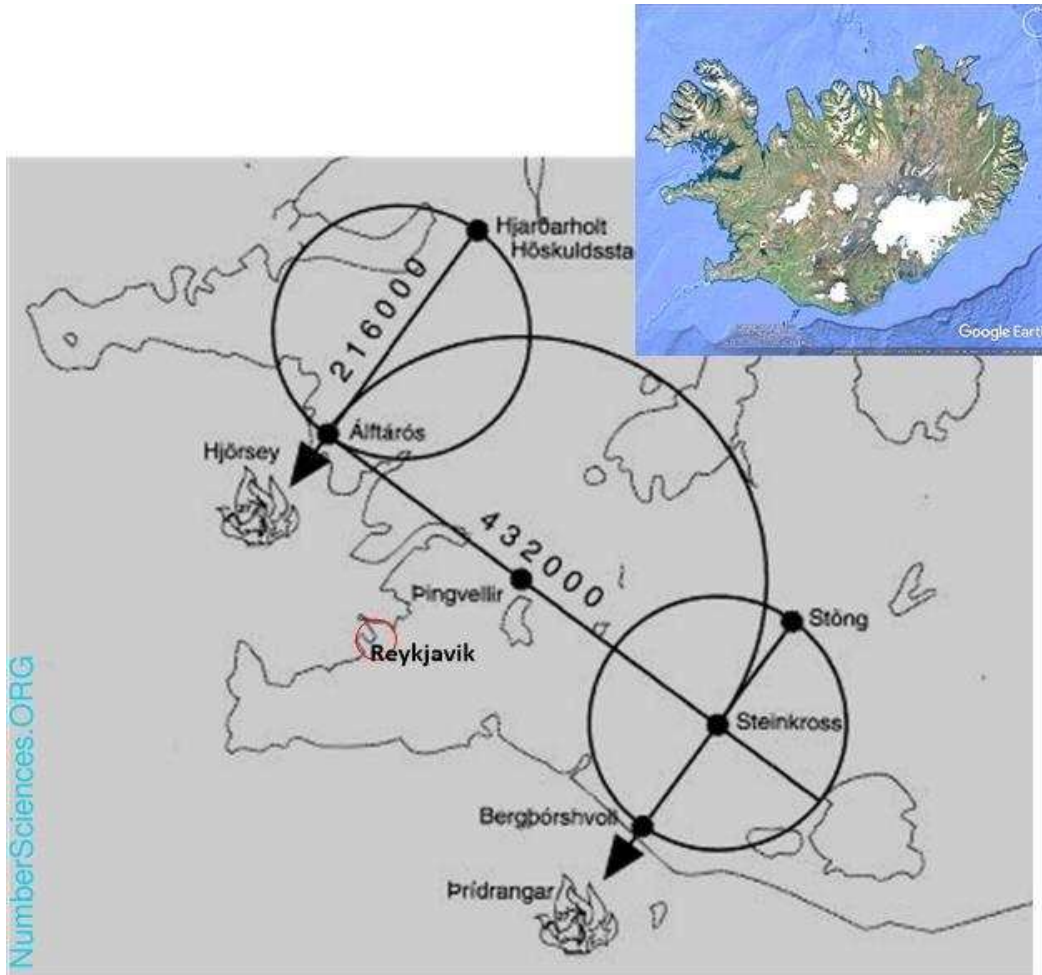


Figure 3

In Palsson's figure 1 (our figure 3) this property of the Roman foot appears to have been employed to make a diameter two times the circle of figure 1; of 432,000 Roman feet, to present an exact 1/100th scale model of the mean earth meridian. The central Thing is the centre of the mean earth model and the subsidiary Things form a north and south pole.

I first noticed that the meridian was 777,600,000 geographical inches in *Sacred Number and the Lords of Time* ([LINK](#)), page 194. Of course, I had not guessed that there was such a smart diameter to circumference relationship involving a type of Roman foot and allowing a pure powers-of-60 relationship between the two. This illustrates how such relationships are somehow bound up with ancient monuments. One cannot know when such knowledge arose or from whence it came but the

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monumental record or perhaps just the intuitions of later interpreters can bring us to recover them: a perhaps important outcome.

As John Michell puts it the Thing or polar centre, in Celtic, Nordic and other Ritualised Landscapes [2] is often found at the centre of a region or island, the interior of Iceland is inhospitable and so the place for the national assembly to meet. Ulfljotur's, who had studied Norse traditions, formed a law involving 36 *godar* or law courts at 36 thing-places and his foster brother Grimur "Goatsfeet" was commissioned to locate the national Al-thing and subsidiary thing-places, after a year-long survey of the island. [adapted]

The resulting geometry of figure 3 emerges as multiplying $432,000 \times 18 = 7,776,000$. The miracle behind this is bound up with metrology but the outer symbolism is that 18 of the 36 *godar* are transforming the mean diameter into the meridian. Perhaps there were 36 *godar* to show this directly and to base the law on the mean earth itself.

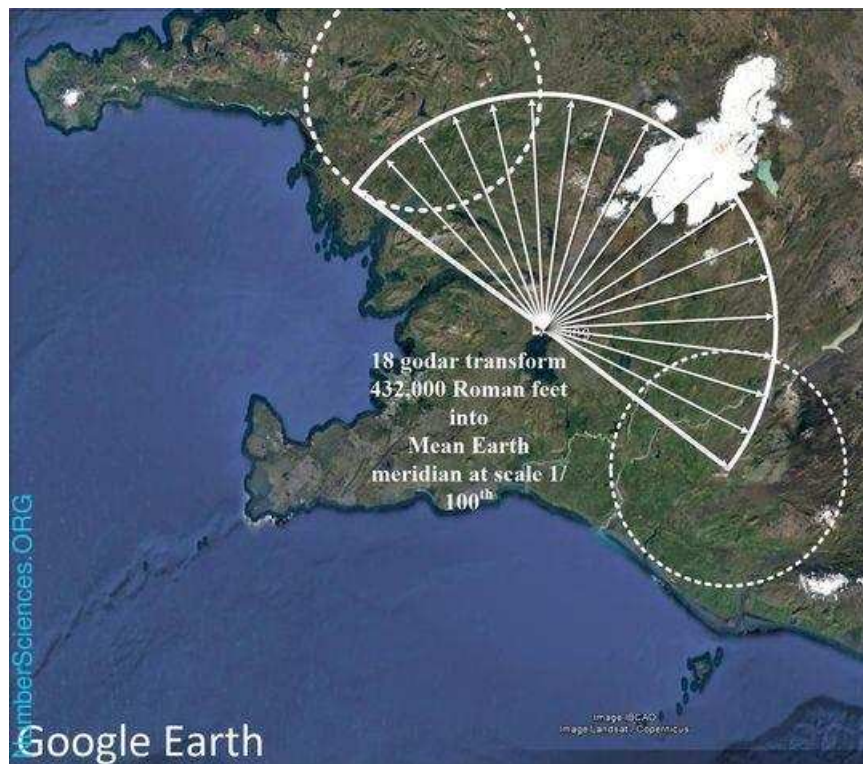


Figure 4 The Godar related the diameter of the mean earth to its circumference.

However, the actual geometries, according Palsson's protégé, Petur Halldorsson [3], are somewhat more complex yet such "complexities" may recover further layers of meaning, installed within Iceland's settlement patterns.

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References

- 1 Palsson, Einar. *The Sacred Triangle in Iceland*. Mimar:Reykjavik 1993.
2. Neal, John. *The Structure of Metrology*. Secret Academy: London 2005. 48.
2. Michell, John. *At the Centre of the World*. Thames & Hudson: London 1994. (reprinted as *The Sacred Center*. Inner Traditions.)
3. Halldorsson, Petur. *Pattern of Settlements paced from 1 to 9*. CreateSpace 2013. See also <https://independent.academia.edu/PETURHALLDORSSON>