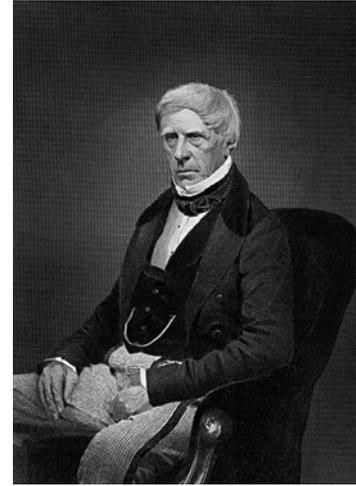


MOSES SAMUEL'S LETTER TO LORD BROUGAM

In 1850 Moses Samuel, “a poor, infirm Professor of Languages”, wrote the following letter to Lord Henry Brougham (shown right), a great Whig politician who had once been the Lord Chancellor of England. It is not entirely clear why Samuel undertook this letter to Lord Brougham, as the letters rambling structure makes it hard to discern a purpose. The letter sets out to show that Samuel had solved an obscure mathematical problem, but it ends in confusion with an accusation against one of his Hebrew language pupils, a Welshman, who, he says, had stolen his mathematical discovery and sold it to the press. Unfortunately, the letter suggests some mental disturbance in the writer, probably as a result of a stroke some years before. However, it reveals certain facts about Samuel’s life such as his being the translator of The Book of Jasher. At the end of the letter a short account of Brougham’s life has been appended. The letter resides among the Brougham Papers at the University of London.



15 Hull Street, Liverpool, Feb 24 1850.

My Lord,

Permit me to present you with what I conceive to be, the true circumference of the circle. I attempted this with much diffidence and declare my result with great humility.

Diameter.	Circumference	
20	----- 63	The lowest in full numbers -----
	or	
63	----- 441	When multiplied by 7 the <u>Golden number</u> .

The Hebrew word for seven is _____ according to my principles of philology there is no difference between the shin and sin ---- so I take this word to mean “satisfy”, “abound” see Parkhurst ----- It is not only called the “satisfied” or “abounding” number because God rested on that day, but also because the number is in itself an abundant, filling, and fitting number.

Multiply 1.2.3.4.5.6.7 together and you get 5,040 -- this golden number only can be divided by any or all the numbers without leaving a remainder.

To find the area of the circle multiply the diameter by the circumference and one-fourth will be the product. $20 \times 63 = 1260$ Divide by 4 and you obtain 315 area.

I shall go more at [length or large] in the Essay.

Axiom

Every circle, whether the diameter be one inch or a million of miles, must have its circumference the measurement of which will be divisible by 9 and by 7 ---- as 63 ---- and 441 which numbers are divisible by 9 and by 7 ----- the reason of which will be given philosophically and mathematically and authenticated in the essay which will soon follow the announcement of this discovery when I shall get stronger.

For quick work I use the decimal mode as

$$20:63 :: 1$$

$$\begin{array}{r} 20) 63 \quad (3.15 \\ \quad 30 \\ \quad 100 \\ \quad \underline{100} \\ \quad \quad 000 \end{array}$$

To know the circumference of diameter of 9

$$\begin{array}{r} 3.15 \\ \underline{\quad 9} \\ 28.35 \end{array}$$

Abin Ezra the great Hebrew mathematician who lived 800 years ago; worked skilfully but erroneously upon this interesting subject, which was beautifully commented upon in the [Hebrew Letters] published in 1844 at Prague, a well-known Hebrew magazine that comes out yearly ---- he proportions the circumference to the diameter as 9 : $\sqrt{800}$ -- being nearer than that of Archimedes viz 28.28 now take my solution 28.35 - it is divisible by 9 and by 7 --- The 28.28 of Abin Ezra is not divisible by 9 and by 7 --- but by 7 alone and is contrary to my axiom, it falls to the ground. Therefore the proportion of 7 to 22 is also false because 22 is not divisible but by 9 ---

The proportion according to my system is 7 : 22.05 which is divisible by 9 v by 7.

As I have shown the proportion of 1 : 3.15 which is a model formed upon the basis named in the axiom ----- every circumference must be divisible by 9 and by 7 if

worked by the standard I have with much diffidence endeavoured to raise. 113 to 355 is also erroneous because 355 is not divisible by 9 and 7.

1 to 3.141593 is also I presume wrong, because it is not divisible by 9 and by 7 and if you carry out the figures as long as you like you will come right "all but one" why we shall be wrong "one" must be elucidated in the essay.

Early writers considered the circumference to be 3 times as much as the diameter. Ages rolled on with progressive improvement and those who carried out to great length their decimal figures have been considered masterminds. Their labours were beautiful but not satisfactory.

Mnemonics

What think you my learned and respected Lord, are the pure biblical words in the Hebrew language for these mysterious numbers? -- that which is extraordinary and self evident ---- I mean 63 and 441 with their diameters?

If you said to me in Heb, what is the true circumference of a circle, and I answered "The true circumference" would you not think me mad?

400 40 1 30 30 3

"He (God) has revolved truth" --- or he has made truth go round ---- in other words "the true circumference" 63 v 441 two circumferences to 20 v 140.

I am not going to preach to you My Lord, in giving you the mnemonics for retaining these numbers, yet you must not dislike my interweaving with my subject a few words from the book of truth.

The diameter 140 circumference for 441

"The Power of the Lord God is truth" = 140 : 441
"verular (divina) prevalabet"

You will agree with me that "truth" is the great power of God in supporting creation --- -- in advancing mankind and in enlightening their minds -- I believe it is the Book of Truth [?] the divine volume.

The History of this discovery will be given in the essay (if my numbers should be correct) I am at present very infirm from Paralysis --- I made the discovery about four

and half years ago --- My doctor then told me that if I did not give up my am obtuse calculations, I should have another attack.

Enclosed are three notices to Correspondents from the Liverpool Mercury ---- one Feb 12 about one Mr. Burgess squaring the circle. Should I have the honour and the privilege of again addressing you, I will show you documents how these numbers hinted at by Burgess were abstracted from my scribbling trials upon the blank leaves of Hebrew and various mathematical books that I lent to a Christian Welsh pupil of mine for Hebrew ---- Burgess is only a new name for my deceiving pupil.

Three weeks ago, never thinking of my old discovery, I wrote to the Secretary of the Royal Asiatic Society [to him with a work in which I am engaged [with which I have been acquainted for 20 years, when I issued a prospectus for my publishing my translation of the Book of Jasher mentioned in Joshua ten & Samuel.

Mr. Huttman was then secretary - not being able to agree, I sold my Mss. translation (without the heavy notes) to M. N. Noah of New York for £150 in 1839. It is sold at Hatchards & Son for 10/- . I did not put my name to it as my Patron and myself differed about its authenticity.

Four years ago I was joint Editor of the Jewish Magazine, wherein I inserted the piece (enclosed) "The York Medal" Finding that the work did not pay me it only reached No. 10 - my promised solution was consequently not printed. I entirely differ from the talented Dr. Lowe and the Abé Caperain ---- I saw that they were not acquainted with the principles of the magic square - neither mathematically --- as too - logically nor Historically - I had written 20 pages upon it and requested the Asiatic Society to buy my piece from me when finished, if they should like it.

A few days after, I saw the first notice in the Mercury ---- I wrote to the Editor, that I not the avaricious, reward-hunter Mr. Burgess was the discoverer ---- that night (14 Feb) sent a letter containing the numbers to the Secy. of Asiatic Soc. to be read only by him. A few days after I sent him another letter with a few more particulars, with permission to give my letter to the President with whose name I am unacquainted - I received an answer that there had been no meeting of the council since my first communication --- and that the first would be in March when my communication shall be duly submitted.

I am not tied to the Asiatic Society tho' dignified with the name "Royal".

Science and truth know no humanly-coined degrees of truth, & complementary honours !!

I hope that the matter itself (even if founded on error) will be an apology for a poor infirm Professor of Languages (of the Jewish persuasion) intruding his ----- upon at the time and attention of a highly-gifted Lord.

Pardon me, refined and tolerant Christian Philosopher If I take a wrong view, rebuke me kindly with the pen of wisdom --- I seek neither reward nor fame -- I give this solution to you and to the world for the benefit of science ----- and should I be right (as there is no hypothesis in the divine science of numbers) my zeal for learning, and my desire to exalt the Jewish Nation going hand in hand (together with my willingness to benefit human society by my humble attainments) I say that seeing my researches are successful, will be a simple reward for all my labours --- your friend that later Dr. Sheppard wrote me a beautiful letter a few months before he died _____ wherein he laments his illness (regarding his eyes) - tho' his mental eye was sound - he had had a few specimen numbers of the Cup of Salvation - thanked me for sending them to him and desired to become a subscriber.

I send you my piece upon Philology from No. 1 of the Magazine. I hope you are a sufficiently clever Hebraist to understand it.

The piece on the Railway may cause you to smile -- my Elegy to Zion & the York Medal may rouse up your sympathy for the Jewish People --- whose friend you have ever shown yourself --- your mathematical genius may be roused to the investigation of the Magic Square. Hutton's Mathematical Dictionary says very little about it -- his reasons are not intelligible.

I differ from Dr. Lowe, who says that the medal is not of Jewish origin ---- I believe it is ----- if I am correct, I will throw light upon the History of the Jews in England --- I find no reference to the History of York that the _____ bridge was laid 1400 years ago and this medal was [laid?] in the foundation. I hold the correspondence with the Editor of the York Courant.

Respectfully
Your humble and devoted servant
Moses Samuels

Translator of the Book of Jasher
---- Of the Palmyerne Inscriptions
deciphered by him -----Author
of the address to the missionaries,
etc. etc.

PS I sent a letter to the Society for Improvement in Arts and Sciences on the 15th Feb. saying that I had sent the number to the R.A.S.

Summary of Brougham's Life.



Henry Brougham, the son of Henry and Eleanora Brougham, landowners in Westmorland, was born in Edinburgh on 19th September, 1778. Henry, was extremely intelligent and was accepted as a student at Edinburgh University at the age of 14. At first Brougham studied science and mathematics and while still a student presented a paper *Experiments and Observations of the Infection, Reflection and Colours of Light*, to the Royal Society. Brougham became interested in law and in 1800 joined Edinburgh University's faculty of advocates.

In 1802 Brougham and a few friends founded the journal *Edinburgh Review*. In the next two years Brougham contributed thirty-five articles. At university Brougham developed radical political opinions and many of these articles dealt with the issue of social reform. The *Edinburgh Review* was a great success and quickly became one of the most influential political publications of the 19th century. As well as writing articles for the *Edinburgh Review*, Brougham wrote the book *An Inquiry into the Colonial Policy of the European Powers*.

Brougham worked as a lawyer in Edinburgh for three years but he came to the conclusion that his radical political views would prevent him from obtaining promotion so in 1803 he decided to move to London. In London he became friends with a group of radicals that included Thomas Barnes, William Hazlitt, Leigh Hunt, Lord Byron, and Charles Lamb.

Brougham developed a reputation as a lawyer with progressive views. This brought Brougham to the attention of the leaders of the Whigs. In 1807 Brougham was given the task of organising the Whigs press campaign in the 1807 General Election. Three years later, the Duke of Bedford, a Whig aristocrat, offered Brougham, the parliamentary seat of Camelford. The constituency only had twenty votes and they were all under the control of the Duke of Bedford. Although Henry Brougham disapproved of this corrupt system he accepted the seat in order to enter the House of Commons. [Note Brougham was also hired by Harry Man to lead his prosecution against the admiralty for his court martial].

Brougham soon established himself as one of the leading radicals in Parliament. His first campaign in Parliament was against slavery and in 1810 played an important role in making participation in the slave trade a felony. The Duke of Bedford had financial problems and had to sell Camelford in 1812 and Brougham had to find another seat in the next election.

Brougham decided to become the Whig parliamentary candidate in Liverpool. This was a brave decision as Liverpool was one of the main centres of the British slave trade. Brougham was defeated by the Tory George Canning and was without a seat in the House of Commons for the next four years.

Henry Brougham continued to work as a lawyer and in August 1812 he defended thirty-eight handloom weavers who had been arrested by Joseph Nadin, Deputy Constable of Manchester, while trying to form a trade union. Their leader John Knight was charged with "administering oaths to weavers pledging them to destroy steam looms" and the rest of the men were accused of attending a seditious meeting. As a result of Brougham's brilliant defence, all thirty-eight were acquitted.

In 1815 Lord Darlington offered Henry Brougham the vacant seat of Winchelsea. Like Camelford, Winchelsea was a pocket borough. Unable to find a seat which he had a chance of winning, Brougham accepted Lord Darlington's offer and the following year became M. P. for Winchelsea.

In the House of Commons Brougham became the leading spokesman for the radicals. In 1819 he blamed the Tory government and Manchester's local magistrates for the Peterloo Massacre. He also spoke out against the prison sentences imposed on Henry Orator Hunt, John Knight, Samuel Bamford and the other organisers of the meeting at St. Peter's Field.

Brougham was actively involved in educational reform. He supported the Ragged Schools Union, Mechanics Institutes and the Society for the Diffusion of Useful Knowledge. Brougham's ideas on state-funded education were unpopular and the education bills that he introduced to Parliament in 1820, 1835, 1837, 1838 and 1839 were all defeated.

In 1830 Brougham was given a peerage and became Lord Chancellor in Lord Grey's new Whig government. Brougham, who had been arguing for parliamentary reform for over thirty years, played an important role in persuading the House of Lords to pass the 1832 Reform Act. Lord Brougham was also one of the main people behind the passing of the 1833 Anti-Slavery Act.

Lord Brougham lost office after the defeat of the Whigs in 1834. Brougham's views were considered to be too radical by Lord Grey's successor, Lord Melbourne, and was not given government office after the Whigs returned to power in April 1835. Lord Brougham remained committed to further political reform and helped Melbourne's government pass the Municipal Reform Bill in 1835. A strong believer in equal rights for women, Brougham also played an important role in the passing of the Matrimonial Causes Act in 1857. Henry Brougham died on 17th May, 1868.