

Sethe Plato and Pythagoras: Exploring Sacred Numbers In Ancient Egypt

By Julia Herdman

To date, interest in the ancient use of numbers has come mainly from those studying the history of mathematics. Most historians who have looked into the subject have been disappointed with what they found. Annette Imhausen says in her book, *Egyptian Mathematics: New Perspectives on Old Sources*, (2007) *"The reputation of Egyptian mathematics has been rather poor. This has been due in part to the very limited number of available primary sources, particularly when compared with the vast collections of cuneiform mathematical texts produced in Mesopotamia."*¹

There are only a few mathematical papyri for scholars to work on; the Rhind Mathematical Papyrus (British Museum 10057 and pBM 10058) is perhaps the best known. The papyrus is named after Alexander Henry Rhind, a Scottish antiquarian, who purchased the papyrus in 1858 in Luxor; it was found during illegal excavations in or near the Ramesseum and dates to around 1550 BCE. The Egyptian Mathematical Leather Roll which was purchased at the same time by Rhind was not deciphered until 1927 when its desiccated skin was chemically softened and unrolled; the text dates to the Middle Kingdom about 1650 BCE. The final document is the Moscow papyrus, also known as the Golenishchev Mathematical Papyrus, after its first owner outside of Egypt, Egyptologist Vladimir Golenishchev bought it in 1892 or 1893 in Thebes. It is now part of the Pushkin State

¹ Imhausen, A. *The Mathematical Intelligencer* (2006) 28: 19. <https://doi.org/10.1007/BF02986998>
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Museum of Fine Arts in Moscow collection. The text dates to the 13th Dynasty but is most likely based on older material probably dating to the 12th Dynasty of Egypt, roughly 1850 BCE.

When these documents were translated, mathematicians found that the way the ancient Egyptians handled numbers and numerical problems had very little in common with modern mathematics. The papyri, which are mainly training manuals for scribes deal with fractions, the calculation of area and volume and solving for unknown quantities, but there are no sophisticated formulae, and no use of irrational numbers such as the Greek Pi.

Otto Neugebauer, the Austrian American mathematician and historian of science who became known for his research on the history of astronomy thought that ancient Egypt was an exceptional case where a highly sophisticated culture had made no contribution to the development of what he called '*the exact sciences*' unlike their neighbours the Mesopotamians.² Many people have found Neugebauer's assessment at odds with the evidence of the marvellous architectural remains of tombs like the pyramids. Surely the ancient Egyptians were mathematical is the thinking. How could sophisticated mathematical techniques not lay at the heart of the development of what are some of the world's most impressive buildings?

It is essential at this point to remember that number is not the same as mathematics. Numbers are mathematical objects³. At its most straightforward number expresses an arithmetical value,

² Otto Neugebauer, *The Exact Sciences in Antiquity*, Courier Corporation, 1969.

³ Numbers as abstract objects (i.e., that their singular terms denote abstract objects and their existential quantifiers range over abstract objects). This general stance toward mathematics goes back to Plato, but the first clear statement of the argument in this form was given by Frege (1884); other advocates include Quine (see his 1948 and 1951, though he doesn't explicitly state the argument there), Gödel (1964), Parsons (1965, 1971, 1994), Putnam (1971), Steiner (1975), Resnik (1981, 1997), Zalta (1983, 1999), Wright (1983), Burgess (1983), Hale (1987), Shapiro (1989, 1997), the early Maddy (1990), [4] Katz (1998), Colyvan (2001), McEvoy (2005, 2012), and Marcus (2015). Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/entries/platonism/#4.1>

expressed by a word, or symbol and represents a particular quantity. Numbers are used for counting and making simple calculations while mathematics is the abstract science used to understand the complexities of physical matter, time and space; and it can be pure or applied in other disciplines such as physics and engineering. Mathematics has many branches; Algebra, calculus, geometry, and trigonometry, to name just a few. Number has one principal mathematical theory called Number Theory.

Number Theory is the oldest mathematical theory, and it concerns the properties and relationships of positive integers; that is simple whole numbers. This is more commonly called arithmetic and involves concepts such as divisibility and congruence, prime, perfect and amicable numbers, the calculation of areas, volumes and whole number ratios. The distinguished historian of mathematics, Ivor Grattan-Guinness, gives us something that might explain this contradiction. Grattan-Guinness made a distinction between the history of mathematics and its heritage. History, according to Grattan-Guinness, asks the question of what happened in the past? Whereas heritage asks an entirely different question; heritage asks how did things come to be the way they are?' ⁴ The historians of Egyptian mathematics have focused on heritage rather than history; they have focused on looking for Egypt's contribution to modern mathematics, rather than asking the questions of who, what, where, when, how and why the ancient Egyptian used numbers.

⁴ Grattan-Guinness, I. History or Heritage? An Important Distinction in Mathematics and for Mathematics Education, *The American Mathematical Monthly*, Vol. 111, No. 1 (Jan., 2004), pp. 1-12.

The Evidence

Evidence for the use of mathematics in ancient Egypt may be rare, but numbers come up in many religious contexts from the Old Kingdom onwards. In Figure 1, we see an ivory label from the tomb of queen Neithotep consort to king Namer, the king who unified Egypt around 3000 BCE. Neithotep's outstandingly large mastaba and the royal serekh around her name found on several seal impressions once led Egyptologists and Historians to believe she was an unknown king. This label, which once hung on a necklace, tells us that it had 400 beads on it. Beads were valuable and could easily be removed, so this is an example of an early security tag. The beads have long since disappeared, but the label remains giving us our earliest image of the ancient Egyptian symbol for 100, a coil of rope that looks a bit like the coil of a butterfly's tongue.



Figure 1. ivory label from the tomb of queen Neithotep consort to king Namer, the king who unified Egypt around 3000 BCE.

Examples like this ivory label are exceptionally rare especially before the New Kingdom however recent excavations Wadi el-Jarf on Egypt's Red Sea coast has unearthed not only the oldest known harbour in the world but a vast archive consisting of 800 fragments of papyri dating to the reign of

King Khufu. The documents were extraordinarily well preserved: some sheets were up to a meter long. The leaders of the excavation Gregory Marouard and Pierre Tallet believe the papyri fall into two categories. The first is accounts where numbers are laid out in tables. The tables set out the daily and monthly deliveries of food, mostly bread and beer, for the port workers. The second category is logbooks which record the everyday activities of a team led by an inspector named Merer, an official from Memphis. Merer was the overseer of a team of about 40 men and was in charge of building the Great Pyramid in Giza. The documents describe the transportation up the Nile of imported goods such as copper for making tools and blocks of limestone from the quarries with deliveries planned for every four days.⁵

This fantastic find proves what many scholars have long suspected but until now have been unable to prove, namely that the ancient Egyptians of the Old Kingdom were confident with the use and application of number and that they had an efficient administrative process that oversaw the provisioning of their pyramid-building activities.

The architecture of the pyramids shows that they also had command of the numerical skills for design, measurement and assessing quantities. However, the technical and bureaucratic use of number was not all the ancient Egyptians were interested in. The Westcar Papyrus (P. Berlin 3033) purchased by the British adventurer Henry Westcar sometime between 1823 and 1824 and translated by Adolf Erman in 1890 tells us that the pharaoh was interested in another type of number, sacred or magical numbers.

⁵ Kathryn A. Bard, Rodolfo Fattovich, *Egyptian Seafaring Expeditions and the Land of Punt: Long-distance Trade in Middle Kingdom*, Brill, 2018.

The papyrus consists of five stories and is dated to the Hyksos Period in the 18th or 19th century BCE. However, linguists have shown that it is a copy of a much older text dating back to the Old Kingdom. In this papyrus, we learn that King Khufu is seeking something special for his pyramid.

Writing in 1925 on the occasion of Erman's 70th birthday the eminent British Egyptologist Alan H Gardiner wrote that while Erman's translation had withstood the test of time well, but there were several unresolved issues regarding the specific meaning of the final sections of the text. The problem area concerned the translation and meaning of two important words: *ipwt* and *wnt*. According to Gardiner Erman had translated the word *wnt* as a building dedicated to Thoth but he noted that the pharaoh was said to be seeking not the *wnt* of Thoth, but the *ipwt* of the *wnt* of Thoth. Professor Erman had concluded that *ipwt* denoted a closed building or the instruments for closing a building such as a door, bolts, locks or keys and that these instruments were to be found in a flint box in a room at Heliopolis. However, Gardiner suggested that the word *ipwt* should be translated a 'secret or privy' chamber because Khufu was delighted at the prospect of seeing the magician Djedi because he, "*knew the number of the secret chambers of the sanctuary of Thoth*," which he wanted for his Horizon (that is his pyramid). Gardiner, therefore, concluded that *ipwt* meant "secret chambers," and that Khufu was seeking details concerning the secret chambers of the sanctuary of Thoth, in order that he might copy them when building his pyramid.

What these two pieces of information show us is that by the Old Kingdom the ancient Egyptians were using numbers to manage the construction process for the building pyramids and that the king wanted to include a specific number or a number of chambers or perhaps some special measurements for a secret chamber connected with the god Thoth.

The idea of sacred number is not new. The English traveller and pioneer Egyptologist Sir John Gardner Wilkinson (1797 – 1875) was the first person writing in English to discuss ancient Egyptian sacred numbers. He wrote: *'It is my opinion, when the Pythagoreans appropriate the names of several of the Gods to particular numbers, as that of Apollo to the unit, Diana to the duad, and Minerva to the 7, and Neptune to the first cube that they allude to something the founder of their sect saw in the Egyptian temples, to some ceremonies performed in them, or to some symbols there exhibited: the same Pythagoreans also look upon Typho to have been of the order of Demons, as, according to them, he was produced in the even number.'*⁶

Gardiner then tells us that Champollion and Thomas Young speculated on what some of the ancient Egyptian sacred numbers might mean.

One: Unity, the universal principle, and symbol of all. Divine thought, wisdom, divinity.

Two: The two natures of man, will, perversity, water

Three: Temporal immaterial agents that do not think, action, matter.

⁶ Volume IV of The Manners and Customs of the Ancient Egyptians, 1847
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Four: All immaterial agents who think. Intellectual man, wisdom, religion.

All that is active.

Five: The evil being, idolatry, self-sufficiency, 2 + 3.

Six: Formation of the world, the radius and the natural division of the circle, piety.

3 + 3

Seven: Source of man's intellectual and sensible properties. The end of the world.

Intellectual agents were taking the place of men.

Love of esteem. 4 + 3

Eight: Intellectuality - both in body and soul.

The divine united with human nature.

Love, goodwill, justice. 4 + 4

Nine: Creation of the body, and its nature - the physical envelope of man.

The number of every spiritual limit.

The intellect united with sin. Man not purified from sin. Curiosity. 4 + 5

Ten: The limit of all. Man purified from sin, returning by a new birth to unity whence he proceeded. Decomposition of the circle of the world.

To be fair to Champollion and Young, they had only just started to translate hieroglyphs when they made their analysis. What is more interesting than their results is their interest in ancient Egyptians sacred numbers. Both men were classicists and well versed in the work of Greek writers who wrote the first accounts of ancient Egypt to come to Europe. Like Gardiner, Champollion and Young were well aware of the claims made by Greeks about Pythagoreans and Plato concerning their acquisition of mathematical knowledge from Egypt.

When most of us hear the name Pythagoras, our thoughts jump to the classroom and memories of squares on hypotenuses. Although Pythagoras, if he ever really existed, is most famous for his work on triangles; in the ancient world, his cult was famous for something entirely different - understanding the transmigration of souls or a belief that is more commonly known as reincarnation. Among the intellectual elites he is also remembered for attempting to model the universe using numbers. The work of Champollion and Young was influenced by their knowledge of the Pythagorean number system along with their studies of the Hebrew Bible and their Christian cultural background. Although the work of mystical work of Pythagoras is rarely taken seriously today turning to Pythagoras was a good idea for understanding ancient Egyptian sacred numbers because those writing about him claimed Pythagoras had visited Egypt sometime in the 5th century BCE, two hundred years before Alexander the Great and Ptolemy arrived making their accounts the oldest non-biblical sources for anything concerning ancient Egypt at the time.

Of course, whether there was ever a historical Pythagoras is a moot point. Pythagoras was said to have a golden thigh that enabled him to be in two places at the same time, and his followers claimed he was the son of the Greek god Apollo - so the chances are there never was a real Pythagoras, but

there was a cult with followers bearing his name. Aristotle refers to them as “the so-called Pythagoreans” suggesting that the group was in some way disconnected from the actual person of Pythagoras and Plato cites the Pythagorean’s search for the numerical structure of contemporary music in his work. Plato may also have adopted Pythagorean ideas about the cosmos in his book *Timaeus and Critias* when his characters explore the idea of a mathematical cosmos. ‘...when the world began to get into order, fire and water and earth and air had only certain faint traces of themselves, and were altogether such as everything might be expected to be in the absence of God; this, I say, was their nature at the time, and God fashioned them by form and number.’⁷

Those who wrote about Pythagoras; nothing of his teachings were written down in his supposed lifetime; claimed he was born on the Greek island of Samos around 570 BCE and that his cult flourished briefly in Crotona, in southern Italy. The cult was elite, accepting both men and women who were sworn to secrecy; it was a secret society that promoted a sort of intellectual mysticism based on understanding the cosmos using numbers and the mathematics of musical harmony. All things were number according to the Pythagoreans. Numbers had personalities, characteristics, strengths, and weaknesses. They took the concept of number and invested it with material properties. Thus, the cult developed a belief that numbers reflected the deep structure of the cosmos. The result was a vague sense that reality was constructed of independent, nonmaterial beings including man’s immortal soul, which they believed, resided in the brain. The independent soul, they believed, could move through the air from one being to another; from a human into an animal and back again; it did this through a series of reincarnations until it became pure.

⁷ Plato, *Timeaus and Critias*, https://wireofinformation.files.wordpress.com/2011/07/timaeus_critias.pdf

In 1916 the German Egyptologist Kurt Sethe (1869 – 1934) suggested that the ancient Egyptians connected some numbers with what was sacred or holy. The numbers he identified as such were two, three, four and seven. Sethe was of the view that these numbers were used either singularly or in multiples and that they had both specific and general meanings. Kurt Sethe (1869-1934) was the editor of the *Urkunden des ägyptischen Altertums*, a prestigious catalogue of Ancient Egyptian literature and he was the first person to catalogue and number the Pyramid Texts.⁸ Towards the end of his career, he was head of the School of Egyptology at the University of Göttingen which to the present day is one of the world's leading centres for investigating the antiquity of the Near and Middle East; he set out to catalogue the use of ancient Egyptian numbers. The book he published in 1916 established most of what we know about Egyptian numbers and mathematics. However, while was working on the book he also observed and commented on the fact that specific numbers occurred more frequently than others in ancient Egyptian texts and that some numbers were frequently associated with particular religious ideas. Sethe's work and reputation convinced Egyptologists that his view of ancient Egyptian numbers was right, and his analysis has been quoted in publication after publication for more than a century, but no one has taken his work further.

After a lifetime of studying ancient Egyptian texts, Professor Sethe concluded that the ancient priests who wrote the texts saw relationships between similar words or objects and numbers and that they believed these relationships were more than coincidental. Modern Egyptologists, while accepting Sethe's opinion, are more inclined to the view that numbers, particularly in ancient Egyptian art, should be considered as another dimension in artistic symbolism along with colour, size, and shape; numbers, they believe, take their symbolic meaning from diverse circumstances.

⁸ A set of spells and incantations inscribed into the walls of the tombs of pharaohs from the 5th Dynasty onward.
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Numbers that appear in texts are often confusing and are more often than not ignored by Egyptologists.

The following account is an updated version of Sethe's original and is broadly based on the only publication on the subject, *Meaning in Many: The Symbolism of Numbers, Symbol & Magic in Egyptian Art*, by Richard H. Wilkinson. We have added examples from various Egyptologists to show how Sethe's interpretations are used in the interpretation of images and texts today.

One: Individuality or Pre-eminence

The creator god Atum stands alone, but within him, he contains all that will ever be. His name is thought to be derived from the verb *tm* which means to complete or finish so he is also interpreted as the 'complete one' and 'the finisher of the world' because at the end of time he will return the world to watery chaos from which he and everything sprang. Atum was depicted in the guise of a king and is shown wearing the cloth headdress called a *nemes* with the double crown of Upper and Lower Egypt. In his hands, he holds the *waz* sceptre, the symbol of power, and the *ankh*, the symbol of eternal life. The most notable statue of Atum shows him seated on a throne, with an image of the pharaoh Horemheb (c. 1319 -1292 BCE) kneeling at his feet giving offerings. Standing nearly two meters high it was discovered in 1989 in a secret cache below the temple of Luxor. On one side of the throne is the image known as *Sema-tawy*; a double image of the god of the Nile, Hapy weaving the lotus and the papyrus together to symbolise the union of the two lands of Upper and Lower Egypt.

Egyptologists also believe that composite gods, that is gods with animal heads and human bodies such as Sobek the crocodile god and Hapy the god of the Nile flood also represent the plurality of unity or oneness. Sobek is depicted as a crocodile or as a man with a crocodile head or as a man with a crocodile head with a headdress in the form of the sun disc sporting a pair of upright feathers and horns. The androgynous god, Hapy, is depicted as a man with pendulous female breasts.

Two - the number of dualities, opposition and completeness

Ancient Egypt is a world of complementary and opposing pairs; these pairs balance as well as differentiate. Common pairs or dualities in ancient Egypt are: male and female, heaven and earth, light and darkness, day and night, sun and moon, north and south, east and west, the red land of the desert and the black land of the Nile Valley, the ka (body) and ba (spirit or soul), these are just a few of the pairs that represent the binary aspects of their world. None of these elements can be seen as opposites from the Egyptian perspective; they constitute the completeness of the world made of opposites. The union of opposites is a recurring theme, especially when it comes to the land of Egypt which is always represented as Upper and Lower Egypt, the delta and the valley. This division of Egypt is regarded as a symbolic representation of a complex political settlement at the time of unification (3000 BCE) and involved double crowns, the red and the white, double coronations and double jubilee celebrations or Heb Sed festivals. Double offerings had to be made and sometimes there were double royal burials. This duality extended to mirroring and complementarily in other aspects of life, particularly religious life. The two great places of worship in the early dynasties were Hermopolis Magna in the valley, the place of 'The Eight' whose principal was the lunar god Thoth and Heliopolis in the delta whose principal was the sun god Re. Later northern and southern cities were paired along the same lines; Heliopolis in the delta was

paired with the valley city of Thebes, the centre for the worship of Amun originally one of 'The Eight'; the delta city of Buto which in Egyptian was named Per-Wadjet, the place of the healing lunar eye, was paired with the valley city of Nekhen the home place of the Horus Kings who by then considered themselves the sons of sun god Re; and the delta city of Busiris, which stood west of Sais in the Nile delta and was regarded as the birthplace of Osiris was paired with valley settlement of Abydos, one of the oldest cities of ancient Egypt in the eighth nome in Upper Egypt. ⁹

The term 'duality' is banded around a lot in any discussion about ancient Egypt. In everyday language, duality is a situation where two contradictory ideas or feelings exist at the same time. Dualities also happen when something is made up of two different, opposing, or complementary parts. Dualistic thought is widely believed to be an essential characteristic of ancient Egyptian thinking, and this idea is based on evidence from texts and ancient Egyptian art where paired elements, or conceptual 'poles,' are presented in opposing and complementary combinations that balance as well as differentiate. The Pythagoreans presented the principles of reality as consisting of ten pairs of opposites:

- 1 Limited Unlimited
- 2 Unity and Plurality
- 3 Male and Female
- 4 Straight and Crooked
- 5 Odd and Even
- 6 Right and Left

⁹ UCLA Encyclopedia of Egyptology, Duality, <https://escholarship.org/uc/item/95b9b2db>, Journal UCLA Encyclopedia of Egyptology, Servajean, Frédéric, 2008-09-25

- 7 Rest and Motion
- 8 Light and Darkness
- 9 Good and Evil
- 10 Square and Oblong

Egyptologists see pairs of true and complementary opposites. True opposites are things such as hot and cold, wet and dry and, the colours black and white. Complementary opposites are not merely two separate forces in opposition, but two halves of a single system like a pair of lungs that are used for breathing; the two halves are mutually dependent and indispensable to each other.

The division of the country into the red land of the desert and the black land of the Nile Valley, the division of the country into two parts - Upper and Lower Egypt. These are just a few of the pairs that represent what Egyptologists call the dual aspects of the ancient Egyptian world. It is beloved that none of these elements can be seen as exact opposites. In the Late Period, two of something is a common feature in many representations; for example, a scarab beetle is often flanked by two falcons and the image of the sun disc is often shown supported by two cobras. The goddesses Isis and Nephthys, both midwives to the daily rebirth of the sun, are depicted in identical clothes performing the same task.¹⁰ The belief is that duality represented the completeness of the world made of different combinations of two elements.

Three - the number of plurality

¹⁰ Goff, B. L, Symbols of Ancient Egypt in the Late Period: The Twenty-first Dynasty, Walter de Gruyter GmbH & Co KG, 1979.

At first, the number three seems a simple number. Three strokes of the pen in ancient Egyptian script or three marks in stone meant many. Three was a powerful number in the ancient Egyptian mind like the trinity for medieval and Renaissance Scholars in Europe. The creator god had at his disposal three special powers that helped him to plan and execute his work: Sia, “percipience” for planning; Hu, creative “utterance”; and Heka or the “magic” that brings the world into being.¹¹ All three of these extraordinary powers are represented as divine beings in human form and are shown accompanying the sun god in his journey across the sky and through the underworld in tomb paintings.

There is evidence of spells requiring three ingredients:

'Make three figures from fine flour, one bull faced, one ram faced, and one goat faced, each standing atop a celestial sphere, having an Egyptian flail. And when you have censed them, eat them while saying the spell of the gods of the hours... and you will be initiated into them.'

Three was also associated with protection. The walls of the temple at Esna bears spells instructing the priests to walk the perimeter of the temple three times censing it with the fragrance or incense of pines to protect the temple from evil spirits.¹²

The earliest known reference to the idea of the 'Trinity' in Egyptian religious literature comes from the Heliopolitan creation myth where the god Atum created Shu and Tefnut and became three. Later, according to a 19th dynasty document dating to the reign of Rameses II, the statement is made that all gods are three. At this time the three gods Amun of Thebes, Re of Heliopolis, and Ptah of Memphis were joined together. Re was the conjoined god's face, Ptah the body and Amun the *ba*

¹¹ Hornung, E, Conceptions of God in Ancient Egypt, Cornell University Press, 1996.

¹² Robert Ritner, The Mechanics of Egyptian Magical Practice, Chicago, 2008. p 109.

or soul. In the same text the *ba* of the god was said to be in the sky (like the sun god Re), the body in the west (emulating the dead Osiris) and the god image in Thebes, the home of the mysterious and hidden, Amun.

Egyptian religion also uses the number three to signify a closed system for example as in group statues depicting the Egyptian King with a deity on each side such as the famous fourth dynasty triad of Menkhare which shows the pharaoh flanked by the human personifications of the cow goddesses Hathor and Bat. Divine triads were often grouped as a father, mother and son, in a divine family. For example, the grouping of Osiris, Isis and Horus were common as was the grouping of Amun, Mut and Khonsu at Thebes.

Three is also believed to represent the concept of unified plurality. Examples of unified plurality can be found in works of art and the composition of some of the gods. Taweret, the protective goddess of childbirth and fertility, is an excellent example of unified plurality. She is typically depicted as a bipedal female hippopotamus with feline feet and pendulous human breast. She also has the back of a Nile crocodile, giving her a combination of fierce and nurturing aspects. Crocodiles were viewed as highly fertile, producing clutches of up to 60 eggs, good parents because they guarded and protected their nests and took their young into their mouths to protect them from predators. Like the crocodile the hippopotamus spends most of its life in water. Its enormous grey, barrel-shaped body can be up to five meters long, and it can weigh more than four tonnes. The roundness of its belly gives the appearance of pregnancy, but its cute looks hide the hippopotamus's deadly nature. Today, Hippos' are responsible for the deaths of around 3,000 Africans a year. Their sabre-like teeth are used in fierce and bloody fighting for mates and against rivals; when people get

in their way they slice them in two. That said the female hippopotamus is a caring animal; she suckles her calf and carries it on her back when it gets tired to prevent it from drowning. Taweret's feline feet are probably those of the lioness goddess Sekhmet whose name means 'the powerful one.' Sekhmet was the daughter of the sun god Re and was venerated as the fiercest of all the hunters. Her breath was so powerful it made the desert, and so she was the goddess chosen as the protector of the pharaoh, especially in warfare. Therefore, the hodgepodge goddess Taweret combined all the qualities the ancient Egyptians thought necessary for the perfect goddess of motherhood: fertility and nurturing coupled with strength and ferocity.

Another form of plural unity can be seen in the syncretion or joining together of gods such as Ptah, Sokar, and Osiris. These three gods were presented as a single god Ptah-Sokar-Osiris at the end of the New Kingdom; small figurines of this combined god are found frequently with burials until the Roman Period; the vast majority of texts regard this composite god as singular.¹³

Triads, or groups of three gods, were also a popular form of three from at least the Old Kingdom. Several triad statues of king Menkhare have been found. Menkhare was the son of Khafre and grandson of Khufu, the builder of the Great Pyramid at Giza. The example below shows a greywacke statue of the king wearing the White Crown of Upper Egypt flanked by representations of the goddess Hathor and the goddess of the seventh nome of Upper Egypt, and the goddess Bat wearing her sistrum nome sign. The statues are thought to illustrate or celebrate the king's relationship with the nomes or districts of Egypt.¹⁴

¹⁴ Z. Hawass, *Ancient Egyptian Kingship*, Ed: David O'Connor and D.P. Silverman, E. J. Brill, 1995.



Figure 2: The Triad of Menkhare

From the Middle Kingdom, onward 'holy families' made up of a male god, a goddess and child god appear. Usually, the child is a son, but not always. The groupings were localised and are thought by some to represent the nuclear family, which is highly unlikely. The divine triad is a sort of three in one god trinity. At Abydos, the triad was Osiris-Isis-Horus, at Memphis – Ptah, Sekhmet and Nefertem, and the Theban triad was Amun, Mut and Khonsu. There were Triads at other locations including at Elephantine where the ram-headed god creator Khnum was paired with Satis the warrior and fertility goddess; their child was the goddess Anuket who personified the bountiful annual flooding of the Nile. Egyptologists do not have a lot to say about these little groups of gods except that were designed to show the plurality of unity and that three represented the concept of unified plural.¹⁵ It is believed that the ancient Egyptians saw many aspects of life in this way. The body, for instance, was a unity made of many parts connected by blood and the heart. As long as the heart pumped blood, the person was alive. The heart was not removed in the mummification process because to live again; the heart had to be in place to be re-animated.

¹⁵Wilkinson, R, *Symbol and Magic in Egyptian Art*, Thames and Hudson, 1999.
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Mythically, three is often a source of tension and discord as in the conflict between Horus, Isis and Seth in the set of stories known as *The Contendings of Horus and Seth*. Tension and conflict also appear in the *ménage à trois* between Seth, Osiris and Nephthys. According to Plutarch Osiris sleeps with Seth's consort Nephthys and impregnates her, an act that ends with one Seth murdering Osiris.¹⁶

Cardinal four

The number four appears more frequently in texts and images than any other number except for two this is because four is the number of cardinality; of the four corners of the earth and the four winds associated with them. ¹⁷The winds appear as the four lock wearers (locks of hair) who are asked to bring the ferry boat to the deceased in the Pyramid Texts. The winds appear in CT spell 162 as four maidens, but these women are also called 'the bulls of the sky'. According to another magical text, power over the winds could be obtained by an amulet in the form of the forepart of a lion. In the Book of the Dead if the deceased can grasp three of the winds by their locks four gates will open in the sky allowing the air to enter the deceased nose so that he can breathe again. The north wind is called Osiris, and the south wind is called Re in the Book of the Dead.¹⁸

Four has the quality of completeness which to the ancient Egyptians was always desirable. During the coronation ritual and in the jubilee festivals four arrows were shot to the four corners of the earth, and four birds were released to carry the messages to the four corners of the kingdom. Cardinality was also expressed in the four sons of Horus, the four gods of the canopic jars:

¹⁶ Wilkinson, R, *Symbol and Magic in Egyptian Art*, Thames & Hudson Ltd; 1999

¹⁷ Wilkinson, R, *Symbol and Magic in Egyptian Art*, Thames & Hudson Ltd; 1999.

¹⁸ Harco Willems, *The Coffin of Heqata: (Cairo JdE 36418) : a Case Study of Egyptian Funerary...*, Peetres, 1996.

Name	Description	Organ	Direction	Protector Goddess
Hapi	Baboon-headed	Lungs	North	Nephthys
Duamutef	Jackal-headed	Stomach	East	Neith
Imsety	Human-headed	Liver	South	Isis
Qebehsenuef	Hawk-headed	Intestines	West	Serket

The sky goddess Nut stands on four magical birthing bricks her feet to the east, and her hands to the west as her body forms the arc of the sky.

Erik Hornung commented on the use of four on the famous Stela 400, which Ramesses II, pharaoh of the 19th dynasty set-up in his new capital, Pi-Ramesses, in honour of the god Set. The inscription contains a striking and intentional series of fours says Hornung: “Year 400, month 4 of the season, day 4.” Did his priests mean to allude through this fictitious date that Set was the fourth god alongside the state triad of Amun, Mut and Khonsu Hornung wonders? ¹⁹

The ritual known as the driving of the calves which was commonly depicted on the walls of Temples of the new kingdom and Greco Roman periods shows the King driving four calves specified as red, black, white, and speckled in the presence of a god. Here we see a combination of number and colour symbolism. According to Plutarch, red is associated with Set, black Osiris and white Horus. ²⁰

¹⁹ Hornung, E, *Conceptions of God in Ancient Egypt*, Cornell University Press, 1996.

²⁰ Plutarch, *Moralis*, Isis and Osiris, Leob Classical Library, 1936.
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Five: Epagomenal Days

Egyptologists do not have much to say about number five. They recognise that the ancient Egyptian year was split into two parts, the first part of the year was made up of twelve thirty-day months, the rest were the five so-called 'epagomenal' or intercalary days. Together they made the year 365 days long. The five-epagomenal days were celebrated as the 'birthdays' of the Osiris, Isis, Set, Nephthys, and Horus. In the Hermopolitan tradition the title, 'Great of Five' was applied to the god Thoth.

Six: No Significance

Egyptologists believe that the number six had no symbolic significance to the ancient Egyptians.²¹

Magical Seven

Egyptologists are aware that the number seven and multiples of seven are used symbolically, but they are not entirely clear why. It is thought that it is because it is a combination of the numbers three and four thus representing plurality, completeness and totality. Seven cows are commonly depicted in funerary settings, for example, chapter 148 of the book of the dead. In this text, along with their attendant bull, the seven cows are said to represent the sustaining powers of the universe.

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The sun god Re is said to have seven *bas* or souls, the goddess Hathor is said to be sevenfold. Chapter Eight of the Book of the Dead describes the gods as seven cubits tall. Osiris's body was cut into 14 parts, perhaps reflecting the sun's apparent slicing of the moon as it wanes each month. The

²¹ Wilkinson, R, Gods and Goddess of Ancient Egypt, Thames and Hudson, 2003

²² Wilkinson, R, Symbol and Magic in Egyptian Art, Thames & Hudson Ltd; 1999

Book of the Dead provides spells to be repeated as the deceased passes through the 21 gates in the House of Osiris. The 42 judges who sat in the tribunal of the afterlife to judge the deceased is also multiple and parallels the number of nomes. Clement of Alexandria, a second-century Christian theologian noted the Egyptians had 42 sacred books in their culture again mirroring the number of nomes.

Eight - the intensified four

The number eight is seen as an intensified four. Shu created eight deities to help support the legs of the goddess Nut in her guise as the great Heavenly Cow. As we have already seen, it is the number of the pantheon at Hermopolis.

Nine - the intensified three

Nine or an Ennead is an intensified three.²³ In other words, it is an intensified form of the symbol for many, so, many many. The first account of the Ennead of Heliopolis is found in the Pyramid Texts, but Egyptologists are of the view that the gods, if not their Heliopolitan configuration, were widely known before the Old Kingdom. The Great Ennead is a family of gods comprising Atum, Shu, Tefnut, Geb, Nut, Osiris, Isis, Set, and Nephthys. How or why the gods were grouped into nine is not understood.

Other common uses of the number nine are the Nine Bows a term used to represent the traditional enemies of Egypt. The oldest representation of the nine bows appears on a statue of the Old

²³ Hornung, E, *Conceptions of God in Ancient Egypt*, Cornell University Press, 1996.
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Kingdom Pharaoh Djoser where his feet rest upon nine bows illustrating his dominion over all foreigners and enemies. This motif also appears on a bronze Sphinx of Thutmose III, which shows the Pharaoh reclining on the Nine Bows. The front of the statuette bears the image of a lapwing bird with the text 'all the people give praise.'²⁴ The lapwing was a symbol for the ordinary people. In the tomb of the New Kingdom Pharaoh Tutankhamen, there is another representation of the Nine Bows, which is interpreted as nine foreign enemies.

Ten and Twelve -

Egyptologists believe the number ten is connected with the measurements of time and space. The ancient Egyptian month consisted of three ten-day periods. Regeneration of the pharaoh's reign happened in the thirtieth year and was celebrated in a jubilee called the Sed Festival. The ideal lifespan was 110 and thought to be perhaps made up as 10 x 10 plus another 10 for luck or completeness.²⁵ It has been noted the sacred buildings and tomb-chambers are often laid out in units of ten; for example, the hall in the temple of Karnak measures almost precisely 200 by 100 cubits, and the King's Chamber in the Great Pyramid measures 10 x 20 cubits. No explanation for this pattern has so far been offered.

Egyptologist Richard Wilkinson is of the view that relatively few groups of twelve occur in Egyptian mythology, and when it does, it is associated with the concept of completeness.²⁶ Twelve is believed to be constructed from a multiple of three and four and hence the completion of plurality or as a plurality of completeness. An example quoted by both Wilkinson and Beatrice Goff suggests

²⁴ Sixth Pharaoh of the Eighteenth Dynasty - the reign of Thutmose III is usually dated 1479 - 1425 BCE including the twenty-two years of his co-regency with Hatshepsut.

²⁵ Wilkinson, R, *Symbol and Magic in Egyptian Art*, Thames & Hudson Ltd; 1999

²⁶ Wilkinson, R. H, *The Complete Gods of Ancient Egypt*, Thames and Hudson, 2003.

vignettes accompanying Chapters 107 and 111-16 in the Book of the Dead can be interpreted as twelve deities in four groups of three gods; three with the heads of ibises, three with jackal heads, three with falcons, and three with phoenixes heads. These gods are interpreted as the royal ancestors of the cities Hermopolis, Nekhen, Pe, and Heliopolis, respectively. Goff makes the point that in evaluating the use of groups of three and four, it is not the particular god or animal combinations that the Egyptians are interested in but the number. Goff interprets the value of the number as part of, ‘the effectiveness of a design without specific interpretation.’²⁷

Twelve is also associated with the hours of the day and night. The ancient Egyptians divided the day into 12 hours of daylight and 12 hours of darkness. In the Book of Gates, twelve goddesses of the hours stand guard as the boat of Re travels through the Underworld fighting the 12-coiled serpent Apophis representing the dark forces of chaos. Other books of the underworld similarly divide the night into 12 hours.

Conclusions on Seth’s Sacred Numbers:

Some common themes concerning the use of numbers for sacred purposes, have been identified by Sethe and others, including their use to represent the concepts of unity, division, duality, and completeness. No system, code, or the language of sacred number has been identified, however. Sethe and others have identified a frequency of association that cannot be explained and this most probably why his work has not been taken forward. No suggestions have been made as to how the

²⁷ Ed. Jacob Neusner, *Religions in Antiquity: Essays in Memory of Erwin Ramsdell Goodenough, The Significance of Symbols: A Hypothesis Tested in Relation of Egyptian Symbols*, Beatrice L Goff, 2nd Edition, Wipf Publishers, 2004, p. 492

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numbers and their associations were chosen or how they were selected or generated, and no underlying principles have identified.

The Pythagorean Mystery Numbers

The world, for the Pythagoreans, depended upon the interaction of opposites. The following outline of the Pythagorean numbers is based on Thomas Taylor's, *Theoretic Arithmetic in Three Books*,

1816.²⁸ Taylor based his analysis on the works of Nicomachus²⁹, Theon of Smyrna³⁰, Proclus³¹, Porphyry³², Plutarch³³, Clement of Alexandria³⁴, Aristotle³⁵, and other early authorities.

One: The Monad

²⁸ http://djm.cc/library/Theoretic_Arithmetic_Thomas_Taylor.pdf (31.01.2018)

²⁹ Nicomachus of Gerasa, (c. 100 CE) was a Neo-Pythagorean philosopher and mathematician who wrote *Arithmētikē eisagōgē* (Introduction to Arithmetic), an influential treatise on number theory. Considered a standard authority for 1,000 years, the book sets out the elementary theory and properties of numbers and contains the earliest-known Greek multiplication table.

³⁰ Little is known of Theon of Smyrna's life (d. c.135 CE). He was called 'the old Theon' by Theon of Alexandria and 'Theon the mathematician' by Ptolemy. Theon's most important work is *Expositio rerum mathematicarum ad legendum Platonem utilium*. This work is a handbook for philosophy students to show how prime numbers, geometrical numbers such as squares, progressions, music and astronomy are interrelated.

³¹ Proclus of Athens (c. 412–485 CE) was the most authoritative philosopher of late antiquity and played a crucial role in the transmission of Platonic philosophy from antiquity to the Middle Ages.

³² Porphyry Malchus (c. 233-309 CE) worked with Plotinus, the founder of Neoplatonism. Plotinus taught that there is an ultimate reality which is beyond the reach of thought or language. The object of life was to aim at this ultimate reality, which could never be precisely described. Plotinus stressed that people did not have the mental capacity to fully understand both the ultimate reality itself or the consequences of its existence.

³³ Plutarch, (c. 46 -119 CE), biographer and author whose works strongly influenced Europe from the 16th to the 19th century. Among his approximately 227 works, the most important are the *Bioi parallēloi* (Parallel Lives), in which he recounts the noble deeds and characters of Greek and Roman soldiers, legislators, orators, and statesmen, and the *Moralia*, or *Ethica*, a series of more than 60 essays on ethical, religious, physical, political, and literary topics.

³⁴ Clement of Alexandria (d. C. 216 CE) 215. St. Clement was an early Greek theologian and head of the catechetical school of Alexandria. He became a convert to the Faith and travelled from place to place in search of higher instruction, attaching himself successively to different masters: two Greeks, a Coele-Syrian, an Egyptian, an Assyrian, and a converted Palestinian Jew. He finally settled as a pupil of Pantænus in Alexandria. Coptic saint venerated as a saint in Catholicism until 17th century.

³⁵ Aristotle (c. 384-322 BCE), philosopher and scientist; author of a philosophical and scientific system that became the framework and vehicle for both Christian Scholasticism and medieval Islamic philosophy. Even after the intellectual revolutions of the Renaissance, the Reformation, and the Enlightenment, Aristotelian concepts remained embedded in Western thinking.

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The monad was base unit of the number of the Pythagorean number system because it remained constant and separate. The monad also contained the concept of 'divine mystical oneness' as opposed to physical unity. For many Greek philosophers, including Parmenides, Xenophanes, Plato, Aristotle, and Plotinus, Monad was a term for God or the first being, the totality of all beings, the source of the One. Gnostics used the term 'monad' to refer to the most primal aspect of God. In *De monade, numero et figura liber* ('On the Monad, Number, and Figure,' 1591) Giordano Bruno described three fundamental types of monads: God, souls, and atoms.

The monad was also 'the hearth' that sat at the centre of the cosmos and controlled the movement of the planets. The monad was called the mind because it was both male and female; and odd and even. It was the beginning and end of all things and the receptacle of the matter because it produced the duad, which was material. The monad was also chaos, obscurity, and chasm, and equated with Tartarus; the place that was as far beneath Hades as heaven it was above the Earth. It was the river of Styx; the boundary between the Earth and the Underworld. The monad was also known as Apollo because it was the light of the sun; Prometheus, because he brought fire and light to humankind. It was fire like the goddesses Vesta because fire was generation and without generation, no number could exist, so fire was the most important of five elements. The monad was substance because it was both primary and eternal and because it knew neither past nor future. It was Jupiter because he was the father and head of all the gods, and it was love, concord, and piety because it was indivisible.

Two - The Duad

The duad was the product of the division of the monad; it created opposition. As the monad was the father, so the duad was the mother or the womb. It was equated with the Egyptian Isis by the

Greeks, and the Greek goddess Rhea whose name means ‘flow’ or ‘discharge’ and so was connected with fertility. In Homer, Rhea is the mother of the gods, although not a universal mother like Cybele, the Phrygian Great Mother with whom she was later identified. The classical Greeks saw Rhea as the mother of the Olympian gods and goddesses, but not as an Olympian goddess in her own right. Rhea only appears in Greek art from the fourth century BCE, when her iconography draws on that of Cybele; the two, therefore, are often indistinguishable; both are shown on a throne flanked by lions, riding a lion, or on a chariot drawn by two lions. While the monad was the symbol of wisdom, the duad was the symbol of ignorance; for ignorance was the mother of knowledge and understanding. The Pythagoreans revered the monad but reviled the duad because it was the symbol of polarity and the separation of the heavens and because it was the symbol of illusion. The Earth below was merely a reflection of the heavens above.

Three - The Triad

The triad was the first equilibrium of unities, whose symbol was the first triangle. The triad represents harmony. It was the generator of the seven spirits that symbolised a triangle and a square (1 x 3 and 1 x 4). It was the root of all things and the fountain of nature. It was the Ophion; the great serpent that wrapped itself around the egg of Eurynome; the mythical egg from which the world was born. The triad was the number of knowledge, music, geometry, and astronomy and Saturn, the ruler of time. At Pompeii, Saturn’s connection with time is shown by him holding a sickle. The Golden Age of Saturn's reign in Roman mythology differed from the Greek tradition. Saturn arrived in Italy as a ‘dethroned and fugitive from Greece,’ but he brought with him the knowledge of agriculture and civilisation for which the god Janus rewarded him with a share of the kingdom. Three was also the number called wisdom, because men organised the present, foresaw the future,

and benefited from the experiences of the past. Pythagoras deemed that the cube of 3 had the power of a lunar circle because the moon goes around her orb in 27 days.

Four - The Tetrad

The tetrad was the origin and generator of all things. It was the fountain of nature and the most perfect number. It was the mid-point of the week, being halfway between 1 and 7 and the first geometric solid. Pythagoras maintained that the soul of man was a tetrad. The four powers of the soul were mind, science, opinion, and sense. Four connected all beings, elements, numbers, and seasons.

Five - The Pentad

The pentad was the union of the odd three and the even two. The pentagram was a sacred symbol of light, health, and vitality. It was represented by a five-pointed star and was the symbol of nature, for, when multiplied by itself it returned into itself, just as grains of wheat, starting in the form of seed, pass through nature's processes and reproduce themselves. The Pythagoreans were of the view that only the numbers 5 and 6, when multiplied by themselves, retained their original number.

Five was the number of equilibrium because it divided the perfect ten into two equal parts. Five also symbolised the fifth element, ether, because it was free from the disturbances of the four lower elements of the tetrad. Ether first appeared in Homeric Greek meaning pure, fresh air or clear sky and was the pure essence that the gods breathed and the substance that fills the space where mortals lived. Ether was connected with the process of burning and shining, and under its Latin name Quintessence, this elusive substance became a popular concept within medieval alchemy. Into the

18th and 19th centuries, this still undiscovered element was used in various gravitational theories, and it even appears in one of Sir Isaac Newton's first published theories on gravitation, *Philosophiæ Naturalis Principia Mathematica (the Principia)*.

Six - The Hexad

Six was the number of the creation of the world because it was perfect in all parts. This number was particularly sacred to Orpheus, the legendary musician, poet, and prophet in ancient Greek religion and myth.

The most famous story about Orpheus concerns his marriage to the beautiful but tragic Eurydice. On their wedding day, the beautiful Eurydice was set upon by a satyr and fell into a nest of snakes where she died. On discovering her body, Orpheus played such sad and mournful songs that all the nymphs and gods wept. So great was his love for his wife that Orpheus travelled to the underworld with Eurydice where his music softened the hearts of Hades and Persephone who agreed to allow them to return to the land of living on one condition. The condition was that Orpheus should walk in front of Eurydice and not look back until they had both returned to the world of the living.

The lovers set off climbing the steep road out of the underworld. As he reached the surface, Orpheus turned his head to see if his wife was still behind him, as he did so she disappeared. With his promise, broken Hades had reclaimed his prize and Eurydice was drawn back into the darkness of death never to return. The death of Orpheus is subject to many interpretations, but the most common is that the Thracian women, jealous of his love and fidelity for his dead wife, wanted to

hurt him. Before his death, Orpheus is said to have been an initiate of a mystery cult and a prophet because it seems he had retained secrets about the afterlife following his journey to Hades. In a fit of jealousy, the Thracian women tore his body to pieces and threw his head and lyre into the river Hebre where his remains drifted out to sea and land on the island of Lesbos. Accepting a bit of role reversal, this story has a lot in common with the myth of Osiris whose body was torn to pieces by his jealous brother Seth and set to drift out to sea in a wooden coffin.

Six was also called the form of forms, the articulation of the universe, and the maker of the soul. Harmony and the soul were considered to be similar because all souls were harmonic. Six was the number of time and the measure of duration; it was the universal remedy because health was equilibrium and balance and six was both equal and balanced, its parts or divisors, 1, 2, and 3 were considered to contain the elements of immortality.

The Jewish philosopher Philo of Alexandria is the first to explain why the God of the Hebrews created the world in six days. It seems that God needed six days to order and rank all the things he had created. According to the laws of the nature of numbers, six is the number most conducive to begetting. Philo explains: For it is the first perfect number after the monad, equal to its parts and composed by them (half is a triad, a third is a dyad, a sixth is a monad). Moreover, it is male and female, fitted together by the power of each. For in things that exist odd is male and even is female. So, the beginning of odd numbers is the triad, and of even numbers the dyad, but the power of both is the hexad. For the world, being the most perfect of created things was put together by the perfect number, the hexad. Furthermore, since it was about to have in itself things created from copulation, it had to be fashioned by a mixed number, the male, who sows the seed, and that of the female, who

receives offspring. The hexad was, therefore, the symbol of marriage because it was formed by the union of two triangles, one masculine one feminine.

Seven - The Heptad

Seven was the number of religion because seven celestial spirits controlled the man. It was called the number of life because it was believed that humans born in the seventh month of embryonic life usually lived whereas those born in the eighth month often died. Some called it the Motherless Virgin or Minerva because it was not born of a mother but out of a crown, or the head of the Father, the monad. The Heptad was Athena the goddess born from the head of Zeus. Zeus was told that his son would take his throne from him, just as Zeus had taken power from his father, Cronus. So, when Metis his wife was pregnant, he swallowed her and Athena emerged from the top of his head full-grown and clothed in armour. She was the fierce protector of Athens, and her symbol was the owl, the symbol of wisdom, and the olive tree the symbol of plenty. Her armour was the aegis, a shield made from the skin of a giant and it was hung with gold tassels and the head of the Gorgon given to her by Perseus.

Seven was also a combination of three - spirit, mind, and soul; and four, the world. This combination was symbolised by the cube, a solid with six surfaces, with a mysterious seventh point set within. The six surfaces were the directions: north, east, south, west, up, and down; or, front, back, right, left, or above, and below; or alternatively the elements earth, fire, air, water, spirit, and matter with the monad at the centre in the form of an upright man. Seven was also associated with fortune, occasion, judgment, dreams, voices, and anything that led men to their doom.

Eight - The Ogdoad

Eight was sacred because it was the number of the first cube. It had eight corners and was the only evenly-even number under 10 (its divisors being: 1, 2, 4, and 8). Called the 'little holy number' it derived its form partly from the twisted snakes on the Caduceus of Hermes and partly from the serpentine motion of the celestial bodies; possibly also from the moon's nodes. The ogdoad was a mysterious number associated with the Eleusinian mysteries.

The mysteries were annual religious ceremonies held at Eleusis for the cult of Demeter and Persephone, the wife and daughter of Zeus. Hades, the god of the Underworld lusted after the beautiful Persephone but her mother Demeter would not permit Zeus to agree to a wedding. Peeved at this refusal, Hades harnessed his deathly chariot, commanded the earth to open, and abducted Persephone from under her father's nose. Her mother, the goddess of the Earth, was so angry she refused to allow anything to grow. The people starve, and the gods became disquiet. Eventually, Zeus struck a deal with Hades to allow Persephone to return to her mother, but as usual, Hades has a trick up his sleeve, and as in the story of Orpheus, the tale has a bitter twist. Before Persephone leaves her husband to walk out of the underworld, he hands her a pomegranate saying its fruit will sustain her on the long journey to the surface. Innocently, Persephone takes it and eats it not knowing that those who eat the fruit of death can no longer be immortal; and so, the season of death or winter was created. Persephone was forced to return to Hades each autumn for a season. As her daughter descended into the world of death, the mournful Demeter ravaged the world with winter. Only when Persephone returned would Demeter allow life on earth to begin again. Eight to the Pythagoreans was the number of the cycle of the year.

Nine - The Ennead

Nine is the first square of an odd number (3×3). It was associated with failure and shortcoming because it fell short of the perfect number ten. It was called the number of men, because of the nine months of his embryonic life. Nine was the ocean and the horizon because they were boundless. The ennead was the limitless number because there is nothing beyond it. Nine was called boundary and limitation because it gathered all numbers within itself, and it was called the sphere of the air because it surrounded the numbers as air surrounds the earth. Among the gods and goddesses associated with the ennead were Prometheus, the Titan hero and trickster figure who was credited with the creation of man from clay, and who defied the gods by stealing their fire and giving it to humanity, an act that enabled man to progress and build civilisation.

Ten - The Decad



Ten was the greatest of numbers to the Pythagoreans, not only because it was the tetractys (a triangular figure consisting of ten points arranged in four rows but also because it comprehended all arithmetic and harmonic proportions. The decad perfected all numbers and comprehended within itself the nature of odd and even, moved and unmoved, good and ill. Ten was associated Atlas because like Atlas who carried the world on his shoulders ten carried all numbers on its shoulders. Pythagoras, it is claimed said that ten was the nature of number because all nations use it as their counting base and it was both heaven and the world. Being a perfect number, the decad was applied by the Pythagoreans to those things relating to age, power, faith, necessity, and the power of memory. It was also called 'the unwearied' because it was tireless. The Pythagoreans divided the heavenly bodies into ten orders.

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Alternative and New Age Interpretations of Sacred Numbers

Alternative and New Age writers have taken the idea of Egyptian sacred numbers much further than mainstream archaeologists and Egyptologists and have linked them to astronomy. The authors of the hugely popular and influential book *Hamlet's Mill*, Giorgio De Santillana and Hertha Von Dechend, proposed that ancient cultures devised a system for hiding technical data about the stars in their myths and legends, including the ancient Egyptian myth of Isis and Osiris. Their theory is that the ancient Egyptians hid information about the 26,000-year wobble in the earth's rotational axis (precession) in their myths.

Author, Robert Bauval, has suggested there is a numerical pattern to the locations of the temples and pyramids of ancient Egypt in his book, 'The Egypt Code.' In this book, Bauval takes his original Orion Theory; a theory that proposes the three pyramids of the Giza Plateau were aligned to prominent stars in the Orion constellation and transformed it into a new and ambitious concept. He suggests that the location of some of Egypt's most famous temples and monuments is based on secret knowledge about time gathered by the ancient Egyptian priests. The master of the modern archaeological conspiracy theory claims that this pattern is clear for all to see. Bauval focuses on six cycles: -

1] the solar day;

2] the 365-day year;

3] the 365.25-day year or Sothic year³⁶;

³⁶ *The Sothic year is the period between two helical rising of the star Sirius.*

4] a cycle of 1460 years which brought the Sothic Cycle back to its starting place again following precession;

5] a 1506-year cycle he calls the Great Solar Cycle and;

6] a 26,000-year cycle based on the Earth's precession cycle, which he calls The Great Year.

With this information, Bauval proposes the existence of a sacred landscape around the Memphite-Heliopolis area which replicates the skyscape of the heavens and most notably the constellations of Orion and Leo. Bauval's ideas are interesting but hugely complex.

New Age writer Graham Hancock takes the idea of time cycles to another level when draws on Bauval's Orion Theory and the precession theory in Hamlet's Mill in his best-selling book 'Finger Prints of the Gods'. Pursuing his claim that there was once a pan-world culture that pre-dates our own, he uses the work of Archaeo-astronomer and Egyptologist Jane B. Sellers another precessionalist in his investigation into the ancient Egyptian myths. Sellers is of the view that the Osiris myth as it appears in Plutarch includes encoded information about the Earth's slow precessional wobble suggesting that the precessional numbers are: 360, 72, 30 and 12.

All of these books and others of their ilk propose that the great thinkers of ancient Egypt recognised that numbers governed the world and were a way to connect with their divine creator. Each author sets out their version of a system of numbers and relationships; the numbers vary from the complex to the simple. The result is often a great book, but as far as archaeologists and Egyptologists are

concerned, it confirms that numbers are just nonsense and should not be touched with the proverbial barge pole.

Conclusions:

Egyptologists have done little to advance their understanding of sacred numbers since 1916, but others have been more than willing to step into the breach. Claims vary wildly; some authors claim numbers are eternal archetypes and that their mystical values can be deduced without reference to any or historical, archaeological data. Others have turned to the occult traditions of Theosophy³⁷ and Rosicrucianism³⁸ to construct their version of Egypt's sacred numbers.

Egyptologists have turned their back on the study of Egypt's numbers sacred or otherwise because they see their subject as primarily philological. Its focus is on words. Egyptologists do not study sacred numbers because they take a social approach to religion and because they think the ancient Egyptian model of the universe was too primitive to need numbers to describe it. Most importantly, Egyptologists' fear of being mistaken for someone who believes in the pseudoscience of the alternative and New Age writers, and in alien visitations from outer space, prevents them from taking sacred numbers seriously.

³⁷ A collection of mystical and occultist philosophies concerning, or seeking direct knowledge of the presumed mysteries of life and nature, particularly of the nature of divinity and the origin and purpose of the universe. From the late 19th century onwards, the term theosophy has generally been used to refer to the religio-philosophic doctrines of the Theosophical Society, founded in New York City in 1875.

³⁸ A European cult of the early 17th century which may or may not have existed. Its manifesto promised the universal reformation of mankind through a science allegedly kept secret for decades until the intellectual climate might receive it.

However, it cannot be denied that by the beginning of the Dynastic period in Egypt, the king's priests and administrators were taking the next significant step in the development of language; they were creating a standard set of symbols to represent the most important ideas in their society. Writing and symbols are used to represent things that exist and things that are imagined. If abstract thinking is thinking about things that do not physically exist, then, the ancient Egyptians were good abstract thinkers. They had imagined their gods living in the sky and in the darkness of the earth beneath their feet. They imagined a life that could be lived after death, and they created a system of symbols to represent their spoken language by around 3000 BCE, some two and a half millennia before the first Greeks with their supposedly superior thinking first set foot in the land of Egypt.

Words and numbers are both languages for describing and communicating what we think, feel, and see. We use language to describe our reality, but describing reality is a tricky business. As the venerable philosopher St. Thomas Aquinas³⁹ pointed out, our perceptions of the world should not be the basis for our knowledge, because our perceptions are individual and individual perceptions often contradict one another. What the saint was saying is that we see the world slightly differently. The world we experience is coloured by our mood, the time of year and for a whole lot of other reasons that we do not need to discuss here. If we open the field of discussion out to the group, we are suddenly in the world of politics. Relationships between people who agree with each other most can become fractious when individuals or sub-sets of the group see things differently. The

³⁹ Philosopher and theologian St. Thomas Aquinas was born circa 1225 in Roccasecca, Italy. Combining the theological principles of faith with the philosophical principles of reason, he ranked among the most influential thinkers of medieval Scholasticism.

philosopher, Immanuel Kant⁴⁰ agreed with the venerable saint but went further saying we can never honestly know what reality is because we limit our perception of it by the imposition of fixed ‘categories’ of knowledge. That is, we tend to slot what we think we know into our pre-existing mental boxes, and being only human we have a tendency to make the evidence fit the box we already have.

Kant provides us with a way forward on reality. He said that reality is the independent nature and existence of everything knowable and that it does not need people around to know that it is there. This obscure point is vitally important if we are to understand ancient Egyptian numbers and religion. As Mathematician Don Zagier from the Max-Planck Institute in Bonn says, mathematics is not like the natural sciences. The natural sciences concern themselves with the physical world, with biology, physics, and chemistry; however, in mathematics, the objects studied are numbers, which are abstract entities.⁴¹ This means numbers are part of reality, but they are not part of physical reality. For example, It is possible to see two apples. The apples can be seen but not the number two. That is because numbers are metaphysical entities; that is they exist, but you cannot see them or touch them. Because they are metaphysical, they operate outside time and space, a bit like the human imagination. Throughout the ages and in most societies, numbers have been used as symbols and metaphors for religious concepts. This is because their metaphysical nature gives numbers a particular affinity to religion. Number has a quality called ‘truth-value’ one plus one always equals two: their intangibility and truth-value offer the priest and the theologian an alternative language to

⁴⁰ Immanuel Kant (1724 - 1804) was an influential German philosopher. In his doctrine of transcendental idealism, he argued that space, time and causation are mere sensibilities; ‘things-in-themselves’ exist, but their nature is unknowable. In the *Critique of Pure Reason* (1781) he attempted to explain the relationship between reason and human experience and to move beyond the failures of traditional philosophy and metaphysics.

⁴¹ https://www.mpg.de/5721071/W001_Viewpoint_012-017.pdf

express what was sacred. Numbers offer a language of perennial truth that transcends time and space, qualities that cannot be matched by words.

Today, Egyptologists treat ancient Egyptian numbers as purely functional and administrative tools, which were used mainly for quantifying, but numbers are so much more than merely quantitative, managerial tools, they are magical, ethereal things that exist in their own unique world. The specialness of numbers was recognised right up to the 19th century in Europe when all numbers were considered to be given by God. This prompted the German mathematician Leopold Kronecker to say, ‘God made the integers, all else is the work of man.’⁴² It is now time to consider the metaphysics of number in ancient Egypt.

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⁴² Leopold Kronecker (1823 – 1891) was a German mathematician who worked on number theory, algebra, and logic.

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