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LAROCHÉ, Roland A. – *Popular symbolic / mystical numbers in antiquity*. Latomus 1995 54 (3) : 568-576. • A brief overview of the ten most important mystical / symbolic numbers favoured by Greek and Roman authors (3, 4, 5, 7, 9, 10, 12, 17, 30, 40). Most of the numbers examined reveal ultimate Pythagorean influence, but the number 40 stems from a different tradition which is Near-Eastern in origin.

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Popular Symbolic/Mystical Numbers in Antiquity

Having long wondered why ancient Greek and Roman authors, especially writers of history and epics, advance the numerical totals which they do in their works I have carefully analysed these works and found out that these authors naturally favor certain symbolic/mystical totals both implicitly and explicitly⁽¹⁾. In this paper I will present a brief overview of the 10 most important mystical/symbolic numbers favored in antiquity.

A symbolic/mystical number is one which suggests something in addition to the number per se by reason of association, convention, etc. Such a number makes no specific reference to the actual quantity involved. Rather it is the visible sign of something invisible, such as an idea or a quality, and, in fact, it is a symbol. It is necessary to distinguish between the arithmetical and the symbolic number; the former defines an object by its quantity or order but says nothing about its nature, whereas the latter expresses an inner link with the object it defines by virtue of a mystic relationship between what is enumerated and the number itself. Religious numerical values vary with longitude and latitude and it is possible to identify many different numbers which were, and in many cases still are, invested with occult significance in different places and at different times.

From very ancient times numbers represented symbolic ideas and the interpretation of numbers is one of the oldest symbolic sciences. Also "the peculiar fascination which numbers as individuals have exerted on the mind of man from time immemorial was the main obstacle in the way of developing a collective theory of numbers, i.e. an arithmetic"⁽²⁾. For example, the Pytha-

goreans and the Greeks were very much preoccupied with the symbolism of numbers and Plato regarded number as the essence of harmony, and harmony as the basis of the cosmos and of man. Pythagoreanism was the influential doctrine of the followers of Pythagoras of Samos, a Greek philosopher and mathematician of the 6 century B.C. None of Pythagoras' own work has survived but the ideas attributed to him by his followers are "among the most potent in modern history. Pure knowledge, the Pythagoreans argued, was the purification (*catharsis*) of the soul. This meant rising above the data of the human senses. The pure essential reality, they said, was found only in the realm of numbers. The simple, wonderful proportions of numbers would explain the harmonies of music which were the beauty of the ear. For that reason they introduced the musical terminology of the octave, the fifth, the fourth, expressed as 2:1, 3:1, and 4:3. For astronomy the Pythagorean adoration of numbers carried an overwhelming message. "They say that the things themselves are numbers", was Aristotle's succinct summary in his *Metaphysics*, "and do not place the objects of mathematics between Forms and sensible things. Since, again, they saw that the modifications and the ratios of the musical scales were expressible in numbers—since, then, all other things seemed in their whole nature to be modelled on numbers, and numbers seem to be the first things in the whole of nature, they supposed the elements of numbers to be the elements of all things, and the whole heaven to be a musical scale and a number ... and the whole arrangement of the heavens they collected and fitted into their scheme; and if there was a gap anywhere, they readily made additions so as to make their whole theory coherent"⁽³⁾.

Plato, and his mystic followers, the Neoplatonists, believed that all the data of the senses were mere unsubstantial shadows and that the real world was a world of ideal forms. "The Neoplatonists built their whole view of the world on an ideal mathematics. Numbers offered the best human vision of God and the world-soul. "All mathematical species ... have a primary subsistence in the soul", observed Proclus (A. D. 410?-485), the last and greatest of the Greek exponents of Neoplatonism, "so that, before sensible numbers, there are to be found in her inmost recesses, self-moving numbers... ideal proportions

especially relied on the following sources: F. HOOPER, *Medieval Number Symbolism*, New York, 1938; R. ALLSTON, *Le symbolisme des nombres*, Paris, 1948; R. GUENON, *L'ésotérisme de Dante*, Paris, 1949; P. DIEZ, *Le symbolisme dans la mythologie grecque*, Paris, 1952; M. ELIADE, *Images et Symboles*, Paris, 1952; M. GUYEN, *Philosophie et mystique du nombre*, Paris, 1952; L. PANETH, *La symbolique des nombres dans l'inconscient*, Paris, 1953; C. G. JUNG, *Man and His Symbols*, Paris, 1954; and especially J. E. CHEVALER, *A Dictionary of Symbols*, New York, 1962, and *Dictionnaire des symboles*, éd. J. CHEVALER and A. GIEBERGINSKI, Paris, 1973 (4 volumes with extensive bibliography).

(3) Cf. Daniel J. BOORSTIN, *The Discoverers*, New York, 1982, p. 298-299.

(1) R. A. LAROCHÉ has treated this topic in articles on Greek and Roman literature and chronology: *Valerius Antias and His Numerical Totals: A Reappraisal* in *Historia* XXVI 3, 1977, p. 358-368; *The Alban King-List in Dionysius I, 70-71: A Numerical Analysis* in *Historia* XXXI 1, 1982, p. 112-120; *Early Roman Chronology: Its Schematic Nature* in C. DEROUX (ed.), *Studies in Latin Literature and Roman History* III, 1983, p. 5-25; *Evidence of a 40-Year Generation Value in Books I-X of Livy* in C. DEROUX (ed.), *Studies in Latin Literature and Roman History* IV, 1986, p. 31-43; *Number Systems, Number Mysticism, and Numerical Practices in Livy (Books I-X) and Related Greek and Roman Writers* (Ph.D. Dissertation: Tufts University 1972; on microfilm at Ann Arbor, Michigan).

(2) Cf. T. DANTZIG, *Number: The Language of Science*, New York, 1954, p. 56 and in general Chapter III "Number-Fore". The reader should consult any standard work on symbols for additional information and for illustrative examples of statements made in this paper about symbolic numbers. In the present investigation I have

of harmony previous to concordant sounds : and invisible orbs, prior to the bodies which revolve in a circle ... we must follow the doctrine of Timaeus, who derives the origin, and consummates the fabric of the soul, from mathematical forms, and reposes in her nature the causes of everything which exists" (4). Plato was particularly interested in the mysticism of numbers and in the *Republic* (VIII, 546) he speaks in an obscure fashion of a certain mystical number but does not reveal what this number is. The solutions proposed to date for this mystical Platonic number are unsatisfactory. According to Cicero (*Tusculan Disputations* I, 17) Plato travelled to Italy to become acquainted with the Pythagoreans and he met Archytas and Timaeus and learned from them all the tenets of the Pythagoreans. Some commentators (5) believe that the mystical Platonic number played an important role in the mysticism of the Hindus and the Babylonians and that perhaps Pythagoras found it on the banks of the Euphrates, if he really studied there, and that he took it with him to Crotona, passing it along to his disciples who finally told it to Plato and his followers. Additionally, Plato states in the *Republic* (VII, 525f.) that the study of numbers has a great and elevating effect since it compels the mind to reason about abstract numbers and that a philosopher should also be an arithmetician.

The following is a list of the 10 most important mystical/symbolic numbers favored in antiquity. In most cases Greek and Roman authors favored Pythagorean mystical numbers.

The number 3 : both an odd and a prime number and like all prime numbers an irreducible datum. It was the most important Pythagorean, Greek, and Roman mystical number. In fact, the dynamic and symbolic richness of 3 is so exceptional that it cannot be overemphasized. The number 3 represents the synthesis of 1 and 2 and thus solves the conflict posed by dualism. The number 3 plays an important rôle in Greek and Roman ritual, legend, and early history.

The number 4 : as the first square (2²) it was considered a magical, mysterious number by the Pythagoreans. As the fourth it represented one of the 3 basic harmonies of Greek music (6). The sum of the first 4 numbers formed the sacred *tetraktys* and this holy fourfoldness supposedly represented the

4 elements : fire, air, water, and earth. The 2 essential prototypes of symbolic quantity are not 1 and 2 which are insignificant for symbolic/mystical considerations and which were not considered numbers by the Pythagoreans, but rather 3 and 4 which signify dynamism and stability respectively and it can be argued that their sum and multiplication yield the 2 numbers that are next in symbolic importance : 7 (4 + 3) and 12 (4 × 3) (7). Often 4 is symbolic of death and closely connected with death rituals.

The number 5 : both an odd and a prime number it was significant for the Pythagoreans but not considered as mysterious as either 3 or 7. As the fifth it represented one of the 3 basic harmonies of ancient Greek music and Pythagoras selected the 5-pointed star, the pentagram, as the symbol for his brotherhood since it is proportioned in such a way that comparisons between its different parts almost always yield the Golden Number, i.e. .618. The number 5 is symbolic of man and it was called the nuptial number by the Pythagoreans since it represents the union of heaven (3) and the *Magna Mater* (2). The number 5 corresponds to pentagonal symmetry, a common characteristic of organic nature, and to the 5 senses which represent the 5 forms of matter.

The number 7 : both an odd and a prime number, 7 was the most prevalent mystical number in antiquity after the number 3 and it was favored by the Hebrews, Greeks, Pythagoreans, and Romans. It was sacred to Apollo since he was born on the 7th day of the month and it is a key biblical sacred number (cf. God rested on the 7th day). Undoubtedly, a very mysterious importance was attributed to 7 because of such natural phenomena as the 7 planets, the 7 intervals on the musical scale, the 7 basic colors, etc. The number 7 symbolizes the entire universe in motion since it is the sum of 3 (heaven) and 4 (the Earth). Hippocrates (fl. c. 460 B.C.) states that "the number 7, because of its occult virtues, tends to bring all things into being : it is the dispenser of life and the source of all change- for the moon itself changes its phase every 7 days. This number influences all divine beings" (8). St. Augustine (*De Civitate Dei* XVII, 4) has an extensive discussion on the special significance of 7 (9).

The number 9 : as the triplication of the triple, 3 × 3, it was a sacred number for the Greeks and the Romans but it was feared by the Pythagoreans because of its many surprising qualities, a superstition extending from ca. 500 B.C. to the present. The number 9 is a key symbolic number in Greek myths and an important biblical number (cf. Christ died at the 9th hour), often symbolizing the end of a cycle, the completion of a task- undoubtedly revealing influence from the decimal system of counting since a new series starts after 9, 19,

(4) Cf. BOORSTIN [n. 3], p. 299.

(5) Cf. D. E. SMITH, *History of Mathematics*, New York, 1958, Vol. I, p. 89.

(6) According to ancient Greek, and Pythagorean, musical theory 4, 5, and 8 represent the 3 harmonies (*συμφωνία*) of ancient Greek music : the fourth, fifth, and octave. For further information on this topic, cf. Paul KRAUS, *Jābir ibn Ḥayyān : contribution à l'histoire des idées scientifiques dans l'Islam* (Cairo 1943), Vol. II, p. 207-209. These 3 numbers were variously combined as 4 = 4 and 5 ÷ 8 = 13 which yields the units 4 + 13 = 17 ; and also as 8 = 8 and 4 + 5 = 9 which yields the units 8 ÷ 9 = 17.

(7) Cf. CIRLOT [n. 2], s.v. "numbers".

(8) Cf. CIRLOT [n. 2], p. 271.

(9) Cf. also his *Sermon* 249 for a lengthy discussion of the importance of 7 and 17.

29, etc. It symbolizes truth since when it is multiplied by any number it reproduces itself by mystic addition and it is associated with the measure of gestations in humans, the 9-month interval from conception to birth.

The number 10 : as the *tetradrycs*, i.e. the sum of the first 4 numbers, which appears graphically as $\begin{smallmatrix} \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \end{smallmatrix}$, the number 10 was called the most perfect number by the Pythagoreans and it symbolized universal creation and the human soul. This number was worshipped and invoked in their oaths under the formula : "The *Tetradrycs* in which is found the source and the roots of eternal Nature". The Pythagoreans believed that all was derived from 10 and that all went back to 10. The decimal system of counting had a mysterious importance for them and they considered the numbers over 10 to be simply a repetition of the first 10 numbers. Ten signified perfect harmony and it was the source of all since it represented $1 + 2 + 3 + 4$. It was invoked as a deity and called the "Sacred Ten" which contains the key to everything. Pythagoras (*apud* Lucian, *Action of Souls* IV), after ordering a new disciple to count to 4, exclaimed "Do you see? What you think is 4 is 10, a perfect triangle and our oath". Pythagoras further states that "10 is a perfect number, and it is both right and according to Nature that we Greeks and all men arrive at this number in all kinds of ways when we count, though we make no effort to do so : for it has many special qualities which a number thus perfect ought to have, while there are many characteristics which, while not special to it, are necessary to its perfection". Many multiples of 10 are symbolically significant : especially 30 , 3×10 ; 40 , 4×10 ; 100 , 10×10 ; and $1,000$, 10^3 .

The number 12 : as the product of 3×4 it is closely linked with the wheel and the circle and it is especially important for spatio-temporal divisions. It designates the 12 signs of the Zodiac— one of the most widespread symbols— and symbolizes cosmic order. In fact, systems based on the circle tend to have 12 as the end-limit as in 12 hours, 12 months, 12 Olympians, etc. It is also a popular biblical sacred number (cf. 12 apostles, 12 tribes of Israel, 12 doors in Jerusalem, etc.).

The number 17 : both an odd and a prime number it had many mystical aspects, in part, because it is the sum of 2 very important mystical numbers : 7 and 10. Also it is the 7th prime number according to the following classification which I believe existed at some time in antiquity although there is no documentation of this fact : 1, 3, 5, 7, 11, 13, and 17 : later Aristotle and Euclid replaced 1 by 2 as the first, and by necessity only, even prime number. The decimal system of counting had a mysterious importance for the Pythagoreans and they believed that the numbers over 10 were simply a repetition of the first 10 numbers which means that $17 = 7$. According to the Pythagoreans only 17 souls would be resurrected at the end of the world and each soul would receive one of the 17 letters of the ancient Greek alphabet (the 17

consonants ?) which spelled out the perfect name of God. The Pythagoreans attributed a special importance to 17 since it is the sum of $4 + 5 (= 9) + 8$, the 3 key numbers in their music theory, and in their theory about the harmony of the spheres : also the ratio 9:8 constantly recurs in ancient Pythagorean and Greek arithmetical speculations on grammar, musical, and cosmological questions. However, the number 17 had an ambivalent connotation in antiquity since in Roman times it was feared because XVII could also be interpreted as *VIXI = mortuus sum*.

It should be noted that in the religious epics of the Anatolian Turks and in the Islamic tradition the number 17 has an almost magical quality and the mystical Shiites from a very early time worshipped the number 17⁽¹⁰⁾. They believed that the shape or form (*surat*) of everything in the world was 17. Some believe that this veneration among the Shiites stems from ancient Pythagorean speculations based on the letters of the ancient Greek alphabet since there are 17 consonants and 7 vowels in this alphabet⁽¹¹⁾. However, I believe that there are 17 consonants and 7 vowels in the ancient Greek alphabet because of influence from the mystical numbers 7 and 17 and not vice versa.

Furthermore, the sum of the first 17 numbers : $1 + 2 + 3 \dots + 17 = 153$. The number 153 in its own right has a long, distinguished literary tradition since it is cited in the Bible (*John* XXI, 3-14) as the number of fish in the miraculous catch which was made when Jesus appeared for the 3rd time after his resurrection to 7 of his disciples. St. Augustine (*Sermon* 249) comments at length about the special significance of 153 and since he had a touch of the Pythagorean about him he was thrilled by the fact that the addition of 1 to 17 = 153 which was the number of fish in the miraculous catch.

In general, the number 17 was an important mystical number in antiquity : e.g. Vergil cites 17 different numbers in the *Aeneid* : in Athens there were 17 kings from Cecrops, the 1st king, to Codrus, the last king : in Italy, there were 16 kings before Romulus, i.e. from Aeneas to Numinor, and so Romulus was the 17th king overall⁽¹²⁾ : etc.

(10) Cf. Irène Mélikoff, *Nombres symboliques dans la littérature épico-religieuse des Turcs d'Anatolie* in *Journal Asiatique*, 1962, p. 442.

(11) Cf. Chevalier [n. 2], Vol. II, p. 203-204, s.v. "dix-sept". It should be noted that according to the Islamic tradition only 17 souls would be resurrected at the end of the world and each one would receive one of the 17 letters of the alphabet which spelled out the perfect name of God — obviously revealing ultimate Pythagorean influence.

(12) However, according to Dionysius of Halicarnassus (I, 45, 3) Romulus is the 17th king in descent from Aeneas and if this were so then it would be a question of 17 pre-Alban and Alban kings followed by 7 Roman kings. A situation which would mirror the Greek alphabet and reveal definite influence from the mystical numbers 7 and 17. According to traditional chronology there are 16 pre-Alban and Alban kings followed by 7 Roman kings — cf. *The Alban King-List* in *Dionysius I, 70-71* : 4 Numerical Analysis [n. 1] for a discussion of this topic.

The number 30 : as the product of 3×10 , 2 very important mystical numbers, it was a sacred number in antiquity—especially in Greek sources to specify the duration of a generation (13). The number 30 was also a special number for the Latins (and subsequently for the Romans) and it is prominent in early Roman legend. For example, there is the famous prodigy of the white sow with 30 piglets which was said to have appeared to Aeneas and the subsequent building of Alba Longa 30 years, or one generation, after the founding of Lavinium (Dionysius of Halicarnassus I, 66, 1 = Cato frag. 13 (14). Varro (*R.R.* 2, 4 ; *L.L.* 5, 144) explains that the white sow represents Alba Longa and the 30 piglets the 30 years that would elapse between the building of Lavinium and Alba Longa. This prodigy is mentioned by Fabius Pictor (contemporary of the Hannibalic War ; frag. 4) who evidently was the source for Dionysius' statement which recurs in the *Aeneid* (VIII, 44). This legend began as an aetiological explanation of the league of 30 Latin cities (cf. Pliny, *N.H.* III, 69) and obviously Rome, anxious to reduce the prestige and the standing of the 30 Latin cities, succeeded in proposing a new interpretation by which the 30 piglets represented the 30-year interval between the founding of Lavinium and Alba Longa.

The number 40 : as the product of 4×10 , 2 important mystical numbers, it was a key mystical number in antiquity and it stems from a tradition that is Near-Eastern in origin. The Hebrews considered 40 to be a special, magical number (15) and consequently they utilized a 40-year generation value (19).

(13) In chronology a generation refers to the interval of time between the birth of a father and the birth of 'son. The use of a 30-year generation value in antiquity is well attested to : cf. e.g. LOWME (1904) I, 250 Sch. in DINDORF I, p. 38) : HESIOD (*WD.* 695-698) ; SOLOON (frag. 27, 1.9) : DIONYSIUS OF HALICARNASSUS (I, 31, 1 ; I, 74, 4-6 ; II, 27, 4 ; II, 67, 2 ; etc.) ; LAMY (I, 3, 3-4 ; IX, 3, 2 ; IX, 37, 12). For secondary sources : cf. e.g. K. J. DOVER, *Thucydides and His History*, Oxford, 1965, p. 4ff. ; A. R. BURN, *Dates in Early Greek History* in *JHS* LV, 1935, p. 141 ; D. W. PRACKEN, *Studies in Greek Genealogical Chronology*, Lancaster, 1943, p. 20 and 102 ; W. DEN BOER, *Laconian Studies*, Amsterdam, 1954, p. 10 ; A. E. SAMUEL, *Greek and Roman Chronology*, Munich, 1972, especially p. 241ff. "Generational Reckoning" and his statement on p. 244 that "Although genealogical calculation must be assumed to have served the purposes of almost all historical chronology before the fourth century, and must also underlie most of the precise chronology of the pre-fifth century Greece in all subsequent sources, it is extremely difficult to apply the control of generation reckoning to an understanding of the means a specific author used to arrive at a date". Cf. also *The Alban King-List in Dionysius I, 70-71 : A Numerical Analysis* [n. 1] which examines the pervasive influence of a 30-year generation value in the formulation of the Alban king-list and in early Roman (and pre-Roman) events.

(14) Roman fragments in this paper are from Hermannus PETER, *Veternum Historiarum Romanorum Reliquiae*, Leipzig, 1914³, Vol. I.

(15) For example, the great deluge lasted for 40 days and 40 nights ; Moses, at the age of 40, conferred with Jehovah for 40 days and 40 nights on Mount Sinai ;

Subsequently, other peoples, e.g. the Greeks and the Etruscans, seem to have adopted this practice. In fact, some authorities (17) trace the use of a 40-year generation value in Eratosthenes back to Hecataeus of Miletus (fl. 500 B.C. ; wrote *Genealogies*), i.e. to Asia Minor. According to Herodotus (I, 94) there was a belief in antiquity that the Etruscans originally came from Asia Minor, specifically from Lydia. It is possible, but not as likely, that a 40-year generation value was adopted independently by various peoples.

Cumulative evidence indicates that 40 was a sacred number for the Etruscans and treaties assigned to them are generally expressed in terms of 40-year intervals, i.e. 40-year generations. Further evidence of influence from the sacred number 40 is furnished by Etruscan augury : e.g. the Piacenza Liver is divided into 40 compartments, i.e. 24 inner and 16 outer divisions. This practice clearly indicates Near-Eastern influence since the custom of inspecting the liver of sacrificial animals for divination was popular in Asia Minor and in Babylonia. The number 40 is conspicuous in early Roman legend and history and its presence in the narrative usually indicates ultimate Etruscan influence. I believe that the Etruscan preference for 40 as a special number and the closely related use of a 40-year generation value travelled a route similar to that followed by the 12-month calendar, i.e. these practices originated in the Near-East and

Jesus was taken to the temple 40 days after his birth, he preached for 40 months, he rose up after 40 hours in the tomb ; etc.

(16) For example, the children of Israel wandered in the wilderness for 40 years — one generation : SAUL, DAVID, and Solomon each reigned for 40 years — one generation : D. W. PRACKEN [n. 13], p. 3, states that "the writers of the Old Testament employed a generation of 40 years". E. P. BIR, *Abingdon Bible Handbook*, New York, 1975, p. 103, states that "ancient peoples, such as the Phoenicians and the Carthaginians often reckoned a generation by the round number 40 years". He believes that undoubtedly the children of Israel wandered in the wilderness for a generation but that the length of a generation was actually about 20-25 years. Thus, in his opinion, the chronology of "Numbers" is traditional and not strictly historical.

(17) Cf. E. MEYER, *Forschungen zur Alten Geschichte*, Halle, 1892-1899, Vol. I, p. 151ff., for the use of a 40-year generation value by Hecataeus : BURNS [n. 13], p. 130-146, accepts Meyer's theory and further proposes that subsequently Eratosthenes adopted a 40-year generation value rather than the more common interval of 30 years. PRACKEN [n. 13], p. 68f. and 102ff., proposes that many of the calculations of Herodotus are based on a 40-year generation value and that they stem ultimately from Hecataeus, who made the first consistent use of genealogical chronology, and that the first such chronological system originated in Anatolia ; he also finds traces of a 40-year generation value in Thucydides and he believes that perhaps the Persians followed a 40-year generation value. W. DEN BOER [n. 13], p. 5-93, accepts Meyer's theory and then finds traces of a 40-year generation value in Herodotus and Thucydides ; he further believes that the use of a 40-year generation value was a very ancient practice in Sparta (cf. especially p. 88-93 "Forty-Years Generations"). For a recent, comprehensive, and detailed account of these and related topics, cf. KURT VON FRITZ, *Die griechische Geschichtsschreibung*, Berlin, 1967.

were subsequently transmitted by the Etruscans to the Romans (18). In several instances Roman regnal chronology reveals influence from a 40-year generation value and periods of years in Livy, especially for treaties, are often schematic and expressed according to 40-year intervals.

The evidence indicates that ancient Greek and Roman authors often cited certain numbers because of their symbolic/mystical dimension and that the influence from these numbers was felt both implicitly and explicitly. Most of the symbolic/mystical numbers examined in this paper reveal ultimate Pythagorean influence but the number 40 stems from a different tradition which is Near-Eastern in origin.

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(18) Cf. R. M. OGILVIE, *A Commentary on Livy: 1-5*, Oxford, 1970, p. 95-96, who speculates that "the change (i.e. in Rome during Numa's reign) to a 12-month calendar was inspired not merely by a desire to correlate the lunar and the solar year but by a more exact computation of both undertaken principally by the Babylonians and mediated through the Etruscans".