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Ideas in English Renaissance Poetry

13 Numerology

Numerology, or the science of the symbolic meaning of numbers, was applied in the Renaissance to three different subjects: the cosmos, the Bible and the work of art. God was believed to have created the world on numerical principles and to have given the Bible an additional layer of meaning by filling it with symbolic numbers. The initiate into the mysteries of numerology could 'read' both God's books, the Book of Works (the universe) and the Book of Words (the Bible). The artist could imitate the divine process of creation by organising his work on numerical principles; the harmonious construction of the work would thus reflect the harmony of the universe not because it was an imitation in a simple sense but because it was created by the same method.

The idea that the basis of the world is number derives from the Pythagorean and Platonic tradition. Our knowledge of the beliefs of Pythagoras, a Greek philosopher and mathematician of the sixth century BC who founded a religious community in southern Italy, is entirely second-hand: it comes from a hostile critic, Aristotle (1), and from sympathisers such as Plato and the Neoplatonists. Because the Pythagoreans expressed numbers spatially, as groups of points, they came to think of numbers as having concrete existence. The two most important groups of numbers are the Tetrad (4) and the Decad (10). The Tetrad can be expressed geometrically: 1 as a point, 2 as a line, 3 as a triangle, 4 as a pyramid. The Tetrad is the basis of the Decad because $10 = 1 + 2 + 3 + 4$. This relationship is expressed in the Tetractys, which consists of the points of the

Decad arranged triangularly: $\begin{matrix} & & \cdot & & \\ & \cdot & & \cdot & \\ \cdot & & \cdot & & \cdot \\ & \cdot & & \cdot & \\ & & \cdot & & \end{matrix}$ Each number in the Decad has a particular meaning, which is not merely symbolic. Pythagoras discovered that the musical scale can be expressed in terms of numerical proportion, and this discovery led to the belief that everything in the universe can be similarly expressed: things are numbers (1). The opposition between odd and even numbers was regarded as underlying all contraries: limit and the unlimited, male and female, light and dark, good and bad. The monad (1) represents unity, the dyad (2) excess or defect, the triad (3) reconciliation of opposites, the tetrad (4) equilibrium and justice (hence, for example, the emphasis in antiquity on 4 humours, 4 elements, 4 virtues). The numerical and musical theories in Pythagoreanism are closely linked: there is an underlying harmony between man

and the cosmos, the microcosm and macrocosm, which can be expressed in terms of both number and music (for these theories see Chapter 6).

Some Pythagorean ideas were taken up and elaborated by Plato. The importance Plato attached to mathematics can be judged from the educational scheme he designed for his Guardians, the ruling class in the *Republic*, who are required to study this subject from the age of 20 to that of 30 (2). Numbers have aesthetic and moral significance. The *Timaeus* (31–6) describes how God first created the world's body as a geometrically perfect sphere (3), and then created its soul in arithmetical and musical proportions according to a design known as the Platonic Lambda (because it resembles the Greek letter λ):

$$\begin{array}{ccc} & 1 & \\ & 2 & 3 \\ 2^2=4 & & 9=3^2 \\ 2^3=8 & & 27=3^3 \end{array}$$

Thus universal harmony can be measured. There was an extremely influential application of this idea by the Roman architect Vitruvius. Vitruvius argues in *On Architecture* III i that the proportions of the perfect human body can be calculated mathematically, and that a man with arms and legs outspread exactly fits a circle and a square. These principles can then be applied to the design of buildings (4). Thus the mathematical proportions on which micro- and macrocosm are constructed become an objective aesthetic standard.

In the Pythagorean and Platonic tradition the first ten numbers are especially significant; in the biblical tradition, which goes back to Babylonian astrology, certain numbers assume meanings because of their associations. Some significant numbers in the Old Testament are 7 (God's day of rest after the Creation), 10 (the Commandments), 12 (the tribes of Israel), 40 (the years spent by the Israelites in the desert), 70 (the number of the patriarchs). Numbers in the New Testament which echo significant numbers in the Old Testament form a system of numerical typology (on the functioning of typology see Chapter 10). Thus the 40 years in the desert typify Christ's 40 days of fasting, the 70 patriarchs typify the 70 disciples appointed by Christ to assist the 12 Apostles (themselves typified by the 12 tribes). With the beginnings of Biblical exegesis in Alexandria Pythagorean and Platonic methods were introduced by Philo Judaeus to help interpret biblical numbers. In the hands of Augustine numerical exegesis became a sophisticated technical skill (5, 6). Augustine

associated the divine geometer of *Timaeus* with the Christian God; the statement in the Apocryphal Book of Wisdom 11:20 'thou hast ordered all things in measure and number and weight' became the basis of the view that God had created the world by number. Numerical exegesis went far beyond interpretation of the obviously significant biblical numbers. Every number used in the Bible in however seemingly trivial a context was scrutinised for its meaning. In Books XI and XII of *The City of God* we can see how far this process was taken. A single number could be interpreted in many different ways, according to how it was divided. The Pythagorean Decad acquired new Christian connotations, and numbers not necessarily stressed in the Bible became significant, for example 3 (the Trinity – a non-biblical doctrine perhaps influenced by Pythagoreanism), 4 (the gospels), 33 (the years of Christ's life).

The Pythagorean and Platonic tradition of number symbolism was also transmitted independently from biblical numerical exegesis by the encyclopedists of late antiquity and the early Middle Ages. The more influential works are Macrobius' *Commentary on the Dream of Scipio*, Boethius' *The Principles of Arithmetic*, Martianus Capella's *The Marriage of Philology and Mercury* (Book VII), and Isidore's *On Number*. Some of these works are arithmological, that is, they expound the meaning and powers of specific numbers in the Decad. Thus Macrobius (I vi) discusses at length the significance of the number 7. The impetus behind these works was pedagogical, the desire to transmit the traditions of classical culture; thus they simplified and passed on to generations of readers a basic knowledge of the principles of numerology. The classical attitude to number was perpetuated in the medieval curriculum of the Seven Liberal Arts, the elementary Trivium (three ways) consisting of literary studies, grammar, rhetoric and dialectic, and the advanced Quadrivium (four ways) consisting of mathematical studies, arithmetic, geometry, astronomy and music. Boethius (who first gave the Quadrivium its name) regarded arithmetic as the basis of the other sciences; in this he was following a tradition going back to Pythagoras.

In the Renaissance numerology was approached rather differently. The encyclopedic tradition of late antiquity and the Middle Ages was concerned with expounding the basic principles. Renaissance writers on numerology, most of them Neoplatonists, regarded it as a mystery whose secrets were the property of the initiated. (This esoteric attitude had been characteristic of the early Pythagorean community.) Renaissance numerologists combined traditional sources – Pythagorean/Platonic and exegetical texts – with sources which were acquiring new interest – the Jewish Cabala, the Orphic and Hermetic

poem's content. This procedure is fraught with difficulties, one being that the critic may read meanings into the numbers he arrives at, another being that three different systems of number symbolism were available to the poet, Pythagorean, Biblical and temporal (the ways in which time could be divided, for example 24 hours, 7 days, 52 weeks, 12 months, 365 days). Thus the number 4 might represent justice, or the gospels, or the seasons; the context would confirm which meaning if any was intended. Two poems which have been convincingly shown to use 'formal' numerology are Spenser's *Epithalamion* and Milton's 'Nativity Ode'. Spenser uses temporal symbolism; his poem illustrates through its stanza and line numbers the passing of the 24 hours of the day and 365 days of the year. Milton's numbers are biblical and Platonic: the ode's introduction has seven-line stanzas, the 'Hymn' eight-line, indicating the transition from time to eternity, from discord to harmony. Indeed it has been argued that the basis of the poem's numerical organisation is the Platonic Lambda. Such complex schemes are probably meant to be secret, to be legible only by God, the poet and the initiate, as with the highest level of allegory. The mundane reader can appreciate the formal symmetry of a poem without realising that the symmetry itself expresses the poem's meaning. 'Formal' numerology is thus an enigma; the danger for the modern reader is that he may be so teased that he will track down numerological composition where it was never intended.

PYTHAGOREAN/PLATONIC NUMEROLOGY

- 1 The so-called Pythagoreans applied themselves to mathematics, and were the first to develop this science; and through studying it they came to believe that its principles are the principles of everything. And since numbers are by nature first among these principles, and they fancied that they could detect in numbers, to a greater extent than in fire and earth and water, many analogues of what is and comes into being – such and such a property of number being justice, and such and such soul or mind, another opportunity, and similarly, more or less, with all the rest – and since they saw further that the properties and ratios of the musical scales are based on numbers, and since it seemed clear that all other things have their whole nature modelled upon numbers, and that numbers are the ultimate things in the whole physical universe, they assumed the elements of numbers to be the elements of everything, and the whole universe to be a proportion or number.

Aristotle *Metaphysics* I v

- 2 Number is the subject of the whole art of calculation and of the science of number; and since the properties of number appear to have the power of leading us towards reality, these must be among the studies we are in search of. The soldier must learn them in order to marshal his troops; the philosopher, because he must rise above the world of change and grasp true being, or he will never become proficient in the calculations of reason. Our Guardian is both soldier and philosopher; so this will be a suitable study for our law to prescribe. Those who are to take part in the highest functions of state must be induced to approach it, not in an amateur spirit, but perseveringly, until, by the aid of pure thought, they come to see the real nature of number. They are to practise calculation, not like merchants or shopkeepers for purposes of buying and selling, but with a view to war and to help in the conversion of the soul itself from the world of becoming to truth and reality.

Plato *Republic* VII 524

- 3 Now anything that has come to be must be corporeal, visible, and tangible: but nothing can be visible without fire, nor tangible without solidity, and nothing can be solid without earth. So god, when he began to put together the body of the universe, made it of fire and earth. But it is not possible to combine two things properly without a third to act as a bond to hold them together. And the best bond is one that effects the closest unity between itself and the terms it is combining; and this is best done by a continued geometrical proportion . . . So god placed water and air between fire and earth, and made them so far as possible proportional to one another, so that air is to water as water is to earth; and in this way he bound the world into a visible and tangible whole. So by these means and from these four constituents the body of the universe was created to be at unity owing to proportion; in consequence it acquired concord, so that having once come together in unity with itself it is indissoluble by any but its compounder.

Plato *Timaeus* 31-2

- 4 The planning of temples depends upon symmetry; and the method of this architects must diligently apprehend. It arises from proportion (which in Greek is called *analogia*). Proportion consists in taking a fixed module, in each case, both for the parts of a building and for the whole, by which the method of symmetry is put into practice. For without symmetry and proportion no temple can have a regular plan; that is, it must have an exact proportion worked out after the fashion of the members of a finely-shaped human body . . . Now the navel is naturally the exact centre of the body. For if a man lies on his back with hands and feet outspread, and the centre of a circle is placed on his navel, his fingers and toes will be touched by the circumference. Also a square will be found described within the

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are to be found. Plato writes in the *Epinomis* that among all liberal arts and theoretical sciences the science of numbering is chief and most divine. Again, asking why man is the wisest animal, he answers that it is because he knows how to number . . . These things could not in any way be true if they had understood by the art of numbering that art at which now the merchants are expert above all. Plato also witnesses this, warning us in a loud voice not to confuse this divine arithmetic with mercantile arithmetic.

Pico della Mirandola *On the Dignity of Man* (compare 2)

- 9 Now, from this means that the first ancients used of delivering their knowledges thus among themselves by word of mouth, and by successive reception from them down to after ages, that art of mystical writing by numbers, wherein they couched under a fabulous attire those their verbal instructions, was after called *scientia Cabalae*, or the science of reception – *Cabala* among the Hebrews signifying no other than the Latin *receptio*: a learning by the ancients held in high estimation and reverence, and not without great reason; for if God (as the excellent John Picus rehearses) . . . did nothing by chance, but through his wisdom disposed all things as in weight and measure, so likewise in number; and which taught the ingenious Salluste [du Bartas] to say that:

Sacred harmony

And law of number did accompany

The Almighty most, when first his ordinance

Appointed earth to rest and heaven to dance, [trans. Sylvester]

well might Plato consequently affirm that, among all the liberal arts and contemplative sciences, the chiefest and most divine was the *scientia numerandi* . . . And I am fully of opinion . . . that the ignorance of this art, and the world's maim in the want or not understanding of it, is insinuated in the poets' generally-sung fable of Orpheus, whom they feign to have recovered his Euridice from hell with his music, that is, truth and equity from darkness of barbarism and ignorance with his profound and excellent doctrines; but that in the thick caliginous way to the upper earth she was lost again, and remains lost to us that read and understand him not, for want merely of the knowledge of that art of numbers that should unlock and explain his mystical meanings to us.

Henry Reynolds *Mythomystes*

GOD AS GEOMETER

- 10 Silence, ye troubled waves, and thou deep, peace,
Said then the omnific Word, your discord end:
Nor stayed, but on the wings of cherubim
Uplifted, in paternal glory rode

Far into chaos, and the world unborn;
For chaos heard his voice: him all his train
Followed in bright procession to behold
Creation, and the wonders of his might.
Then stayed the fervid wheels, and in his hand
He took the golden compasses, prepared
In God's eternal store, to circumscribe
This universe, and all created things:
One foot he centred, and the other turned
Round through the vast profundity obscure,
And said, Thus far extend, thus far thy bounds,
This be thy just circumference, O world.

Milton *Paradise Lost* VII ll. 216–31

PROPORTION AS MORAL PERFECTION

- 11 All offices were done
By him, so ample, full, and round,
In weight, in measure, number, sound,
As though his age imperfect might appear,
His life was of humanity the sphere.

Jonson 'To the Immortal Memory and Friendship of that
Noble Pair, Sir Lucius Cary and Sir H. Morison' ll. 48–52

- 12 Within this sober frame expect
Work of no foreign architect,
That unto caves the quarries drew,
And forests did to pastures hew,
Who of his great design in pain
Did for a model vault his brain,
Whose columns should so high be raised
To arch the brows that on them gazed.

But all things are composed here
Like Nature, orderly and near:
In which we the dimensions find
Of that more sober age and mind,
When larger-sized men did stoop
To enter at a narrow loop;
As practising, in doors so strait,
To strain themselves through heaven's gate.

Humility alone designs
Those short but admirable lines,
By which, ungirt and unconstrained,
Things greater are in less contained.