The Symbolic Meaning of Numbers Applied to Three Subjects in the Renaissance:
the cosmos, the Bible, and the work of art

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Abstract
Numerology is the science of the symbolic meaning of numbers and was applied in the Renaissance to three different subjects: the cosmos, the Bible and the work of art. The idea that the basis of the world is number derives from the Pythagorean and Platonic tradition. 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 biblical tradition goes back to Babylonian astrology and certain numbers assume meanings because of their associations. In the hands of Augustine numerical exegesis became a sophisticated technical skill.

Numerology in the Renaissance was used as a principle of artistic composition. In other words, numerology was used both in the construction of religious buildings and in a principle of literary organization. The most important practitioner of numerical composition in the Middle Ages was Dante. Spenser, Milton were also the likeliest practitioners of numerological composition in those days.

Keyword/Pythagorean and Platonic tradition, Babylonian astrology, Augustine exegesis

The renaissance 시대는 수비학, 즉 숫자가 가지는 의미를 세 가지 다른 측면에서 적용시키고 있다. 첫째는 우주적 관점에 둔쪽은 성경적 해석에 따르지 못한 다른 측면의 적용시킬 수 있다. 이러한 생각의 뿌리는 피타고라스와 플라톤의 수에 대한 생각에서 비롯되었다. 물론 이들의 생각은 고대와 초기 중세 학자들이 성경에 나타난 숫자를 해석한 부분의 영향을 받았다. 성경의 해석에 적용된 숫자적 의미는 바빌론 사람들의 점성술과 이러한 점성술과 관련된 부분에서 시작되었다. 아우구스티누스는 성경에 나타난 숫자의 의미를 좀 더 세밀하게 해석하였다. 수비학은 르네상스 시대의 문학적, 예술적 작품을 만드는데 있어 하나의 원칙으로 사용되었다. 즉, 종교적 건축물뿐만 아니라 문학 작품도 수비학 개념을 중심으로 만들어졌다. 대표적 작가로는 단테, 스피너, 밀턴 등이 있다.

중심어/피타고라스와 플라톤 전통, 바빌론 점성술, 아우구스티누스 성경해석
1. The Introduction of 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 organizing 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.

2. Pythagorean and Platonic Numerology

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, and from sympathizers such as Plato and the Neoplatonists.

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 and 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 modeled 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 of number.1)

Aristotle Metaphysics I

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:

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   1
  1 2
 1 2 3
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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.2) 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 opposite, the tetrad (4) equilibrium and justice (hence, for example, the emphasis in antiquity on 4 humors, 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.

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.

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 calculation 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

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2) Aristotle, p. 33.