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ESSAY · TRANSLATION

The Teaching of Numbers and Number Theory

German original: *Zahlenlehre und Zahlentheorie*

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THIS ESSAY IN OTHER LANGUAGES

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"The real number, as will become ever more evident, has not the slightest thing to do with mathematical matters." (Oswald Spengler)

When we talk in everyday life, we mostly communicate with people who speak the same language. If we want to make contact with other cultures, the question arises of how best to achieve this, which leads to the subject of "Esperanto". If we think a step further and consider what contact with non-terrestrial civilisations might look like, we soon realise that only a *culture-independent meta-language* comes into question, because nobody would assume that English or Chinese is spoken in our neighbouring galaxy. To find this meta-language, a glance at everyday life is enough.

When people of different nations meet at a busy place - airport, railway station, toilet - there are usually pictograms which give *symbolic* guidance. The pictograms are based on common patterns of thought that are inherent in all people and represent a sign language reduced to the essentials. If we simplify these pictorial guides by a further step, we finally arrive at NUMBERS as universal engrams or form-giving principles that build up our world.

THE TEACHING OF NUMBERS AND NUMBER THEORY

As the famous German philosopher and mathematician Oswald Spengler already remarked, numbers and mathematics have almost nothing to do with each other, a fact that is not taught to us in any school and ultimately causes a great deal of confusion. This stems from the fact that today we no longer distinguish between the **teaching of numbers as the teaching of the universal principles of being** and *number theory as a branch of mathematics*. Since numbers are used in both fields, however, a clarification is absolutely necessary, as numbers have opposite meanings there.

In number theory, numbers are regarded as *quantifiable measures and magnitudes*, whereas the teaching of numbers describes numbers as the *smallest informational building blocks of the world*. Just as an architect influences the living climate already through the choice of building blocks (mud bricks, stones, wooden blocks etc.), the use of numbers decides whether the virtual images of reality generated from them fit or not.

Teaching of numbers: use of numbers

* as symbols for cosmic principles
* as informational building blocks of the world
* to describe universal reality

Number theory: use of numbers

* as measures, operatively for calculating
* as concrete quantities in formulas
* to calculate scientific facts

Recognising these principles - the teaching of numbers as the "**grammar of nature**" - connects us both with our environment and with our origin, which is why the teaching of numbers also represents the formal *bridge to our self*. Beyond this, the teaching of numbers as the *"cosmic operating system"* de-

fines what we as human beings have in common with the universe, which in the socio-cultural sphere leads to natural and peaceful societies.

> *To be in the world without knowing the hidden laws of nature is like being born in a country whose mother tongue one does not know. (Hazrath Inayat Khan)*

THE TEACHING OF NUMBERS OFFERS A UNIFIED DESCRIPTION OF THE WORLD

As the title already suggests, everything revolves around an interdisciplinary and holistic presentation of the universe, its order, its development and its communication.

Here *science, religion and art*, as the three primary archetypes of human perception, find their culmination in the *teaching of numbers*, which familiarises us with the grammar of nature. The teaching of numbers as the teaching of the fundamental principles of being should, however, not be confused with number theory, which is a branch of mathematics and does not allow a holistic view of reality.

Teaching of numbers = Science + Art + Religion

Science proves here to be a way of seeing that is directed primarily at the reality perceptible to the senses, whereas religion, as a human perspective, focuses on the invisible, spiritual parts of creation. The middle of both ways of seeing is embodied by art, which unites both personal-subjective and concrete, object-like aspects within itself.

Human being = Body + Soul + Spirit

In contrast to the usual specialisation of the sciences, this contribution concentrates on presenting the unity of all being, which has sprung from *emptiness ("vacuum")*. In this sense, matter, energy and information always form an inseparable whole, which expresses itself in infinite variations on the four main levels of cosmic being – *universal, galactic, solar, planetary*.

Analogous to the body-soul-spirit connection, it can be shown that every form of existence, as a unity, follows a threefold division in its appearance, formally representable as a 1 : 3 relation. Thus every atom too possesses a material and object-like aspect, a soul part ("energy") and a spiritual part ("information"), which is expressed formally as follows:

Being = Matter + Energy + Information

Consequently, this view leads to a fundamental reorientation of science, religion and art, since even a natural scientist of the purest kind can only be successful if he equally includes the soul-spiritual or energetic-informational aspects of the object under investigation in his considerations. Likewise, the

philosopher is called upon to seek a formal-concrete description of an abstract idea, which logically goes beyond the limits of any denomination or any established subject.

The inestimable advantage of a universal perspective, however, lies in bringing together and integrating a l l efforts to gain a deeper understanding of our world. It is evident that this is a presentation of the whole, which shows what being has in common on all levels and conveys a cosmic language that is not culture-specific but universally valid. In this way, all describable phenomena of the world can be ordered uniformly and assembled into a large puzzle, which contains contradictions within itself but always remains understandable as a whole.

Here it also becomes apparent that the so-called "theory of everything" remains an unattainable dream of physics, yet is already realised in the form of the teaching of numbers – which offers a view of the *whole* and of the *unity* of all being.

THE TEACHING OF NUMBERS FROM A SYSTEMIC POINT OF VIEW

The investigation of different system components and their interaction always refers, analogous to a computer, to the **operating system** which controls complex systems. The operating system is extended by variable software, which performs specific functions within the whole. In nature we can identify the operating system of the cosmos as **natural principles** or laws of nature, which underlie everything else. This universal software is reflected by self-reflexive consciousness, whose different currents appear on the planetary level as human perspectives, which we express through subjects such as physics, chemistry, mathematics, music, history, philosophy etc.

While the operating system refers to the wholeness of being (the laws of nature govern everything in the universe), the software parts are directed at the particular. Although we are convinced that the whole is more than the sum of its parts, we have not developed a science that devotes itself independently to the operating system of the universe, with the result that what the software (the scientific disciplines) has in common also remains unknown. To remedy this deficiency, I have defined the **teaching of numbers as the teaching of the primordial principles of being** and added it, as a meta-science, to the specialised subjects. The teaching of numbers does not wish to be confused with number theory as a branch of mathematics, since – as the science of wholeness – it stands before all other fields.

The teaching of numbers is based on a *threefold, dynamic relationship of meaning,* which extends the static, polar definition of opposites (see 0 and 1 in the computer world) by the middle aspect of "emptiness" (number 0). In this way, dynamic processes can be captured and described which cannot be understood with black-and-white thinking. As a result, symbiotic relationships and cooperative behaviour can also be represented better, instead of having to resort, as usual, to models of competition and struggle.

Without **zero as the basis of creative making**, neither growth nor decay can be adequately described, for that is where creation begins and ends. Zero, however, is not an independent number in itself, but the middle aspect of the immaterial basic atom (informational entity) 1^2, which mathematics reductively treats as 1, without acknowledging its complexity as a fundamental system building block.

With the realisation that atoms are complex structures, physics founded quantum physics and called into being the study of the (infinitely) small, which has proved extremely fruitful. Mathematics has still not taken this step, because it rarely regards numbers as complex, form-giving forces, but rather as elements that are excellently suited to calculating for practical reasons.

The teaching of numbers closes this gap, because as an integrative perspective it unites *all* human efforts to describe the world adequately, and is therefore able to represent the operating system of the cosmos in the best possible way. Anyone who wants to investigate complexity cannot avoid the teaching of numbers, for it formulates the patterns of relationship at the *lowest* level of being, which are located at the subatomic level and expressed through the inner life of numbers.

"Everything is number. God is number. God is in everything." *(Pacal Votan)*

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DESIGN AND REALISATION **LOTBLICK**