Mathematical Questions Without Answers*

Mathematics can be said to have begun when men realized that five apples, five trees and five men all have a common property—their "quantity-property"—what we call the ***number*** five.

This abstraction of the number from the counted object is a typical step in the development of mathematics. It has been repeated over and over again in the history of the subject, and encourages the belief that the ability for abstract thought is the characteristic of a highly developed living organism.

The evolution of mankind can, to a large extent, be watched by the evolution of mathematics, and many will agree that it is the foremost intellectual exercise.

This is not to imply a moral: that men *ought* to study mathematics; for there are no morals among the enlightened. Mature and happy human beings study what is in their bones.

Young children love to exercise their bodies and take delight in the most elementary sensations, and as they grow up the natural force of evolution is expressed in the joy of exercising their minds. There is no divorce of function in this, no separation of "mind" and "body," for the mental development is a natural blossoming of the total organism.

It is, I think, inevitable that mankind's future will be largely an intellectual future, and it is therefore essential that children should grow up to the natural state of maturity long before the present norm of forty or fifty years of age.

It is worth remembering this when one is discussing flesh and blood with any one of the many artist-psychologists who hang around the centers of psychiatric research. They really long for a chance of exercising their bodies while their eager young minds are in a chaotic fervor of rationalization.

Like millions of others their cry is: "Give us a chance to grow up." Having grown up they will then reason effectively, economically, mathematically.

* Read at the Second International Orgonomic Convention at Orgonon, Rangeley, Me., on August 22, 1950.

I say mathematically because mathematics has made an especial study of reasoning, and the techniques of abstraction which it has developed are, in effect, models of the art.

The powers of abstraction, and therefore of mathematics, can only properly flourish in a state of health as defined by Reich. We all hope that one day this mutation will have swamped all others, but until then poets and mathematicians are two of the leading vehicles of the mutatory influence.

The experimental scientist is comparatively new. His ambition is to discover what he calls the Laws of Nature. These laws are interpreted as those behavior-properties common to different objects. They are the abstraction of behavior-properties, just as number is the abstraction of quantity-properties.

It is not surprising, therefore, that mathematics and physics should have been so closely related. The method of mathematical thinking has been applied all over again in the field of physical observation.

That most remarkable of mathematicians, Isaac Newton, laid the foundations of a vast field of applied mathematics and physics.

The history of science is the history of the abstractions of behavior-properties.

The history of mathematics is the history of successive abstractions.

Naturally enough, the boundaries between the two are very often confused.

Let us look at a few of the simpler developments of mathematics.

Having abstracted the idea of number as a quantity-property, the next step forward was the abstraction of the idea of number. This notion gave birth to the algebra known to any schoolboy. In place of 123, 39, 27, etc., we can write, say, n, and the laws of algebra are then expressible in this new symbolism as generalizations of the elementary laws of numbers.

By this step the concept of number was further widened to include first, positive and negative numbers, and then what are called irrational numbers. The latter had themselves arisen out of the manipulation of algebraic quantities. (For example, the irrational number $\sqrt{2}$ is the value of x which satisfies the algebraic equation $x^2 = 2$.)

A similar development took place in the subject of geometry, which was presumably initiated as the abstraction of point and line from the physical basis of position and length.

It was with the coming of Descartes in the 17th century that the symbolism of algebra was applied to the solution of geometrical problems. This analytical geometry has since developed until, in modern geometry, a further abstraction appears.

Whereas in the early geometry after Descartes a point in a plane was *represented* by three numbers (an ordered triplet), in the modern approach an ordered triplet is taken as *defining* a point in a plane. Thus, a set of three numbers in a given order is now the starting point of the geometry. The ordered-triplet-property has been abstracted from the old geometry to create a new geometry.

The concept of number had meanwhile been further widened to include what are called "complex numbers." These had cropped up in the early algebra as those quantities involving the square root of minus one ($\sqrt{-1}$).

Thus in this modern geometry an ordered triplet might involve complex numbers and yet still define a point in the plane, even though such points could not be represented on the same diagram as points defined by real numbers.

To demonstrate this more forcibly, imagine a circle and a straight line. In the old geometry, these might intersect two points, two coincident points (touch), or no points. In the new geometry, they will always intersect in two points (which can still be coincident). If, when you draw the given circle and the given straight line, they do not cut physically, then you have the case, in modern geometry, of them intersecting in two points which are given by ordered triplets involving complex numbers.

The complex number $\sqrt{-1}$ can be interpreted as an operational symbol rather than as a quantity, and on this basis a whole mathematical field of complex algebra has flourished.

Relative to some origin a complex number $(a + b\sqrt{-1})$ will therefore define a line, not only of given length, but also in a given direction. This idea of magnitude *and* direction is one fundamental to physics and applied mathematics.

The concepts of physics are based upon the recognition of two separate entities, *scalars* and *vectors*.

A scalar possesses magnitude only. Mass, length, time, temperature, potential, energy are all scalars.

A vector possesses both magnitude and direction. Velocity, acceleration, force, electric intensity, a couple, are all vectors.

The laws of physics, when expressed mathematically, become functional relations between appropriate sets of these scalars and vectors.

There is one question, which has probably been asked before, but which ought to be asked again.

Are there any entities in our field of observation which cannot be properly described in terms of scalar-properties or vector-properties? (If, for one fleeting moment, there did happen to be any, then it is quite clear that physics would have either ignored them or else misrepresented them.)

In connection with this it is worth remembering one fundamental fact about the mathematical sciences.

That fact is that such sciences are mechanistic.

Physics has studied the external world and produced its abstractions of behavior-properties from the behavior of inanimate objects. This is not to say that such laws are not in some degree descriptive of the behavior of animate objects.

If you fall from a high building your progress will be as calculable, and as sure, as that of a block of wood doing the same thing; but that is due to the fact that you are both subject to the same vector, the acceleration due to the force of gravity. This vector is, to put it wryly, an "inanimate vector"—by which I mean that it describes a relationship between inanimate things. It will necessarily describe the relationship between animate things when these things are not orientated in a characteristically animate way.

When you fall from on high, you may be alive and kicking and you may have special properties and powers which physics has not discovered, but the solid earth beneath is unaffected by these things—you fall like a stone.

When (which God forbid) you sit in the electric chair and are subject to electric shocks you are demonstrating that living organisms have special properties, viz., those properties of hostility to electric current (generated from inanimate inter-relationships) which result in death. Physics and the executioner, and most of all the electric current, regard you as of no more interest than a high resistance.

But what, for example, is the "vector" that repels the two halves of a unicellular ameba?

It may be said that the process of repulsion involved can be interpreted by reference to forces and velocities, but it must be remembered that the forces involved have been generated by the living organism. Is the act of decision, the direction of intention, peculiar to the living organism? The vector generated is merely the instrument of will.

Is it nonsense to say that the spermatozoa are drawn toward the ovum by Newton's law of gravitational attraction? Where are the animate vectors?

What is the "vector" that we call the mutual attraction between the appropriate male and female of a species?

The methods of mathematical abstraction and then the appropriate symbolism must eventually be brought to the solution of such problems; but will the concepts of physics and chemistry be adequate for a proper description of life-properties?

R. H. Atkin, Mathematical Physicist, London

Projeto Arte Org
Redescobrindo e reinterpretando W. Reich

Caro Leitor
Infelizmente, no que se refere a orgonomia, seguir os passos de Wilhelm Reich e de sua equipe de investigadores é uma questão bastante difícil, polêmica e contraditória, cheia de diferentes interpretações que mais confundem do que ajudam.
Por isto, nós decidimos trabalhar com o material bibliográfico presente nos microfilmes (Wilhelm Reich Collected Works Microfilms) em forma de PDF, disponibilizados por Eva Reich que já se encontra circulado pela internet, e que abarca o desenvolvimento da orgonomia de 1941 a 1957.

Dividimos este “material” de acordo com as revistas publicadas pelo instituto de orgonomia do qual o Reich era o diretor.
01- International Journal of Sex Economy and Orgone Research (1942-1945).
02- Orgone Energy Bulletin (1949-1953)
03- CORE Cosmic Orgone Engineering (1954-1956)

E logo dividimos estas revistas de acordo com seus artigos, apresentando-os de forma separada (em PDF), o que facilita a organizá-los por assunto ou temas.
Assim, cada qual pode seguir o rumo de suas leituras de acordo com os temas de seu interesse.
Todo o material estará disponível em inglês na nuvem e poderá ser acessado a partir de nossas páginas Web.

Sendo que nosso intuito aqui é simplesmente divulgar a orgonomia, e as questões que a ela se refere, de acordo com o próprio Reich e seus colaboradores diretos relativos e restritos ao tempo e momento do próprio Reich.
Quanto ao caminho e as postulações de cada um destes colaboradores depois da morte de Reich, já é uma questão que extrapola nossas possibilidades e nossos interesses. Sendo que aqui somente podemos ser responsáveis por nós mesmos e com muitas restrições.

Alguns destes artigos, de acordo com nossas possiblidades e interesse, já estamos traduzindo.
Não somos tradutores especializados e, portanto, pedimos a sua compreensão para possíveis erros que venham a encontrar.

Em nome da comunidade Arte Org.

Textos da área do funcionalismo orgonômico

Texts from the area of Orgonomic Functionalism.

International Journal of Sex Economy and Orgone Research

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01 Theodore P.Wofe. The Sex-Economic Concept of Psychosomatic Indentity and Antithesis 1942
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International Journal of Sex Economy and Orgone Research Volume 1 Number 2 1942
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International Journal of Sex Economy and Orgone Research Volume 3 Numbers 2 3 1944
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