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Determinism and matter

Thus far, I have defined the universe as a whole, repeatedly, as *elementarily* "nonlinear," and, *yet not simple*. *Not simple*: That is the essence of the matter.

The nonlinearity exists *primitively*, that is, *elementarily*, only in the whole; that is, in the universe as a whole. This character of the universe as a whole is expressed for our knowledge, and in practice, in what I have referred to for purposes of metaphor, as the *unmediated* relationship between the sovereign individual's creative reason, and the universe taken directly *in its entirety*: not part by part, and not as a sort of a philosophical gas system.

In other words, the meaning of "elementary." The process of division into ever smaller parts (again, the Euler problem), does not signify that we are approaching elementarity. The monad is not elementary because it is small; it is not elementary in the sense of being a building block.



A model of Kepler's construction of the solar system is contemplated by a visitor in 1982 at a conference in New York City. "Kepler strikes upon the nature of the curvature of space-time, and shows that all physical laws in the universe are derived from physical space-time. In modern language, that is what Kepler is saying implicitly."



Johannes Kepler (1571-1630), the German astronomer. "When you turn Kepler inside out, you see that you can directly derive from Kepler's laws all the expressions used in Newtonian physics, simply by an algebraic manipulation." But the Newtonian ratios are only distorted shadows of actual knowledge as discovered by Kepler.

The character of the monad lies in its relationship, its direct relationship, to the universe as a whole. Therefore, the little monad, is as big in this respect, *in this relationship*, as the universe as a whole.

Elementarity, the elementary, indivisible, building block of the universe *as a whole*, is the universe as a *whole*. Relationship in the universe, is defined elementarily by the relationship between the creative processes of mind, as in valid, scientific discovery, and the universe as a whole, through the action of such discovery upon the past as well as the present and future generations of all mankind, and through the totality of human existence, so represented upon the universe as a whole. Thus, also, the line is related to the universe as a whole, since that which is adduced by creative reason, is the ordering of the universe as a whole.

This lawfulness of the universe, taken as an essentially indivisible *oneness*, must include all of the changes in the universe of which mankind's creative powers shall ever become capable.

Let us look at Kepler's construction of the solar system, as opposed to the unworkable, and obviously fraudulent,

Newtonian construction.

In Newton, we have the three-body problem. Why do we have the three-body problem? Because the relationship among bodies is determined, in reality, by the curvature of physical space-time, and not by the relations among bodies pair-wise, as in Cartesian notions of matter, space, and time. Therefore, for that reason, the three-body problem rightly does not exist, in the sense that there is no solution to it, because *the solution requires another consideration not advanced by Descartes or Newton, which is the curvature of physical space-time.*

On the basis of the evidence developed by Leonardo da Vinci et al., Kepler strikes upon the nature of the curvature of space-time, and shows that all physical laws in the universe are derived from physical space-time. In modern language, that is what Kepler is saying implicitly. He says similarly: because of the relationship between the creative powers of mind, and the Creator, that the characteristic of living processes, and of the creative processes of mind as an example of the living processes made self-conscious, efficiently self-conscious, that the universe must necessarily be founded on a principle of least action, consistent with what we would call, say, in modern language, *negentropy*, negentropy corresponding to the harmonic orderings congruent with the Golden Section, living processes.

We see, for similar reasons, that creative mental processes, in the sense of any hereditary construction principle, will be ordered, in respect to that construction principle, in terms of a similar Golden Section harmonic ordering. Or, at least, we can show in respect to this, the necessary effects of the realization of such creative discoveries.

So, in this respect, mankind is not only acting upon the universe, in a practical way, through scientific discoveries, in changing the mode of behavior, as behavior on nature; but, man is also acting upon nature by understanding the laws of nature. To understand the laws of nature, even though the practice which we referenced, is human practice, nonetheless, what we are referencing directly by means of human practice, by the reflection of human practice, is the laws of the universe as a whole. Directly. So, man's mind, the creative processes of mind, are **directly related** to the universe as a whole, and not *only* through the action of mankind as a whole upon the universe as a whole.

These are the kinds of distinctions.

Then, again, as we said before, to the same effect: Given, let us say, a monad, which is not an intelligent monad, floating around in this process, we do not substitute, suddenly, a pair-wise relationship among monads of this sort, to account for their behavior. This is not a situation where we have on the one side, higher monads, which are directly related to the universal, whereas there are the lower monads which are not, because they lack this creative quality. Rather, the universe as a whole is so constructed, that the pair-wise relationship of these lesser entities, must be congruent with the nonlinear

lawfulness which characterized the universe as a non-simple elementarity: i.e., universal space-time curvature.

This is obvious in the case of Kepler.

Kepler discovered, wittingly, a law of gravity, which he regarded as, probably, an electromagnetic principle. We can understand that today; we may not have solved all the problems of correlating the strong forces of gravitation with the relatively weak forces of other electromagnetic aspects of the matter; except as we introduce negative curvature, then, suddenly, we are required to get into strong forces, relative to what we call weaker electromagnetic forces, and therefore, we see a necessary geometry, even if we have not resolved this satisfactorily, experimentally. We can see a direction in which to go. But Kepler, identifying the electromagnetic principle as the relevant one to this phenomenon of gravity, caused by the curvature of space-time, was on the right track. He did not, at that point, tackle the difference between relatively strong and relatively weak forces, or things of that sort.

When you turn Kepler inside out, as, most probably, Hooke and others did, in respect to the work of the reduction-

ists of the seventeenth and eighteenth centuries, you see, as various fellows understood this, including Planck, that you can directly derive from Kepler's Laws all the expressions used in Newtonian physics, simply by an algebraic manipulation. But how did Kepler develop that from which this Newtonian schema is derived by a reductionist manipulation, algebraic manipulation?

Kepler derived it from a principle which is consistent, or coherent with what I'm arguing in respect to elementarity, which is ontologically nonlinear, not simple.

So, what we are seeing, with the Newtonian ratios, are nothing but the distorted shadows of actual knowledge, the actual knowledge being the Keplerian form, and the Newtonian merely a shadow.

We see the same thing in Galileo. Galileo was informed of Kepler's work, and parodied it, with corruption, to assert things which he did not actually, empirically, prove; but simply to show that, in effect, he could have claimed to have discovered empirically what he did not discover empirically, and, thus, show that Kepler's method was not necessary; was, in other words, superfluous.