

17 June 1963

## READING 6

### PART 1

It is worth looking again at last week's diagram of the Three Octaves of Radiations, before going on.

If each of us can make his own simple and clear picture of what lies at the top of the diagram and of the opposite state of affairs at the bottom, he can then clearly distinguish between ascending and descending processes in the Universe and in himself. The general inability to make this clear distinction is partly responsible for the topsy-turvy state of the world to-day. It helps sometimes to find a fairly representative statement of the physicists' viewpoint and compare it with the System's.

Such a statement is the following by the Professor of Physics at Washington University representing the general attitude about 1952. The newer wave mechanics should have solved the problem, but has it?

*Modern Physics*, Jauncey, 3rd Edition, New York, p.533:

25.4. *Causation and Time.* The principle of causation or the relation between cause and effect has also been called into question by modern science. We have seen in the relativity theory that the times of two events A and B may be such that A happens before B to one observer and after B to a second observer. If the first observer concludes that A is the cause of the effect B, what will the second observer conclude? If A happens after B, it is difficult to conceive of A being the cause of B. This brings in the philosophical conception of time. Just what is time? Why is it that time goes only in one direction? Eddington relates the direction of time to the direction in which the randomness of the universe is increasing. Thus, if we take a pack of cards in which the cards are originally arranged in a given order and if we shuffle the cards, the original arrangement disappears and the randomness of the arrangement increases as the cards are shuffled. The cards are more at random at a later time. In physics there is a quantity known as entropy and there is a law of physics which states that the entropy always tends to increase with the time. If we imagine a gas with its molecules all moving in one direction, then, after hitting the walls of the containing vessel, the velocities become more random, and, as time goes on, the molecules hit one another and the randomness increases. Time goes on in the direction of increasing randomness. Entropy can be thought of as a measure of randomness. The entropy law can be considered as defining the direction of time. If one can imagine a state of affairs where the randomness could not be increased and the entropy remains stationary, there would be no direction to time and time would cease. The universe is running down as time goes on. When the universe has completely run down so that everything is at a uniform temperature and all motion is random, there will be no time.

The same argument is continued and applied to living things by another physicist – Professor Erwin Schrödinger in a small monograph *What is Life?*, 1951. He maintains that living organisms differ from inanimate matter chiefly in being able to resist the adverse influences of randomness by various mechanisms of self-preservation and by the intake of very highly organized matter as food.

(Pause)

It is useful for our critical faculty to turn back to what Eddington himself wrote on the subject:

Eddington, *The Nature of the Physical World* pages 89 and 90:

*That which is* is a shell floating in the infinitude of that *which is not*. We say with Hamlet: 'I could be bounded in a nutshell and count myself a king of infinite space.' But the nightmare of infinity still arises in regard to time... There is a bending round by which the East ultimately becomes West, but no bending by which Before ultimately becomes After. I am not sure that I am logical but I cannot feel the difficulty of an infinite future time very seriously... According to the second law of thermodynamics, the whole universe will reach... equilibrium at a not infinitely remote date in the future. Time's arrow will then be lost altogether and the whole conception of progress towards a future fades away. But the difficulty of an infinite past is appalling. It is inconceivable that we are the heirs of an infinite time of preparation; it is not less inconceivable that there was once a moment with no moment preceding it... We have been studying the *running-down* of the universe; if our views are right, somewhere between the beginning of time and the present day we must place the *winding up* of the universe. Travelling backwards into the past we find a world with more and more organization. If there is no barrier to stop us earlier, we must reach a moment when the energy of the world was wholly organised with none of the random element in it.

Yes, certainly even Eddington was not being quite logical here! And is 'organisation' the whole of it? Isn't a *prison* a highly organised place with no free will at all?

(Pause)

Looking once more at the figure we see that as we ascend we approach a *space* where there is perfect order and no randomness, and this looks as if it were the same as going back into the *past*. The 'arrow' of Passing Time points downwards and so does the direction of increasing 'randomness'. Any rhythm or order which is apparent at the bottom of the diagram applies only to infinitely large numbers of things whereby statistical laws can predict the future. The beauty and order *we* want comes with increasing Unity and individuality as we *ascend*. Neither the merciless order and predestination of statistical laws, nor increasing randomness of large numbers have power over the individual who is determined and who gets the required help from above. Surely we know *that* by now. As we retreat from random thoughts and feelings during a half-hour, 'Time's arrow' disappears with the tyranny of Passing Time as we reach a place where present, past and future are One. Resuming our ordinary activity 'Time's arrow' reappears, but along with it we gradually feel the presence of Will in place of 'randomness'.

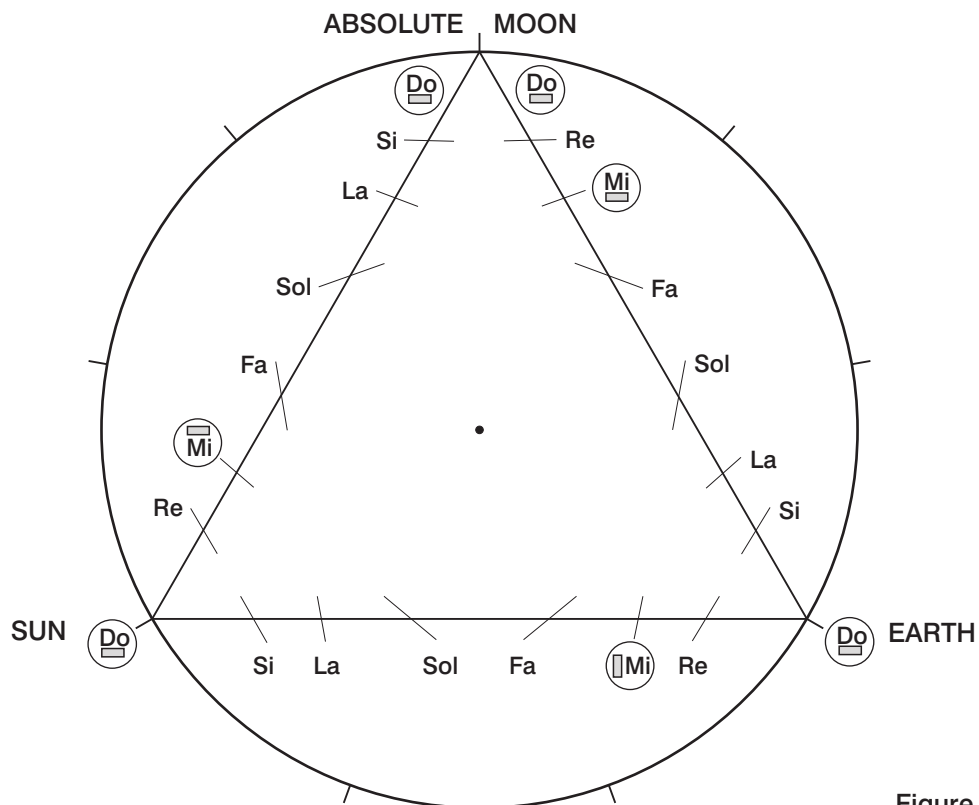
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## PART 2

'There is no bending by which Before ultimately becomes After', wrote Eddington. But this is just where logical thought will let us down. We can now bend the Three Octaves of Radiations into the shape of an equilateral triangle inscribed within a circle and see what the Universal Symbol will tell us about it. On this occasion you must for the moment just take as 'given' the positions of the individual notes, and later you will see how the inner rhythm establishes them. (Figure, facing page)

For now try to conceive the triangle and all the twenty-two notes of the octaves as fixed points in the organism, while the circle may be made to turn about it in either direction through 120° according to the predominance of one or other of the Three Gunas (or elements), which will determine the view-point of the observer.

This way of taking the Symbol has certain advantages. The points on the triangle represent all the possible levels of energy in man on Earth as the species *Homo sapiens*, designed as a Microcosmos to reflect the Macrocosmos from Absolute to Sun and Earth and Moon. Anything that any man has achieved since man first appeared in the present cycle of Organic Life can be placed both in relation to the energy stored in the human machine and also to the Sources of these energies in the larger world outside. At the same time it must be realised that very few of these levels of energy are in circulation in the average man. The diagram as shown represents the blue-print, the general design of Man as a three-storeyed factory.



Figure

**Anatomy:** For man who has not realized his possibilities, the most powerful energy is in the lower story, so just now we take the apex of the triangle at the top of the Symbol as representing the junction, in the pelvis, of the Sacral Autonomic system with the lowest but most powerful centres in the Spinal Cord. Along the left-hand side of the triangle will be ranged the great plexuses of the Autonomic division underlying our Emotional life, and on the right-hand side the corresponding centres in the Spinal Cord. Along the base of the triangle are the energy centres in the brain which should reflect and regulate this activity. The base of the triangle stands then for the energies of the Voluntary nervous system, the other two sides being those of the involuntary machinery. Our ordinary consciousness however fluctuates only about a small point, the mid-point of the base, but cannot our Consciousness and Will be made to extend in

*both* directions? For that the energies of the 1st Octave (left side) must first be aroused so that the organism can be controlled from above instead of driven mechanically from below.

In a half-hour's meditation we are supposed to be proceeding from the mid-point of the base in a clock-wise direction to the left (increasing Consciousness); and when the arrow of Passing-Time reasserts itself, such Will as we have acquired quite naturally begins to control the machinery (counter-clockwise movement).

We have still, you see, a long way to go, but at least this is the beginning of a way to use the Symbol to answer the practical questions we put to it.

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## CONCLUSION

Even if you are not yet prepared to grapple with the enigma of the Enneagram, you might like to put the Ray of Creation round the Circle (with Organic Life on Earth at the interval point at the right apex, the Unmanifested Sun at the left apex, the Will of the Absolute at the top, and the Unmanifested Absolute at the Centre) and see what happens to this conclusion of the quotation from Eddington:

Scientists and theologians alike must regard as somewhat crude the naive theological doctrine which (suitably disguised) is at present (1928) to be found in every text-book of thermodynamics, namely that some billions of years ago God wound up the material universe and has left it to chance ever since... It is one of those conclusions from which we can see no logical escape – only it suffers from the draw-back that it is incredible. As a scientist I simply do not believe that the present order of things went off with a bang; unscientifically I feel equally unwilling to accept the implied discontinuity in the divine nature. But I can make no suggestion to evade the deadlock.

(Discussion)

It may be that the above quotations do not represent the opinions of physicists today. Have any of you been able to find authoritative scientific solutions of the problems posed or are the 'pure physicists' nowadays too 'pure' to discuss such questions?

Gamow, the chief exponent of the 'big bang' theory of creation, has I understand at last abandoned that theory as untenable. The 'steady state' theory, which requires continuous creation, is perhaps gaining ground. But for the rest it seems that the physicists are merely awaiting the other 'big bang' that is to put an end 'to the present order of things'!

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