

Che Sara Sara

(Was Kann Sein, Soll Sein, Que Sera Sera)

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As a result of my recent rereading of various sections of the texts on the Reciprocal System of theory, with a view to making an attempt to find a simple approach to teach the theory to newly interested “students,” I came across, what appears to me to be, thirteen assumptions, listed below in the form either as a stated assumption or as a question, *re* explicit or implicit assumptions uncovered:

- 1) How can the rotation of the “rotational base” be said to required an integral number of time units, to match each complete revolution, since we must have recourse to the most famous non-integer of all, π ? (see Pg. 6)
- 2) How can we justify from the premises, alone, the rotation of the space-unit in time? (see Pp. 5, 6 & 7)
- 3) Rotation is equivalent to a linear displacement. (see Pp. 3, 6 & 7)
- 4) “The alternation of temporal and spatial motions, give stability to the atom” is not only not deducible from the basic premises, but such alternation being at all possible is doubtfully found, let alone deduced, from the same premises. (see Pg. 6)
- 5) That there is only a one-stage process of antagonism to recession, and that it involves only one type of motion. (see Pg. 4, 5, 6 & 7)
- 6) All electro-magnetic waves are of the same type, in that the equation to describe them can be generalized for all of them, and they are sinusoidal. (see separate paper, S.V.M.)
- 7) That a rotational base is NECESSARY for the description of atoms and sub-atoms. (see Pp. 3, 5. & 6)
- 8) That the triplet 1-1-1 is an unidentified unstable particle, when may be a viable alternative form, assuming such alternative forms, are possible, (in general), to describe the Hydrogen atom, since it has the same atomic number. (see Pg, 6)
- 9) That there can be two alternative forms of the triplets to describe some atoms. (see Pg. 6)
- 10) That two space units can take up a concentric geometry; each containing the vibration within its temporal environment, and these two vibrations are orthogonal to each other, in a manner that is analogous to spatial orthogonality. (see Pg. 4)
- 11) Electro-magnetic waves can be generated in ALL directions from the same source. (see Pp. 3 & 4)
- 12) The triplets represent rotations, rather than vibrations. (see Pp. 4 & 5)
- 13) Simple Harmonic Motion as a description of the vibration within space units, and within time units. (see separate paper, S.V.M.)

Over four decades ago, D. B. Larson found dissatisfaction with Relativity Theories, and so looked for and found some implicit assumptions therein, namely that time and space were assumed continuous.

On that finding alone, he decided to attempt to work out the consequences of them being discrete, and so the Reciprocal System of theory was born.

This writer, although completely convinced of the absolute merit of these discrete properties, fears that if, indeed, there are any assumptions from without the basic premises, then any newly-interested parties will have cause for doubts, since ABSOLUTE RIGOUR will have been forfeited by the presence of these presumptions.

So, using the example set by D. B. Larson, by taking the same approach, but, at the same time, eliminating any of the possibly spurious assumptions, the following paper ensues:

Looking back at the previous paradigms, which have been used to explain and predict the phenomena of the physical universe, giving special mention to Ptolemy, Newton and Einstein, we see that they were progressively capable of explaining observations and experiments, and had some predictive capabilities too. However, with the increasing accuracy of observational apparatus, certain discrepancies crept in, that were inexplicable until the proponents of the succeeding paradigms were able to point out the invalid assumptions to date, and how the latest model was not so derelict or deficient.

Nevertheless, the new paradigm is always based on premises, which cannot be devoid of assumptions, by its very nature, and in times to come, those very excellent assumptions are frequently found wanting. Sometimes the assumptions are so deeply implicit, that they are not immediately obvious, and one has to search for them.

Such was the case with D. B. Larson, when he found Relativity theories wanting, and he eventually recognized that both time and space were not infinitely divisible, but were discrete, in like manner to matter and energy. One of his early findings was the series of number triplets, which were a means of identifying the atomic elements, but at the time, he did not have an explanation for the conceptualization of their relation with reality. Eventually he attributed them to rotations, both spatial and temporal.

This paper questions that conclusion, as to whether it is deducible from the basic premises, or whether it is an assumption in its own right, and must, of necessity, be added to the basic premises.

Let us now look, in depth, at some of the possibilities for many possible entities/existents, deducible SOLELY from the basic premises, and then eliminate those ones, found to be improbable, if and only if they clash with the aforesaid premises, but NOT if they are merely unmentioned in the texts or subsequent papers, dealing with the Reciprocal System of theory, to date.

The approach by D. B. Larson has always been, "What can be, will be," and as a result, he predicted quasars and pulsars in his first publication in 1959, so in a similar vein of "CHE SARA SARA," we proceed.

DERIVATION WITHOUT USE OF ASSUMPTION No. 3

Because this writer has always found it difficult, if not impossible, to "picture" that a rotation of a space unit, while representing a continuous change of direction, was also capable of representing a linear displacement, (in effect), the following hypothesis has come to light, which, in no way, conflicts with the overall Reciprocal System of theory, but only some of the ILLUSTRATIVE procedures and CONCEPTUALISATIONS, while seeming to retain all the LOGIC and MATHEMATICS of D.B.L. .

DERIVATION WITHOUT USE OF ASSUMPTION No. 7

In this primal physical universe, at the FIRST STAGE of the theoretical construction, it appears, superficially, to be no more than an expanding void, devoid of any possibility of content, without some assumption(s).

However, a little deductive perseverance reveals the possibility, that a change of direction of the outgoing units of space, (or time), will not conflict with the premises, so the **SECOND STAGE** of theoretical construction is reached. We consider that a periodic reversal of direction of a space unit is permissible, and the simplest example is the return to its previous location, which means that an extra time unit is associated with this vibration and we calculate that the ratio of space to time is now 1:2 and that the effective result to the spatial observer would be a vibration at half unit speed, where unit speed is the terminology for the speed of the outward recession of space units.

We also conclude that anything, which takes place within one space unit, *cannot be spatial*, therefore must be considered to be within a temporal environment. We do not identify this in the texts, nor its reciprocal counterpart within one time unit.

THIRD STAGE & DERIVATION WITHOUT USE OF ASSUMPTION No.11

We consider, next, that two space units in the line of the outward recession may simultaneously reverse their direction periodically, and thereby we have an ASSOCIATION of two contiguous space units, each with two time units, and the overall result is a vibration of length two space units, whose speed is half unit speed, but in this case we have a spatial entity. In this case and in the one above, the vibration can no longer recess in the same line of outward direction of the recession, that the vibration moves backwards and forwards along, but there are still two dimensions open to such a recession, so the vibrating "unit" may recess in any direction along a PLANE, which is orthogonal to the vibration, and hence not in ALL directions in 3-D space, but in all PLANAR directions.

In the first, unidentified, case we can only assume some form of latent energy, but in the second case we have coplanar electro-magnetic waves.

Now let us consider the former case, which can be subject to a direction reversal, and becomes a doubly-vibrating unit, each vibration can be at half unit speed and still be temporal, and this new unit still has one dimension left, along which to recess at unit speed, so it does. This is neither discussed nor identified in the texts. Perhaps it can be called latent mass. An extension to this derivation would be to add more time units to the aggregate, resulting in a slower vibration and therefore a variety, (series), of doubly-vibrating aggregates.

Next, reconsider the latter example of the contiguous, (tandem), pair, vibrating together in space. As is, this entity may recess along any line in the plane, orthogonal to this vibration, and manifest itself to us as an electro-magnetic wave, but, if further, this is subject to a periodic direction reversal along that line in a second scalar dimension, then this doubly-vibrating unit is no longer a wave, and has to be identified. Since it is a very probable consequence, no less probable than rotations, it may well be some form of cosmic particle or neutrino, and as such travels at unit speed in the remaining scalar direction, orthogonal to the plane of the double vibration, and it probably does not have mass. It is also most probable that this vibration in the second scalar dimension is within one space unit, meaning in a temporal environment, since the probability that the contiguous pair of space units, comprising the basis for the first vibration, will associate with contiguous space units in the second scalar dimension is slight, if not near improbable. So, at this stage, we consider the original vibration to be two space units

long and the second vibration to be only one space unit long.

FOURTH STAGE & DERIVATION WITHOUT USE OF ASSUMPTION No. 5

Finally we can consider that such a doubly-vibrating aggregate of time and space units may also be able to vibrate in the remaining scalar dimension, thus putting a halt to its outward recession at unit speed, and thereby creating a mass, which may not be gravitating. (These VIBRATIONS are the first part of the derivation of the two antagonists to the natural recession). This vibration in the third scalar dimension most probably will be only one space unit long, for the same reason as above. This object, then, can be considered as a candidate for various types of rotation, (about a choice of three axes, perhaps), whether regular or oscillatory in its nature, and this rotation probably gives it its property of gravitation. (This ROTATION is the second part of the derivation of the two antagonists to the natural recession).

If one then looks into the mathematics of these entities, and what they represent, one is confronted with the serious consideration, as to whether they can be described with triplets and represent the atoms of elements in a comparable way as in the texts of D.B.L., and further, if they may describe the Reciprocal System of theory more understandably, with, perhaps, some advantage, (yet to be determined) , but with no disadvantage.

Let us examine a small check-off list of comparisons.

DERIVATION WITHOUT USE OF ASSUMPTION No. 10

- 1a) Matter consists of double units, which rotate about the same center and have the same spins, (not to be incompatible, geometrically), and the need for double units is to have a more stable geometry than a single unit would provide for a given element. How these two units superimpose themselves, the one on the other, is not easily explained, although the *fait accompli* has proven to be a useful tool in standard texts of the Reciprocal System of theory.

This is not in the basic premises, but more of a convenient assumption to justify alleged greater stability, than from a single unit with more alleged rotations. The circumstances, under which they may adopt such a union are not spelled out.

- 1b) This new look at matter also finds it to have a double unit, because a single unit exists within a unit of space, and is therefore wholly temporal, with no known spatial manifestation. The double unit is immediately recognized theoretically to be the basic minimum requirement for a spatial entity. This double unit is easily imagined to form in the event of the probability, that two contiguous space units, while recessing, the one behind the other, simultaneously reverse direction and thereby begin a periodic reversal, in tandem.

DERIVATION WITHOUT USE OF ASSUMPTION No. 12

- 2a) In the texts, the rotational base has an unidentified frequency of vibration, and there is no obvious preferred frequency, so it is left open to conjecture.
- 2b) In this case, we eliminate an unknown frequency, and replace the meaning of the triplets, to identify three frequencies, instead of rotational speed displacements. There may be an opening here for, a different mathematical approach, but the results will be the. same, no doubt.

Perhaps the numbers for the vibration triplets could have the extra unit added to each, so that 2 means the vibration speed is half unit; speed, 3 means a third of unit speed, hence p-q-r represents individual vibrations of $1/p$, $1/q$ & $1/r$ of unit speed, and the resultant vibration, would be the SQUARE ROOT OF THE SUM OF THE SQUARES.

DERIVATION WITHOUT USE OF ASSUMPTION Nos. 2 & 7

- 3a) Let us be analytical about this alleged rotation of the space unit. Certainly, we can say that while the vibration within the space unit is acceptedly temporal, and we wish to rotate it spatially, such that the overall resultant will be the association of at least one more time unit, then we can use the basic premises to say that there are now several time units associated with the space unit, and therefore the four-dimensional manifestation, (were it actually observable to us), would be a reduction in its outward speed from unity to $1/n^{\text{th}}$ of unit speed, for (n-1) extra time units, so appended. Similar arguments would apply for subsequent spatial rotations, about either, or both, of the remaining scalar axes, to give a grand resultant of an entity, decidedly spatial, not recessing in any direction at unit speed, and the conclusion would be matter. However, some assumptions are worth noting. (See thirteen alleged assumptions, listed on page 1.)
- 3b) Following on from the above, changing its direction back along its linear path, merely returns it whence it came, but it still retains its speed magnitude, in this case, unit speed. However, this is in the three motional dimensional (objective) context, and such a return back one unit takes another time unit to traverse, yet it never leaves its unit of space, hence the spatial manifestation in our four-dimensional subjective universe is a vibration at half unit speed, since the ratio of space units to time units is 1:2.

DERIVATION WITHOUT USE OF ASSUMPTION No. 5

- 4) Rotation must occur at some time however, and when better than when it is already matter and has mass, without any recession at unit speed, where the three vibrations in the orthogonal scalar dimensions are each cancelling out the “force” of the recession at unit speed, and they create a local effect, which is constantly an antagonist to the outward force? No doubt, the magnetic and electric charges require explanation in this new context.

One aspect of the rotation is that it makes the whole entity act as a gyroscope, and hence all atoms of a particular element will have the same inclination to one another, as well as the presence of the gyroscopic force, concomitant with that rotation, without which the atoms would not have the same properties, that we know them to have.

It seems that we always have had the choice with the triplets, whether to have the third rotation in space or time, both forms being said to be equivalent, mostly, but if the vibration concept is given serious consideration, it will become necessary for vibration in time, (for atoms), always to be for the second and third vibrations, exclusively, since the double unit is always spatial with the first vibration and therefore cannot vibrate in time, however the vibrations in time of the sub-atoms are not precluded.

The one spatial vibration manifests itself directly in space in one scalar dimension, while the two temporal vibrations would have to combine their vibrations in two-dimensional planar time. One can calculate the resultant vibrations in 2-D time and conjecture that this magnitude is altered by the inter-regional ratio, and then it manifests itself in combination with the spatial vibration of the contiguous

pair of space units.

Then the atom would manifest itself to the 4-D subjective observer as a PLANAR VIBRATION, contained within an ELLIPSE, whose major axis is two space units, and whose minor axis is one space unit, and whose eccentricity is $\sin\left(\frac{\pi}{3}\right)$. This would describe ALL atoms before rotation. Most probably, this rotation would be about the major axis.

The rotational base in the texts may have been SUFFICIENT to achieve theoretical results, but PERHAPS it was NOT NECESSARY, since it is the less probable of two alternatives, the latter being the vibration within an ellipse, which appears without any apparent assumptions.

Summarily, we have the rotation of a planar existent, which differs markedly from the rotational base of the texts, and this new approach to the basic premises may “open the door” to new findings. Let us have open minds and examine this new prospect.

N.B. The rotation of a space unit “occurs” at the boundary, within which is a temporal environment, and without which is a spatial environment, ERGO, THE ROTATION IS NEITHER SPATIAL NOR TEMPORAL.

DERIVATION WITHOUT USE OF ASSUMPTIONS Nos. 4 & 9

Also, by removing these optional primary temporal vibrations, we are also removing what was an UNEASY alternative form, which, on the one hand, was an equivalent alternative, when we calculated Atomic Number, but, on the other hand, did not give the same momentum magnitude, when one calculated the resultant axis of spin etc. etc.. These two alternative forms, (of the triplets) , therefore, did not correspond with observations.

In *Basic Properties of Matter*, pg. 61, dealing with Specific Heat the term “I” is added in equation (5-8), to take into account the specific heat contribution of the basic vibration. However, since the whole problem of specific heat was not solved, (ideally), perhaps it is because the actual value of “I” was not accurate, due to the greater vibrational contribution, revealed in this paper.

In developing an alternative paradigm, one can make limited use of one’s experience with other paradigms, BUT must always be on the alert for “paradigm creep,” which is a manifestation of the traditional paradigm imposing itself insidiously, (c.f. Memes in the ideosphere and genes in the biosphere).

DERIVATION WITHOUT USE OF ASSUMPTIONS Nos. 1 & 8

I put this as a modification, (without assumption) to the basic theory, and suggest, humbly, that current Reciprocal theory does have several assumptions regarding the conclusions about rotations. I cannot get it out of my head that the ratio of a circumference to a diameter is always a non-integer in any system, hence we cannot expect a rotation of a discrete unit to produce the equivalent of a discrete linear unit, another integer.

Another thought to ponder, that comes directly from the above: the allegedly unidentified particle, mentioned by D.B.L., claimed to be unstable 1-1-1 has an atomic number 1 and is one vibrational format for Hydrogen. Perhaps this can be represented better by 2-2-2, showing immediately that each vibration is a half unit speed.

DERIVATION WITHOUT USE OF ASSUMPTIONS Nos. 3 & 5

Rotational vibration seems to be capable of adding time units to the aggregate in the same way as the linear vibration does, and the net result either way is to lessen “effective speed” in the 4-D observational universe.

Continuous rotation is the quintessential motion for gravitation, the SECOND antagonist, to the recession, which complements the vibrations, which lower the recession speed from unit speed to $1/n$ of unit speed, in the 4-D observational (subjective) universe.

In neither of the above rotations does there seem to be an equivalent of a linear displacement; only a lowering of “effective speed” of vibration (i.e. Observed speed in 4-D).

If we were to pursue the eradication of the apparent assumptions along the lines attempted in this paper, we could refer to them as AMENDMENTS, and such papers that ensue, that vary from parts of the RS texts, could “plead the fifth amendment” etc. etc..

ANALOGIES FOR UNDERSTANDING OUR 4-D VIEWPOINT

In *Flatland* by Edwin Abbott, the creatures live in a 2-D Euclidean plane and cannot have a realistic picture of 3-D objects, except by their extrapolation of what they observe into a higher dimension. So a circle, to them, is a real entity, which can be measured for its circumference, radius and curvature. They may believe it to be the projection into their universe of a sphere or a cylinder, whose mathematics they could evaluate, but whose image they could not entertain. Similarly, they could look at a parabola, hyperbola and ellipse without realizing that they could all be projections into their universe of a cone, since such a mathematical induction may not be self-evident to them.

If one of their philosophers were to raise the question, as to the reality of these objects, whether they were, in fact, merely existing in their minds, the answers would be various, depending on the deep philosophical bents and subjective idealism of the solipsists. In one sense, these objects do exist as such, since they can all observe them and agree on what they see. But the question arises, would these objects still exist, if they, the Flatlanders, were all to die? Some might answer yes, while others would say that once their unique type of observer ceases to exist, then the objects, being part of a higher dimensional universe, would only be what they have always been, and that the 2-D viewpoint was only a part of the whole, and therefore that part was not an object in its own right, so they, (all the objects), never really existed, save in the minds of the Flatlanders.

The Flatlanders cannot conceive a 3-D observer in an observational sense, nor such an observer’s life form in an existential sense.

By analogy, our four-dimensional vectorial universe is only that part of the whole three-dimensional universe of scalar motion, (where there is neither time nor space existing independently), that we are capable of observing. We, too, cannot conceive, what the primal physical universe would “look” like, nor what existents would have any meaning to such an observer that could “observe” that objective universe, nor can we conceive such an “observer’s” form in an existential sense, without going into some theosophical or metaphysical *ad hoc* speculations, which have no basis in science, as we know it.

All entities, listed below, are vibrating at the maximum speed possible, being half unit speed. Rotations are NOT included.

		NUMBER OF SPACE UNITS				
		1	2	4	6	48
NUMBER OF TIME UNITS	1	Primal recession in 3- D Objective Universe	1-D Spatial Vibration in 4-D Cosmic Sector (Subjective)	2-D Spatial Vibration in 4-D Cosmic Sector (Subjective)		
	2	1 -D Temporal Vibration in 4-D Material Sector (Subjective) Latent Energy?		1-D Temporal Vibration in 4-D Cosmic Sector (Subjective) Electromagnetic Waves (Cosmic)	2-D Temporal Vibration in 4-D Cosmic Sector (Subjective) Material Particle?	3-D Temporal Vibration in 4-D Cosmic Sector (Subjective) Cosmic Matter?
	4	2-D Temporal Vibration in 4-D Material Sector (Subjective) Latent Matter?)	1-D Spatial Vibration in 4-D Material Sector (Subjective) Electro-magnetic Waves (Double Unit)			
	6		2-D Spatial Vibration in 4-D Material Sector (Subjective) Cosmic Particle or Neutrino?			
	8		3-D Spatial Vibration in 4-D Material Sector (Subjective) Matter?			