



FORM & EMERGENCE :

AMENDMENT TO THE THEORY OF EMERGENCE
THE DESCENDING OSCILLATIONS OF
DISSOLUTION
DARK PARTICLES & DARK MAGNETISM
BEHOLD THE MAJORANA!

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1. Editorial
Form & Emergence
2. The Universality of the Theory of Emergences
3. Amendment to the Theory of Emergences
4. Descending Oscillations of Dissolution
5. Behold the Majorana!
6. Dark Particles
7. Dark Magnetism - Never?

Editorial

Form & Emergence



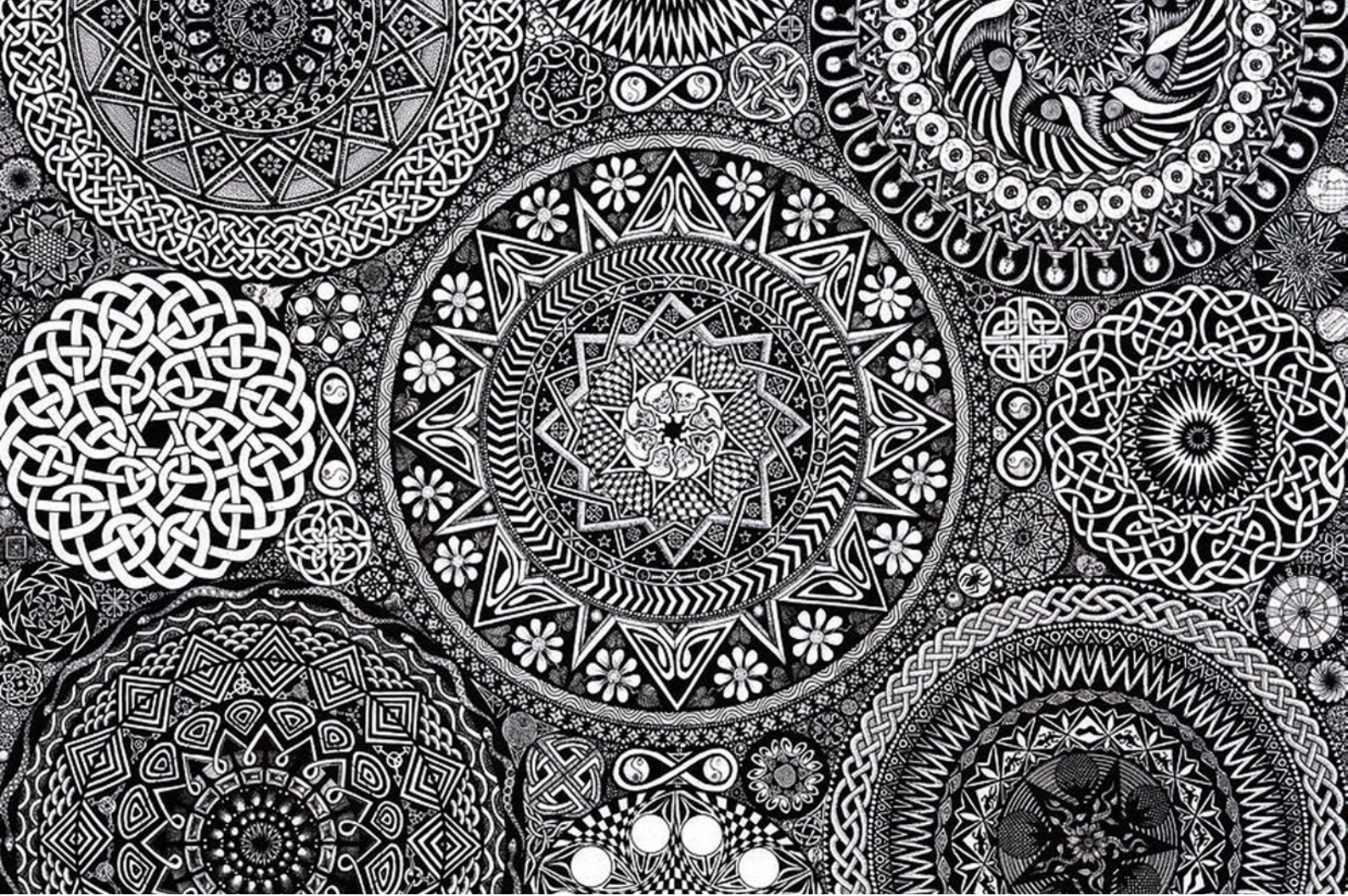
Welcome to issue 26 of the **SHAPE Journal**.

Once again, this issue is somewhat different to either the usual arbitrary collection of papers in what is best described as a Standard Issue, or the set of closely related contributions that demands their own dedicated Special Issue. There has also been a development of our Standard form into what might be called a Magazine Issue, and yet here we are again with yet another different offering. For the papers included here are of a special type: they are corrections or amplifying updates of previously published papers, and rather than just referring to their antecedents, it is clear that such modifications will always be necessary. So the emphasis in this Issue is put upon this absolutely essential aspect of the real development of ideas, and departs from the usual incrementalist way of most such papers in the usual Professional Journals.

You may wonder what the differences involved may be, but it is in the Philosophy of such “improving” contributions, for they are not so much mere corrections as conceptual developments and hence are unified in the clear emergent aspect involved. In a sense we are hoping that the basic standpoint behind all the contributions to SHAPE, and their developments are emphasized as the necessary way forwards in today’s Science. We, as always, focus upon the actual transitional trjectories, which are involved in such developments. We do not believe in the cumulative, incrementalist repository of individual additive contributions, but the ever deeper revelation of the creative processes that are essential in real understanding. In a sense we do not emphasize the delivery of Forms, as do the deliverers of equations, but the study of the Forms of Form and their Emergences.

Enjoy!

Jim Schofield July 2012



The Universality of the Theory of Emergences

The Form of Forms!

Now, we all of us consider some sort of a possibility of a Theory of Everything. But the spectrum of such hopes ranges from a sub-atomic set of entities and laws from which absolutely Everything in the Universe has been necessarily and deterministically constructed (and which when finally revealed will greatly empower their “discoverers and enable them to create whatever they like...”) all the way to those who seek laws of evolving Reality, which will necessarily be wholly about fairly abstract things such as Stability and Change (or more particularly Revolution) for such should pertain throughout.

These are very different objectives, for the former implies the mere construction of things, while the latter will be about the Dynamics of the Changes involved – indeed, will be about the Forms of Forms – the pattern of Phases involved in the appearance of the wholly new! And crucially, the causality of these patterns, so instead of catastrophes being the final stages to a trajectory, as in everyday conceptions, in the dynamics of Qualitative Change, they are invariably the initial Phases of a major Revolutionary overturn and

wholesale redirection. And instead of the achievement of such a Revolution being the start of a period of intense and accelerated progress, it will instead turn out to be an extensively conservative consolidation of a new Level.

Now, it will be apparent from the publications of this writer that I do not conform to the ideas of those seeking the former, and indeed reductionist, type of universal Laws. I am, quite definitely, a sincere seeker for the latter. From Zeno, via Hegel and then Marx to today, this path has been sought, but has always been a peripheral or even an actively ignored area of study. But as the majority of the efforts involved were put in by Marxists, and in the difficult (and disturbing) area of Social Revolutions, it cannot be said that their objectives were universally supported, and also it is clear that the task was by no means completed, and is certainly far from the case in other more general areas.

As an ex-political activist myself, I finally realised that both my colleagues and myself were nowhere near well-enough equipped to carry off our objectives, and the finally

evident towering omission was certainly in the necessary application of our efforts to Philosophy! Neither Hegel nor Marx made this mistake, but most followers since their contributions certainly have, and this era, which should have seen significant gains in the understanding of Qualitative Change in all areas of Reality, has NOT delivered what was absolutely necessary.

Clearly, my work on the Theory of Emergences cannot be other than a hypothesis standing shakily on one leg, if only because it is entirely the work of single researcher. And because of this isolation, I purposely chose to use the Origin of Life on Earth as my template for formulating a general Dynamic of Emergence, and, in doing this, I have come up with an initial idea of the crucial, dynamic phases, which occur in these remarkable changeovers. But, of course, the proof of the pudding will be in the eating, and this now and still undeveloped Theory will have to be successively tested, and adequately clothed in as many different contexts as possible to prove that it is NOT just a specific History of a particular given Event, but be representative of all such transforming Emergences across the whole range of circumstances.

Ofcourse, that is much easier said than done, for Emergences are not readily available, or even commonplace. They have mostly occurred in a past so distant that very little, which we can directly attribute to a given individual Event can be extracted with any firm confidence. Indeed, it is such an area (fraught with pitfalls and false assumptions) that it generally provides the ideal materials for artists to at first glimpse, and then attempt to expressively deliver in their creative works. But, there are areas where systematic work is indeed possible!

Hegel realised that Emergences are common in Human Thinking, and based his whole scheme of research upon an introverted study of his own processes of Thought. He was condemned by almost every single scientist of his day as wholly subjective in his extractions, and hence unreliable as indicative of Thinking in general, and his conclusions were largely ignored. But, he was in fact correct to take the area that he did, as, in spite of it being subjective, it still revealed all sorts of general conclusions. He was after all, the first in the field, and knew that much would remain to be done even after his own efforts were complete.

Also Marx felt that he had to concentrate on Social Revolution, and was predictably extensively condemned by the incumbents in most academic positions, who felt they had everything to lose, if the masses in general followed this political extremist. But once again, given the times in which he lived, what else was higher on the political agenda?

But now, many years later, the modern World has begun to deliver a vast increase in areas available for scientific investigations. And they occur exactly where no one

would think of looking. Indeed a researcher with a similar position to my own, John Ziman, in 2003 published a paper via the Philosophical Transactions of the Royal Society, on The Plurality of the Sciences, in which he correctly put down the origins of all the separate sciences to actually occurring Emergence Events in developing Reality. [For example, the science of Biology is entirely predicated on that amazing emergent Event – the Origin of Life on Earth, is it not?]

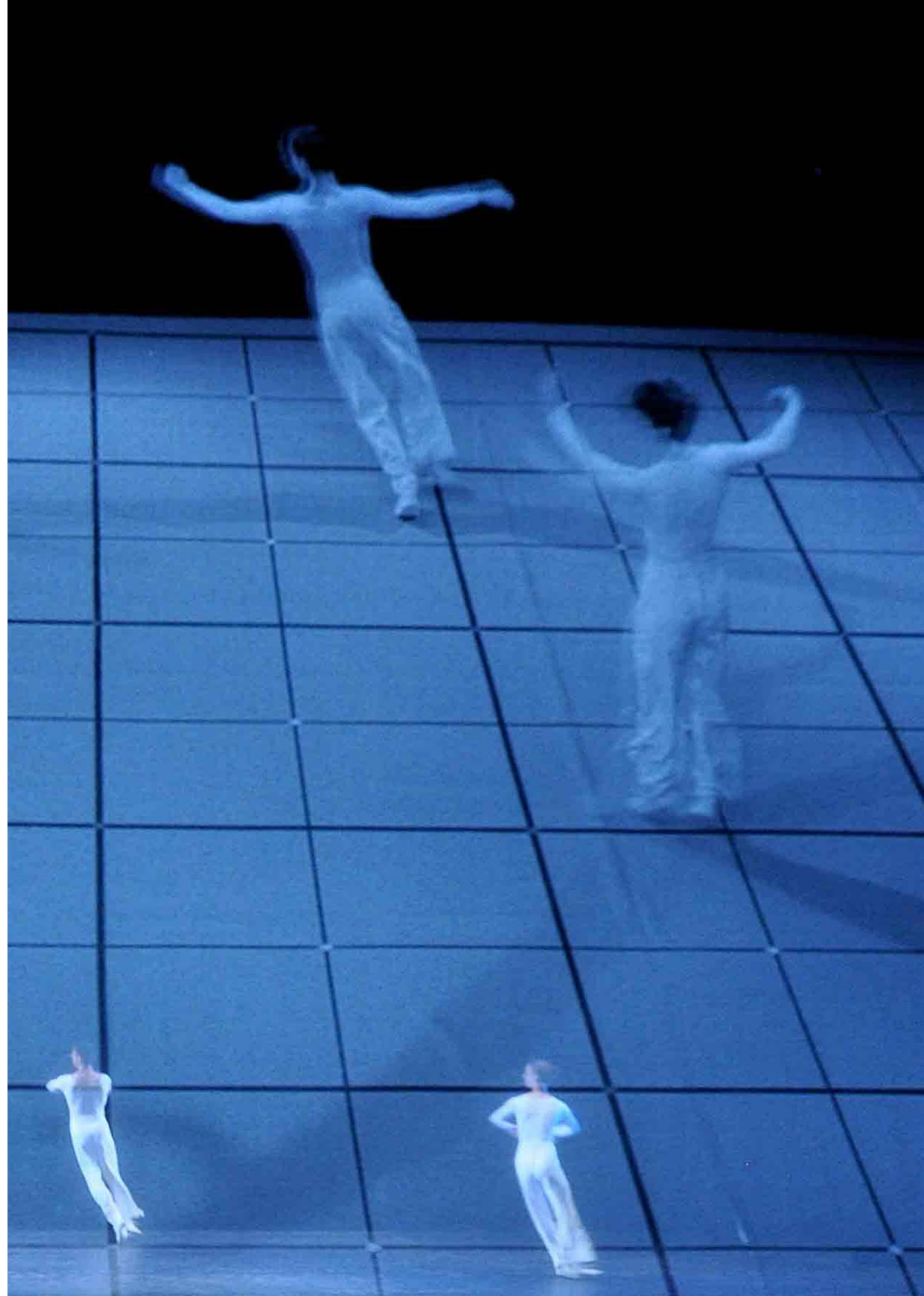
But, his conclusion was that straight-through Reductionism through all the sciences was impossible, because of the Emergences, which created their necessary and separate Grounds. He was again correct in this, but ignored the fact that the “Ground between” the delivered the most fertile area for the study - the actual dynamical Nature of Emergences in general.

This author (Jim Schofield) had spent a large part of the 1980s writing computer programs to aid the research of scientists in a wide diversity of areas, and the users of these tailor-made aids all went on to make significant advances in their chosen areas. [The areas involved included the Computerisation of a Gas Liquid Chromatograph, the Taxonomy of Tardigrades, Tanker Engineering Test Rigs, Chemical Reaction Fronts in Liquids, and even the Modelling of the Human Heart using Chaotic Equations (Van der Pol)]

But, my facilitating role in all these (and many other) areas did the opposite of what most computer experts extracted from their contributions in such diverse areas. For while they (to a man) exalted Simulation as the answer to all our prayers, I was launched upon a necessary study of the various disciplines involved and their Emergences as the most important areas covering all the diverse questions that I had ever been asked to help with. Indeed, the next, and consequent, phase of my career was something of a surprise!

I was involved with a very able colleague, who wanted to use Multimedia Resources in the Teaching of Contemporary Dance, and knew all the “damned” inadequacies of most types of recording used for capturing Dance, and which would have to be overcome if any real gains were to be made. Believe it or not, this research was by far the most revealing of all the fields that I have been involved in, and unified conceptions of our basic assumptions from Zeno, through Moyerbridge to Modern ideas of Emergences, particularly when associated with movement.

The key “eternal” alternative assumptions of Continuity and Discreteness had to be jettisoned to enable real dynamical movement to be delivered with the aid of recorded footage. And though this task took us some time to bring to fruition, we did finally bring it off! After winning a British Interactive Video Award (BIVA) for our very first Multimedia Publication The Dance Disc, we



went on to produce some eleven publications, with regular improvements in method and delivery, which are now used in over 80 countries on all five continents (including all the States of the USA, and most of Europe too.

This history of my involvement in research in many areas and Levels was always inter-disciplinary, and equipped me uniquely to ask the right questions and to slowly unearth the assumptions, which heretofore had always stopped a significant contribution in the area of Emergences.

Following that lengthy sojourn in Dance I began my current career as a philosopher of Qualitative Change – of Stability & Emergence, and currently I have published over 100 papers, including my Theory of Emergence, after five years of full time research.

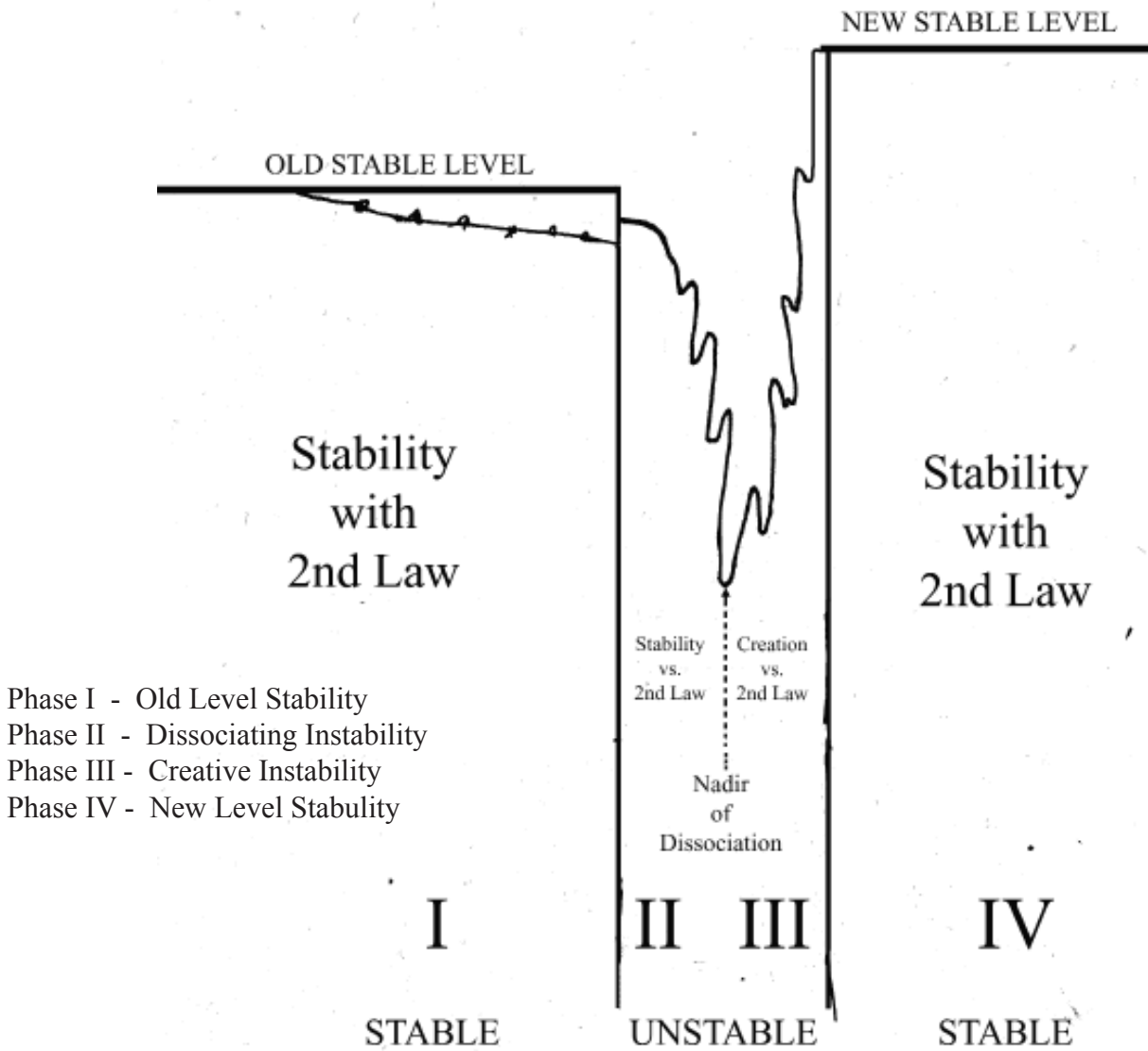
Being a Physicist, the places to start this work were immediately crystal clear! It just had to be on addressing the Errors of the Copenhagen Interpretation of Quantum Theory, for that has all the hallmarks of the inevitable contradictions, which occur when attempts are made to explain one Emergent Level in terms of what was present in the immediately prior Level. So the key Experiment – that involving the Double Slit with electrons had to be the place to start.

In the Special published by the SHAPE Journal (February 2011) there was an extensive set of papers establishing The Non-Copenhagen Theory of the Double Slit. In addition, a great deal of attention has been necessary in a spin off from sub Atomic Physics in the area of Cosmology, and

the idea of the Big Bang. One prior publication *Can We See The Edge* has already gone out as a SHAPE Special (November 2010), but another two are already in an advanced state and close to also being published.

Clearly, Biology had also to be included in this research, for though Darwin’s Natural Selection was the fundamental break-through, it didn’t by any means complete the task and papers have been written on *Truly Natural Selection* and *The Role of Viruses in Evolution* (based on the work of Frank Ryan), as well as a whole series of papers on the Origin of Life on Earth.

Finally important work on the subject that is usually subsumed within the content of what is being taught is the vital area of Pedagogy, which this author will aim to complete sometime in 2012.



Amendment to the Theory of Emergences

Stability is most certainly the selfevident norm in our World and appears to persist indefinitely, but that is certainly not the case. That Stability is constantly under attack from contending processes of many kinds, which are usually subsumed into Mankind’s conception of a Second Law of Thermodynamics, which will always intervene in a dissociating way wherever some aspect of the integrated, overall system weakens or approaches failure. This contending force is described best by the saying “Rust never sleeps!”.

But, these ever-present attacks do not usually compromise the current Stability. They only cause it to totter before reasserting its hegemony, and this is due to the inclusion in any such system of essential coercive sub processes, which I am inclined to call “policemen Processes” that both attack any nascent alternative proto-systems (and indeed totally prevent their growth to any state of being able to rival the prevailing Stability), and also act against any Second Law processes by repair, replacement and reproduction cycles,

which always outweigh (for the most part) those persistent, destructive inroads, so that they are seemingly relegated to only demolishing decrepit or failed sub-systems, and , in a sense, clean situations up by disposing of its “dead wood”.

As a system grows old, however, and effectively runs out of potentiality as its accompanying minor alternatives develop (if only marginally), it crucially becomes increasingly less able to contend with the (also increasing) members of the Second Law alliance, so that their dissolutions increase in success and the System’s precious Stability is increasingly undermined.

Finally, some threshold is surpassed at which veritable avalanches of dissociation temporarily start to dismantle the overall System. The various policemen processes increase their activities, and indeed “change mode”, in response to restore the situation, but they succeed only partially and temporarily.



The weakened Stability is thus ever more prone to other similar attacks and consequent avalanches of dissociation in many different areas of the overall structure, and the Second Law forces begins to win in various different localities.

Once again the defensive forces again attempt to stem the dissolution and again only partially succeed in rebuilding the situation. But, in each crisis the rebuilding is never up to the previous level, and so an increasingly frequent succession of avalanches become inevitable, and these, in concert, finally bring about a complete demise of the old Level.

Chaos seems to be the inevitable outcome!

But all this defeat of the “Policemen Processes” also releases the total inhibition of the always-appearing alternative proto systems, from their prior repression, and they all begin to grow apace!

Naturally, the independent parasitic processes of the Second Law Alliance respond to those also, and to an extent stem the various mounting growths, and dismantle them to some extent. But these are NOT the elements of the old System, and the Second Law Processes are not yet attuned to combating these new collections of processes. So, on the whole, the new creative forces begin to increase, though competition between them also has both negative and positive effects too.

And, as you have probably already guessed, some “Second Law poachers” turn into effective policemen, and the new system begins to integrate their own policemen processes into their organisations.

A kind of mirror image of the previous declining oscillation sets in, but here the overall trend is not downwards but upwards – towards a possible wholly new Stability!

Though which proto system will survive and dominate is not clear in this period, it is evident that the forces of the

entirely new will, in the end, win out. The fight between the new proto systems and the forces of the Second Law is gradually being won by the former, as well as a clear dominance of the most organised systems at the expense of the weaker ones. Each upwards swing gets a little higher, and each downwards retrenchment does not drop as far as the last one.

Ultimately the final swing upward is sufficient to reach another threshold which comprehensively defeats the actions of the Second Law forces, and relegates them to a background dismantler of the less effective parts, and a wholly new Stability, with novel entities, properties and processes, not to mention strong policemen forces, is established.

Now, these very general considerations will always happen: they are about Stability, Dissolution and Creation and the Phases described here will occur in very special dramatic episodes of Qualitative Change, which we term Emergences, when an old Stability is vanquished

in a particular situation, and a wholly Higher Stability is achieved.

It happens in Society as Revolutions, as well as in Ideas happening within Human Thought.

It happened in non-living processes in a World totally devoid of Life, and finally produced the very First Living Things.

And it occurred in the Cosmos when inactive Matter finally erupted into the First Energy Emitting Star.

This is clearly not the type of Science such as usually occurs in Physics and the other Sciences of Stability. It is about Qualitative Changes, which can only occur in these short period episodes of significant creation called Emergences.

The Descending Oscillations of Dissolution

Though the nature of the general dissolution of Stability has been variously described to some extent, by many different observers and the more evident factors involved have been identified, the actual comprehension of the transformation from a seemingly totally resilient Stability, into that often precipitous decline, is by no means complete, and certainly requires a great deal of further investigation.

Clearly, the onset of such a swoop to dissolution shows itself as the commencement and increasing amplitude of an oscillation between diametrically opposite, yet temporarily-dominant, sets of processes, and the crucial question demanded by any full explanations must be why this doesn't happen all the time. Why, for example, is Stability, itself, entirely lacking these oscillations, yet when it is critically threatened, they invariably jump from nowhere into devastating prominence?

In even the simplest conceptions of Stability, we obviously commence with an unavoidable diversity of processes, many of them quite evidently opposing one another, and the simplest conception is that these are ultimately completely balanced (or maybe in some way transcended as an irreconcilable contradiction). But the actual nature of such a "resolution" cannot be simply put down to any mere "cancelling out"!

It must involve many different processes – some contending, while others are actually supportive of one another, some are actually coercive and controlling of other processes, And all these together, as some kind of totally interconnected System, manage via sequences, cycles and proportional responses to produce an "overall" multi-stranded system that is both all-embracing, yet self-correcting and majorly resilient as a n interacting Set. Such Stability is actually very common indeed! It is the seemingly ever-present norm!

The only real model that can be pointed at to give some overall conception of what is happening, is surely the set that we term Metabolic Pathways, which delivers an amazingly universal set of biochemical

processes that occur at the heart of all living things. Now, a detailed study of those kinds of processes may well enable researchers to generalise what occurs there, in order to apply them to many much wider situations So, we might be in a position to explain-by-analogy all sort of very different cases of Stability much more accurately.

But, even then, it will only be a first attempt, for it will still not explain the trajectories of the actual transitions involved, both into Stability when it is established, and into Instability when that in its appropriate time also emerges. For in the latter cases the evident wild oscillations that always occur as instability begins to persistently threaten.

For, such oscillations not only prove the obvious presence of opposing sub systems, but, very importantly, the alternating failure and success of the processes elicited to act against a certain strong development, so that alternating successes could only lead to an ongoing series of major oscillations. It is very clear that some forms of Negative Feedback must always be involved in these behaviours, wherein the increasing effects of dissolution always elicit a countering via necessarily strengthened restorative processes, and for a time, at least, they undoubtedly start to win, and move significantly back towards a restoration of the prior Stability.

Now, these are certainly not exactly the same situation as was everywhere solidly entrenched within that prior Stability: it is certainly different in at least two important ways.

First, something different must have grown within its contributions to actually cumulatively undermine the overall

stability, and thus precipitate avalanches of dissolution. And secondly, there must also be elicited by, and in proportion to, these dissolutions increasingly strong countering processes, which can begin to turn the situation around again, if only for a time.

These cannot be just put down to the usual processes of Stability, for in that state, the various affecting forces are acting within an already widely balanced situation. Whereas, during the onset of major instability, the necessary counters must be much more vigorous and widely affecting, to rebuild what had already been significantly dismantled.

In Social Revolutions, for example, these forces involve the use of military forces to act internally upon ordinary citizens of the realm – forces that are not part of the control within a balanced stable state, but are generally employed outwards to other competing systems (National States).

So, there is a major transformation of existing forces to act in a very different way – against the citizenry of the State who are in actual revolt against their rulers. And, of course, such switches over can succeed and put down a revolution – a “kind” of Stability can be restored, but permanently damaged, and constantly requiring the switched-to repressive means of control. This is precisely what occurred in 1905 in Russia. While in other circumstances these forces can simply dissolve away as with Kornilov’s march on Petrograd in 1917.

Clearly, the oscillating decline Phase of a Stability-under-threat is neither obvious nor simple! Indeed, as always, current revolutionary situations indicate what kind of different processes come to the fore. We must certainly not forget the essential “policeman processes”, which play a major role in the establishment of any new and continuing Stability. For they, in particular, suppress any alternative contending proto-systems, which can rival the main dominating and entrenched System. All such alternatives are usually effectively suppressed, but when instability begins this control will surely be somewhat weaker, and usually suppressed elements may gain in strength.

In Syria, currently, (June 2012) the continuing and deepening instability is bringing all shades of opposition “out of the woodwork” from both the left and the right, and the response of the “policemen processes” becomes ever more like armies aimed internally – like a civil war.

And also happening at the present time, are the threats to the Earth’s Climatic System. Increasing evidence of swings in the weather away from what is considered normal, are certainly indicators of an ensuing (if early) instability, and a major changeover may be an increasingly close possibility. One known aspect of this (that has happened before) is that as Global Warming proceeds, the increasing melting of the Greenland Glaciers could inundate the North Atlantic Ocean with totally fresh, unsalted waters,

and this could cause the descent & return phase of the Gulf Stream/North Atlantic Drift to actually cease, with global consequences. What would be occurring then is the loss of a crucial part of the prior stability – yet another element in the dissolution process.

Now these last couple of examples in very different systems make it clear that these dissolatory phases are not simple, but on the contrary, highly complex and lead to major changes. And to come up with a general explanation of such a phase will require evidence from many very different areas in crisis. For example the birth of a Human Baby must surely be a case of a prior stable system (Pregnancy) with the embryo child within the mother’s womb) being finally compromised, and all sorts of sub systems comprising that stability begin the break down. Remember in a very short time period the baby has to cease getting sustenance and even Oxygen from its mother’s blood stream directly into its own, to actually breathe air and require “food by mouth”, which then has to be digested for the first time ever in its short life.

That is certainly a revolutionary episode (or Emergence), but must include the same dissolatory phase in any transformation from one level of stability to another. Every time we address another of these crucial Events, more kinds of necessary changes become evident and must be seen as expressions of the common Emergence Events of them all.

Finally, the most dramatic evidence at the current time literally worldwide is the daily oscillations of the Stock Market indices. From highly encouraging rises on one day, to dramatic and frightening falls in the next, and a regular short time base oscillation, which can only be evidence of a global crisis in Capitalism. Yet all the experts and commentators insist upon this particular version or that set of contingent events. Confidence goes up and down like a yo-yo, and no one mentions the real reason why.

Behold the Majorana

or is it the neutrino, or perhaps the positronium, it could be the neutritron, or even an Empty Photon..?

The trouble with starting with equations as the only reliable basis for theoretical speculations, is that you only “see” what fits your forms. There is no concrete Reality as final arbiter – whatever is thereafter seen has to be fitted into the universally agreed “essences” – the equations that we have extracted previously.

Now this means that the only things that can be admitted into any “view of the World” absolutely must conform to these “essential and final” equations. Of course, being Pure Form, such have been manipulated in all sorts of “legitimate” ways for what now amounts to generations of physicists. The equations can, and indeed have, been pushed (literally without limit) into all sorts of odd corners, and still be regarded as entirely sound [Note: Mathematical Chaos proves that].

So, the saga unfolded in the article by Michael Brooks and Richard Webb entitled *All or Nothing* [New Scientist 2864] can, and indeed must, occur! To “explain” some new discovery, the existing deck of cards must be shuffled and shuffled again, and then pushed to the limits in accordance with meta-forms (forms of forms) like Supersymmetry to accommodate the “new”! The very same suit must be re-tailored to fit absolutely all occurrences.

So, this is what is behind this scarcely credible tract! Almost everything “might” be explained by a new particle, which seems to include both Matter and Antimatter as a single unified entity!

So, in a veritable burst of chalk dust, many worried theorists try anything on their blackboards to solve the problem.

Yet, if they were real theoretical physicists instead of mathematicians, the model they require would be staring them in the face, but these equation manipulators can’t possibly see it.

The physical model that is required is the atom. And the components that make up the new entity would be one positron (antimatter) and one electron (matter) – mutually orbiting one another. Indeed, such a particle has already been seen and named the positronium. But, that having been discovered in an High Energy Accelerator, was shown to be highly unstable with a minute lifespan, and hence dismissed for most of the suggested roles for the new entity.

BUT, again using the atom as a valid model, the involved orbits in the positronium could there have been greatly elevated and very close to the limit of stability of that entity. The tiniest additional energy could be sufficient to totally dissociate it into its components – one electron and one positron – a veritable Pair Production indeed!

So, if we bring down the contained energy considerably we might well be considering – a photon. And, if we continued until we reached the minimum energy consistent with the continued existence of the entity at the other extreme we could have an Empty Photon. And such could well be entirely stable in that state. Indeed such a particle (named by this author as the neutritron) could be everywhere – indeed the most numerous and most undetectable particle of all.

Think what else it might explain!

Considering the Unthinkable?

This author has noticed a whole spectrum of muses currently being not only aired in kite-flying suggestions, but also involving serious scientific investigations and elaborate experiments.

The two recent articles in New Scientist by their oft usual reporters refer to many different but related efforts across the world, so these certainly deserve a mention in the context of the main article presented here.

In Issue 2864 of 12 May 2012 Michael Brooks and Richard Webb present a range of contributions under the covering title *All or Nothing* on the so-called Majorana particles, which are said to include both matter and anti matter within a single entity.

While in Issue 2867 dated 2 June 2012 Stephen Battersby does a similar article called Pulling Power, which discusses some sort of Dark Magnetism as the

cause of the detected increasing speed of the most distant entities in the Universe, and remarkably quotes as one option – “the force that emerges from the energy of Empty Space”, as the source of that observed situation.

Wow!

So the main article here, along with another entitled *Dark Magnetism – Never?* considers the various phenomena from a very different viewpoint that also throws light upon the seemingly constant Speed of Light, and its propagation through Empty Space, as well as perplexing phenomena such as Pair Production and Pair Annihilation.

Dark Particles

In considering the introduction of an entirely new sub-atomic particle to the current Zoo, especially when it has been purely theoretically defined, rather than having been first discovered, and then further investigated, by experiment, there are crucial factors which must also be addressed, and perhaps the most important must be your suggested particle’s stability.

So, before introducing the new member of the club, let us first consider the stability of the most universal basic particle - the Atom. Now, there are, of course, many very different atoms of all the various elements, but perhaps the only sensible place to start must be in considering the commonest and simplest example in the observable Universe – the Atom of the element Hydrogen. For this consists of a single positively charged proton as its nucleus, mutually orbiting with a single negatively charged electron.

But, “What?”, I hear you exclaim, “Haven’t you made an important mistake there? Isn’t it the case that only the electron is actually doing the orbiting?”

Well, no! It is certainly a mutually orbiting situation, but the considerable difference between the masses of the two particles involved makes the movements of the Proton extremely tiny in comparison to those of the electron. For the centre of mass of the combined system resides so close to the heavier particle as to hide its tiny oscillations. Nevertheless, the Proton does indeed move relative to this centre. It is a mutually orbiting situation!

Now, this particular atom is incredibly stable. It does not decompose into its components very easily. So, having established this actual case, we can on the basis of its properties, suggest a similar entity, again consisting of two mutually orbiting components, but one where the positive and negative components are of exactly the same size. Indeed, I am suggesting a particle composed of one electron and one positron! Now though the same basic form it will look very different because the orbits of both the components will be of the same size: they will quite clearly orbit-each-other.

With the information so far you may be persuaded that this particle could be stable too – except that one is made of ordinary matter and the other of anti matter, and it is a well-known “principle” that when such things come together they mutually annihilate each other into Pure Disembodied Energy!

But surely that must have involved a collision? If they don’t collide but fulfil the conditions for a mutual orbiting, why should that not be possible in spite of them

being of different sorts of Matter.

But the reader may next jib at the resultant properties of this new amalgam: for it will have NO charge and NO matter – it will be invisible and even undetectable!

But let us develop the comparison of this new entity with the Hydrogen atom a little further. For just as the electron orbiting the hydrogen nucleus can be elevated to higher orbital states with higher energies, could not the very same be possible with both the mutual orbits in our new particle. For this would enable our particle to act as a repository for energy in the very same way?

We do not have to stick with the old “all or nothing” concept, wherein, on every meeting, such opposites always and only mutually annihilate one another into Pure Energy (whatever that might be), and the equally dramatic direct opposite when the presence(?) of the right amount of that same Pure Energy could inevitable create a Pair consisting of an electron and a positron (Pair Production). For, if these extremes are considered in terms of a common union of these two into a stable, mutually orbiting, joint particle, then our usual outcomes are very importantly extended.

Let us recount how the newly suggested entity makes for a whole series of behaviours, which not only adds new explanations, but seriously transforms even the old dramatic cases too.

For example, if sufficient energy were pumped into such a pair of mutual orbits, the escape velocities of the two components particles could be exceeded and a requisite “Pair Production” would ensue.

Also, when these orbits are elevated, but still remain entirely stable, then we have a very common and important entity indeed: we have a Photon!

The concept of the quantum within such a receptacle makes a great deal more sense than our usual supposition of a “gobbet” of “free energy” local but unconstrained in totally empty space!

Thus our joint entity dispenses with that idea entirely – instead our joint particle becomes the receptacle for all propagating energy – not necessarily, it must be emphasized, only as a moving projectile, but also as part of a continuous “paving” of empty space, with quanta induced from Empty Photon-to-Empty Photon in a “bucket-brigade” sort of propagation.

It even makes sense in terms of the modelled nature of Electromagnetic Radiation, For such radiation is known to include both and electrostatic and a magnetic oscillations, occurring simultaneously and “locked together”, while at right angles to one another.

I would have thought that a mutually orbiting pair comprised of one electron and one positron would seem to be tailor-made to contain and deliver such a form of energy.

And even after all this, we haven’t finished yet, for we already know about orbital capture from our macro world, where Gravity supplies the necessary attractive force, while the speed of travel from the incoming object can supply an opposite centrifugal force to be equated or balanced in a capture. So at our micro level if the right encounter occurs between our two sub-atomic components a similar orbital capture might also be possible. Whether it is the Sun or planets like Jupiter and Saturn, large numbers of captures planets or moons can, and certainly have been, captured in this way, so why not at the sub-atomic level?

There will be the electrostatic attractive force pulling the particles together, with the same sort of centrifugal separating forces, which can surely suffer the same general sort of “capture”.

Now, of course, all of this could be simply dismissed as a speculative muse. For it does not follow the usual sequence of investigations, primarily involving observations and experiment, but further considerations take the discussion into even more interesting areas.

Let us consider the base-level orbits in our mutually-orbiting pairs – for those orbits that cannot get any lower without the joint entity failing altogether.

Absolutely no extra energy is being carried at such a level, and in such circumstances our entity simply seems to vanish!

Matter + anti matter = no matter.... while

Positive charge + negative charge = no charge.

So how do we actually detect it?

The slightest extra input of energy inserted into the orbits of the joint entity immediately turn it into a photon, which we would immediately consider to be “something else” So we never detect the base-condition entity.

Yet in spite of its evident “cancelling effects” it does contain both matter and anti matter and both charges. And, if these particles in this particular state were very large in number, we would still not be able to detect them, yet they would together account for a truly vast amount of these

properties and both kinds of matter.

Now, this has indeed taken the form of a muse, but it is certainly more than that. For these particles in a different state have, in fact, been detected. The most documented examples are those special versions, with such high internal orbital energies that they frequently are pushed over the limit and decompose into their component particles. In High Energy Accelerators they are seen by their decompositions, and labelled as short lifetime unstable entities, where they have been given the name *positroniums*.

But their properties and behaviours at the very different base level have caused this writer to initially term them Empty Photons, and in his Theory of the Double Slit with Electrons they have actually enabled him to explain the experiment without recourse to the myths and retreats of the Copenhagen Interpretation of Quantum Theory.

And their role as a paving of Empty Space within the Universe has been able to begin to address many of the unsolved (or badly “solved”) questions in Cosmology.

Because of all this and precedence in their first description (see SHAPE Journal February Issue 2011 and the Double Slit Animation on YouTube of 23 February 2011 on the Web), this author has seen fit to rename them Neutritrons and occasionally also as Empty Photons.

Dark Magnetism

Never?

With the current cosmological climate of speculative musings about Dark Matter and Dark Energy, I think the time is ripe for an alternative kind of muse, but, of course, based upon an already substantial body of theory by this writer, which has already perhaps “solved” the problem of The Double Slit Experiment, and would, quite definitely, deliver a very different basis for all these seemingly cosmological speculations too.

Let us start in a similar way to the present consensus by considering an unknown hidden force, which hasn’t as yet been detected. But, in this case, this is due to the overwhelming dominance of both Gravity and Electrostatic attractions and repulsions.

It would obviously be a very weak force – much weaker than our present “weakest” candidate, Gravity, and it would have even greater reach than what that force possesses. Its influence could stretch even further for it would decline much slower than Gravity.

From other considerations in other researches, which I will come to later, it seems most likely that this force will be a repulsive one.

So let us begin!

If we apply this force to our defined neutritrons (Empty Photons), as they constitute a suggested Universe-wide paving, interesting things would certainly ensue.

These elements of the paving would tend to push each other apart, so that this “medium” would both extend to cover an ever-greater volume of Empty Space, and individually move apart, so that the gaps between them would grow.

As we move out away from the centre of our Universe, the number of neutritrons per unit volume would necessarily decline, due to increased volumes for the same flux with a naturally continually increasing inter-unit distance between our entities, which would be added to due to the repulsion, and after a certain threshold distance had been exceeded, the delivery of quanta of E-M energy from one unit to the next by induction would become impossible.

But that would NOT stop propagation! For the repulsive forces acting would move the units about and they would collide with each other. Thus these (soon entirely random) movements would occasionally bring elements close enough for inductions to take place. This would change the Speed of Light!

Instead of it being a constant given by the speed of induction from one neutritron to the next, it would now have to include an average time of travel to bring the elements close enough for a transfer to occur. The Speed of light would be reduced. And as we move further out and the separation of the units are further apart, then the Speed of Light will regularly reduce, due to this increasing additional element in the process.

The actual inductions would always be the same speed, but the movement element would constantly increase in its contribution.

Thus compared with our supposition of a constant Speed of Light, there will be an actual decline in this speed.

Now, we have to work out what would be the consequences of such a process upon what we see, and the conclusions we draw, from that.

As we looked further into the far distance we would be seeing light from emitting entities that was older than we assume, and with a constantly decreasing speed of travel due to Gravity, we would see things travelling faster (as they were some time before).

We would therefore misinterpret what we see in the most distant regions, where the Speed of Light should have been noticeably decreased, as being a higher speed than should be the case. WE are amazed and apportion this to a supposed Dark Force.

The described effect on the Speed of Light would give us an inverted idea of what was happening out there.

Now, of course, all this may be dismissed as pure speculation, as it is not that dissimilar from a proposed Dark Force, but the main difference is in the effects on a paving of our Universe’s Space with propagating Empty Photons or neutritrons.

But this hasn’t been dreamt up out of the blue. The internal structure of these entities (the neutritrons) is as a mutually orbiting pair of one electron and one positron, and hence is built out of electromagnetic components. What better form can be conceived of to act as a receptacle for quanta of E-M energy - NOT disembodied, but naturally held in these related orbits?

What remains is to add to that paving JUST this very weak repulsive force in these outer regions. For everywhere else the major forces dominate and totally swamp this proposed “third force”

S H A P E

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