**ON THE UNIFICATION OF THE FORCES**

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*ABSTRACT*

***The arguments in support of this magnetic field model are, of necessity, developed outside any standard frame of reference. This requirement is due to the unusual nature of the field's concepts, which have no precedents within the standard model and this paper therefore precludes citations.***

***This 4-part paper details concepts and arguments in support of a non-standard magnetic field model, broadly outlined by the author in a 2-part paper published in the Journal of Nuclear Physics, (JONP), 2012 and titled 'Proposed variation to Faraday's Lines of Force to include a magnetic dipole in its structure'. This 4-Part paper expands on a proposed unification of the forces based on a primary magnetic force that underpins the weak force, the electromagnetic force, the strong nuclear force and the gravitational force.***

***It argues that magnetic fields comprise an underlying material structure of dipoles that have a fixed quotient of charge. Their wide range of size and velocity is determined by an inverse proportionality constant, the smaller the particle, the faster and vice versa. Their field assemblies are exquisitely structured to generate an orbital velocity in excess of light speed, which renders them invisible. This fundamental, dipolar material spans 10 dimensions all of which have one of three alternate time frames but which share a commonality in space.***

***Where the standard model precludes any defeat of the unity barrier this field model both predicts and requires this potential. Proof of postulate, more fully referenced in the conclusion to Part-4 of this paper was earlier established in the first of those JONP papers, titled Experimental evidence of a breach of unity measured on switched circuit apparatus. This paper published experimental evidence of a unity breach with anomalous negative wattage measurements.***

***The object here is to give a detailed account of the field concepts to encourage a wider review and then a testing of both this and earlier published claims. It is coupled with a hope that the field's fuller potentials can then be enabled through a systematic unravelling of their mechanisms in line with these insights. The model is not complete, as critical aspects of both the strong nuclear force and the gravitational force require development and/or proof. Arguments in support of this model have been developed with the use of logic and reasoned accordingly. This should enable a wide dissemination of these concepts against a broad range of specializations and as required. Questions are resolved as they conform to principles of correspondence or to experimental measurements or both.***

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**PAPER 1 OF 4**

# INTRODUCING CONCEPTS THAT SUPPORT A MAGNETIC FIELD MODEL WHICH FIELDS COMPRISE AN UNDERLYING MATERIAL STRUCTURE OF DIPOLES


*ABSTRACT*

***This first part of a 4-part paper uses the dialectic to argue that a primary magnetic force may comprise an underlying dipolar material. These dipoles include varying sizes and form the basic building blocks of matter. Here it deals with their field assemblies, which are enabled through their compulsive aggregation into strings. It is argued that these strings, in turn, generate a localized, orbital velocity in excess of light speed and it is this velocity that places the fields beyond the reach of an interaction with photons. This, in turn, renders them invisible. Dipoles in the field are referred to as zipons.***

***It concludes with a discussion of the field's 3-dimensional assemblies and argues that the singularity, associated with the genesis of matter, actually results from an arbitrary break in one or more of the strings that structure a universal, toroidal field. Here the dipoles that form those strings will spill out into a localized area of space to form a nebula, which chaotic spillage is then the source of manifest material. This material is visible because it is relatively stationary and can interact with, and possibly even emit, light. The dipoles forming the nebulae are referred to as truants.***

***Nebulae, in turn, are proposed to be nurseries for the stars. It is argued that over time the dipoles that form them will systematically re-organise from their chaotic condition in the nebula, into highly structured magnetic fields. And this restructuring into sustainable fields is in response to an overriding natural law of re-assembly. This law is referred to as an immutable imperative, and is proposed to be the catalyst that both initiates and under-pins all magnetic interactions. The immutable imperative culminates in a finely balanced construction of magnetic fields with their signature orbital velocity in excess of light speed.***


## SUMMARY OF ARGUMENTS

This first paper details the philosophical tools used to develop the concepts related to this field. It includes the use of the principle of correspondence to determine that magnetic fields comprise dipolar particles, which principle, in turn, is founded on an over-arching immutable imperative. It argues that this imperative compels the interaction of one dipole with another to promote their best charge balance and it also potentiates their re-assembly as dipolar composite particles and as fields.

## THE ARGUMENT

Standard laws of induction determine that changing magnetic fields induce electric fields and that changing electric fields induce magnetic fields both of which have measurable, localized, force strengths. However what is not

addressed in that model is the interaction of two or more magnets with each other that may induce changing magnetic fields without the induction of any measurable electric field. Especially in instances where magnets interact exclusively with other magnets the existence of a localized, interactive, magnetic force is unequivocally associated with changing magnetic fields as and when it initiates the movement and repositioning of those magnets. But, without the simultaneous induction of a corresponding and measurable electric field, those magnetic interactions fall outside the definitive scope of induction laws.

Conversely it is not possible to induce an electric field without also inducing a corresponding and measurable magnetic field. This study proposes that the electromagnetic force, the weak nuclear force, the strong nuclear force and the gravitational force, may be under-pinned by this fifth, primary and localized, magnetic force.

An object's visibility requires an interaction with photons, which then reflect that object's colour and material structure. And because a magnetic field is invisible it suggests that there is, in fact, no material structure to the field. However, if that field was structured from particles that moved at a velocity in excess of light speed, (C), being fractionally greater than 186 000 miles per second, then light would not be able to reach that particulate material to enable a full interaction. This may account for the magnetic field's invisibility.

Because of its invisibility, the size and scale of a magnetic field can only be inferred from its effects on magnets and on ferromagnetic material. The standard model precludes any particle with mass being able to exceed, or even equal C. In line with this argument it makes the assumption that the photon has no mass, which enables its velocity at C. Theoretically therefore, if a magnetic field was structured from massless particles they too may have a spin velocity that is equal to, or in excess of C. This, in turn would then account both for that field's invisibility and for its localized position in space.

The whole is always greater than the sum of its parts. Conversely, but correspondingly, the sum of those parts constitutes that whole. So it is, for example, that a bar of gold comprises atoms of gold. If indeed a magnetic field comprises dipoles, then in line with that example, the material properties of that greater magnetic field may also correspond to the material properties of each of its smaller parts. This study makes extensive use of this principle of correspondence as a tool to unravel the properties of a magnetic field.

The first most obvious feature of the greater magnetic field from a permanent bar magnet is that it comprises two distinct but opposite polar properties at its extremities. These are typically defined as a north and a south. If sufficiently proximate, the north of one magnet will attach to the south of another. Conversely, and also subject to proximity, the north of one magnet will repel the north from another as will the south of one repel the south of another. In this way the polar attributes of a magnet correspond to the laws of charge where unlike charges attract and like charges repel. This polar magnetic property therefore corresponds to and is interchangeable with terms of charge where a

magnetic field comprises two distinct and opposite charges. The constructive interaction, whereby opposite charges move together, is here proposed as one of many complex responses to the immutable imperative that governs all magnetic interactions.

Iron filings that are placed on the surface of a piece of paper can be exposed to both poles of a permanent bar magnet in order to determine the structure of the field itself. In response to such a magnetic force those filings will then organise into lines, which Michael Faraday described as lines of force. The resulting pattern and shape of those lines of force enable a two-dimensional representation of an underlying, invisible, three-dimensional, toroidal, magnetic field structure that is thought to extrude from the body of the magnet.

A permanent bar magnet has a bipolar property where two opposite charges are positioned, one at each end of the magnet's extremities. The principle of correspondence would require the smaller magnetic part to reflect that same charge property of the greater magnet with its two separated charges, thereby forming a dipolar particle. The inferred boundary of that dipole would then correspond to a typical bar magnet where its charges would also be distributed at its polar extremities.

Then, just as two magnets attach to each other, north to south, so would the north of each dipole attach to the south of another thereby resulting in the structure of a line of such particles. For perfect balance each line would attach at either extremity, thereby forming a semi-circle. The assumption is then made that the line intrudes into the structure of the magnet thereby forming a full circle. And then, in line with correspondence principles, the patterned assembly of many of such lines and many such circles could indeed comply with, and conform to, the lines of force that structure a magnetic field, (Fig 2).

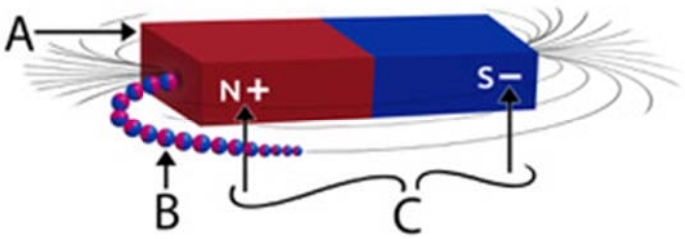


**FIGURE 2**
**A TYPICAL LINE OF FORCE PROPOSED TO COMPRISE MAGNETIC DIPOLES**
***(a) Permanent bar magnet***
***(b) Depiction of a Single line of force structured from dipoles***
***(c) North or positive charge and south or negative charge of the magnet***

Photons are neutral and irradiate through space, outwards and in straight lines, from a source. Protons are positively charged and repel other protons. And electrons are negatively charged and repel other electrons. The nominal characteristic of a field condition would be the sustained and coherent distribution of force measured over a localized area of space, and over time. And an aggregate of any one of these three particles would therefore disperse

through space as a result of their known charges and patterns of movement as none of them would be able to generate a coherent field condition.

However, a field that is structured from magnetic dipoles may indeed be able to cohere as lines of force as they would be guided by a magnetic attraction. But that field coherence would only be sustainable if the assembly of those lines were managed with a perfect distribution of charge. This requirement for stringent standards of perfect symmetry is an unequivocal condition to the construction of a field. Else variations to its symmetry would initiate instabilities that would be unsustainable and lead to the field's ultimate collapse.

Donovan Martin discovered a balanced assembly of dipoles from an initial looped string of six spherical dipoles each with an identical radius, and each attached to the next, with their opposing charges arranged, negative to positive. Then a second string fits perfectly around that first string with the addition of six more identical spheres and so on. All that is required to perpetuate that balanced charge distribution, as the field aggregates, is the addition of six more identical spheres to each new string. Then each string is positioned in an expanding structure of concentric circles, hereafter referred to as M+6, (Fig. 3).

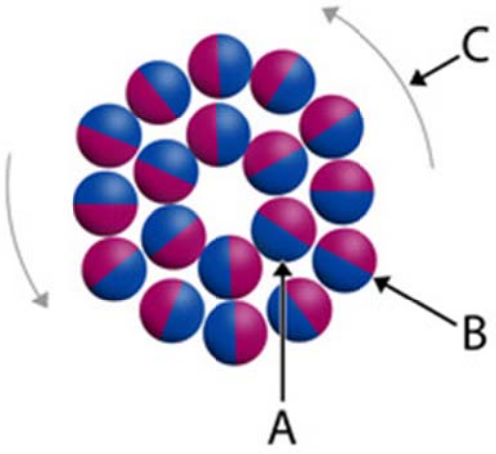


**FIGURE 3**
***THE ASSEMBLY OF THE FIRST TWO STRINGS OF DIPOLES IN A TWO-DIMENSIONAL FIELD***

- ***a) String of 6 at the centre of a magnetic field***
- ***b) String of 12 assembling in line with M+6***
- ***c) Arrows showing justification of the field***

Effectively and over time a one-dimensional string of dipoles would then aggregate into a two-dimensional plate, a field structure that, theoretically, could be infinitely big. To generate a three-dimensional field, structured from a finite, two-dimensional plate would simply require the construction of many such plates positioned on either side of that first plate. For perfect balance each end of these field structures would move towards each other to ultimately resolve in the shape and form of a torus. (Fig. 4)

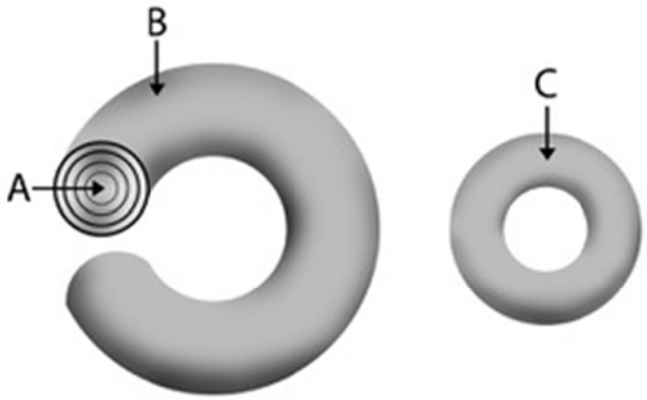


**FIGURE 4**
**A TORUS OF DIPOLES STRUCTURED FROM 2-DIMENSIONAL FIELDS**

- **a) 2 dimensional fields**
- **b) 2 dimensional fields stacked one on top of another**
- **c) 2–dimensional fields close in on each other to form a torus**

In a magnetic field, therefore, each string would be juxtaposed to at least one other string. As determined by the laws of charge, opposite charges attract while like charges repel. Each string would comprise dipoles, and because of the variation to the length of those juxtaposed strings in a 2-dimensional field, both attractive and repellent charges from proximate dipoles would remain partially exposed to each other. This nominal and momentary charge imbalance would induce a repositioning of the dipoles in each closed string. And, due to their attachment to each other in each string, the repositioning of all the dipoles in that string would then be an inevitable consequence.

The sum of these spatial adjustments of the dipoles in each closed string would result first in a partial and then in a complete orbit of one string. And through exposure of their charges to neighbouring strings, these changing positions would then each progressively influence all those closed strings in that two-dimensional plate. And these spins, in turn, would be expressed with a shared justification, as this would minimize the exposure between the dipoles' like charges in a field in line with the compulsions of the immutable imperative.

Within a toroidal, three-dimensional, magnetic field structure those same adjustments would then influence the two-dimensional plates on either side of that first field. Therefore, ultimately, all the strings of that three-dimensional torus would spin. And, while those spins would be with a shared justification, the field itself would retain a coherent string structure with an equal and balanced distribution of charge. In effect the culmination of the immutable imperative would be a coherent orbit of all the strings of that entire, toroidal, 3-dimensional magnetic field, thereby sustaining a balanced charge distribution.

This study proposes that dipoles are, indeed, the material structure of strings that resolve the shape and form of all magnetic fields and which can assemble in 1-, 2-, and 3-dimensions. And the invisibility of the field is proposed to be due to the orbit of its dipolar string material at a spin velocity that is greater than C.

The justification of each orbit would be coherent throughout each field and would effectively define a single charge, or justification, at each localized position of that field. This single charge would then also be counterbalanced by an opposing charge at the mirror opposite side of each of those orbiting fields. In effect the entire field would be balanced, comprising two opposite charges. But each part of that field would have a localized, single charge or justification. Such a vast, containing, universal, toroidal field structure may determine the scope of an ultimate finite magnetic field that holds all universal material. This concept, of fine magnetic strings that form the hidden structure of a universal toroidal field structure, approximates an earlier concept of ether that was assumed to fill all space.

The question then is, what would happen in the event that one or more of those toroidal universal strings broke? The break itself may result from an aberration in the field or it may be the consequence of a greater purpose. Whatever the cause of a singularity, one broken string would unravel adjacent strings, which in turn could compromise either some part, or all, of a two-dimensional field.

A magnetic field is proposed to comprise dipoles and dipoles, in turn, are proposed to be simplified magnets. Magnets cohere, one to another. Therefore if they tumbled out of that highly structured field condition of the ether, they would spill out into a localised area of space. Their assembly would then result in a chaotic distribution of their charges. And now, because they are relatively stationary in space, they would be able to reflect or perhaps even emit light. In line with correspondence principles the deduction is made that this spillage is the singularity that forms an early nebula. This would then result in the initial chaotic exposure of an underlying material structure, which previously was hidden inside the ether as a finely structured field and as a consequence of that field's orbital velocity, (Fig. 5).

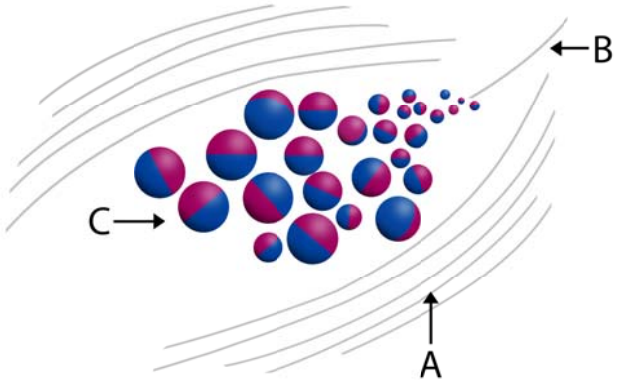


**FIGURE 5**
***A BROKEN STRING OF DIPOLES FORMING AN EARLY NEBULA***
***'MORE OF A CLATTER THAN A BANG'***
***a) Strings of dipoles – ZIPONS forming a universal toroid***

*b) A broken string chaotically spilling dipolar truants into a localized space*
*c) Chaotic truants forming a nebula*

It has been argued that the dipole in the spinning string structure of the universal torus moves at a velocity that equals, or even, exceeds light speed. It cannot therefore interact with light to become visible. This particle is termed a zipon. Conversely the dipole that has broken away from that stable string condition, which is now within the nebula, is in a relatively fixed position in space and it would therefore have the potential to reflect light. This particle is termed a truant. Both particles are dipoles. But an explicit ratio between them determines that the bigger the dipole the slower while the smaller the dipole the faster. Each dipole type would, thereby, express an inverse proportionality to the other.

If multiple toroidal strings, which structure that universal torus, were somehow chaotically and haphazardly interspersed with the dipole spillage from that broken string structure then the consequent localized charge imbalance might generate a cascading catastrophe of breaks in all those adjacent strings. This, in turn, would degrade the critical charge balance required to sustain the structure of that greater toroidal field, which would be reduced to chaos in short order. In terms of correspondence principles and because such a level of field disorder is not universally apparent it is proposed that those universal field strings bend around the spillage of dipoles and contain them as a nebula, rather like the seeds contained in an invisible seedpod.

As mentioned this constructive interaction would be generated by each dipole's response to the immutable imperative, which requires a satisfied charge balance with neighbouring dipoles. Effectively without this congruent impulse, compelled by that imperative, there would not even be the chaotic assembly of truants from dipoles to structure the early nebula. Rather they would have dispersed freely and arbitrarily throughout space.

And due to that imperative and with conditions allowing it, it is argued that the dipoles from the nebula would therefore systematically and over time, move towards other dipoles rather than remain in a rest position. This would result in an arbitrary re-assembly of their field conditions.

**CONCLUSION**

Correspondence principles may be adequate in developing the argument to support the concept of magnetic fields that are structured from dipoles. But Paper 1 only offers an apparent and superficial conformation in principle, which points to the concepts of a magnetic field construction from dipoles. It then argues their potential to re-assemble those fields from within the nebula.

Follows is Paper 2, which includes a broad introduction to the concept of particle composites from these same dipoles, and to their superficial correspondence to the known properties of stable particles.

***All illustrations done by Daniel Wright***