

# **A NEW MODEL OF REALITY**

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## **ABSTRACT**

In the hope of steering research along new pathways, this article proposes a new theoretical model that explains phenomena supported by the classical understanding of reality as well as those that seemingly violate it, including those that are labelled “paranormal” phenomena.

This new model draws upon four spatial dimensions instead of the usual three, plus a bidirectional temporal dimension (where the traditional arrow points towards the future, and another one towards the past). Furthermore, it suggests the presence of at least three “non-physical” levels of the human mind linked to three “bodies”, one of which is the Physical Body.

This model seeks to demonstrate that any phenomena – even those currently poorly understood – can be logically explained.

## THE FOURTH SPATIAL DIMENSION

Let us begin with a simple example: a one-dimensional reality along a straight line. A single point on this line can move forward and back until it encounters another point. It can then proceed only if the second point is free to do so and only until it meets another point. If a segment exists or is formed, the restricted points that comprise it can together move forward or backward until they meet another point.

This is of course an extremely limited reality. However, from an imaginary point outside this line we have a full view of this reality, and the farther we are from the line the clearer the view. Taken together, the outside point and the line form a plane, i.e. a two-dimensional reality.

Let us now consider a two-dimensional reality on a flat surface. A point on this surface can be anywhere and freely move about until it meets another point or object. If it encounters a segment or line, it must circumvent it to reach the other side.

In a three-dimensional reality it could leap over it, a possibility unavailable in a two-dimensional world, and it could, in a manner of speaking, “dematerialize” from one position on the plane and “re-materialize” in another, disappearing from its two-dimensional reality and then reappearing in it. Not only that, but if we leave the two-dimensional reality and enter a three-dimensional one, we are able to view the two-dimensional world in its totality. From a distance we can see everything; as we approach it we still see everything, but the farther areas become harder to discern, while the closer parts become clearer until we are able to see the smallest details.

But there is even more: if we assume there are many effectively transparent planes arranged in parallel, each one being a two-dimensional reality, and if we moved along the third axis, we could then see them all simultaneously. In fact we would be able to see an infinite number of them all at the same time.

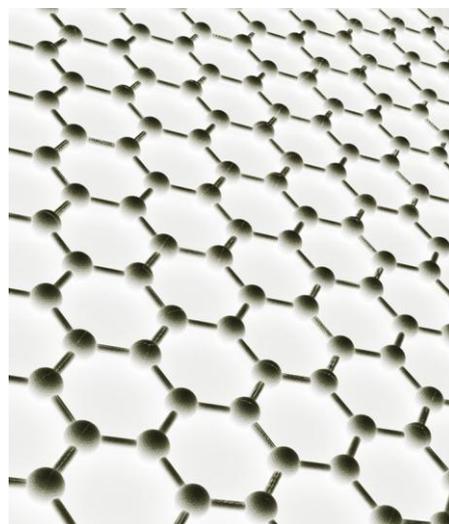
Approaching one of these planes from a perpendicular line, we would be able to see all

of it, but could see better still the closer we get to it. The other realities (planes) would remain visible, but the details would be less clear.

In fact, although the two-dimensional realities we are looking at are indeed occurring on planes, these planes are immaterial and form an invisible fabric that holds together these realities.

To illustrate with a real example let us look at graphene (Fig. 1), an excellent example of two-dimensional reality, since it is formed from single layers of carbon atoms arranged as hexagons that completely cover the plane like a beehive. We will disregard its thickness, which is that of a single carbon atom.

Its structure is a network of chemical bonds connecting each atom to its neighbours, making it very strong while still leaving ample free space. It is also transparent – basically a system or fabric of bonds with a lot of free space and some regularly arranged matter (Fig. 1).



*Fig. 1*

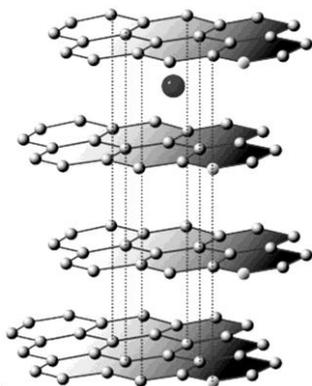
In this arrangement an electron can freely move about, making graphene an excellent conductor. If we were to horizontally extend a huge layer of graphene like an elastic rug, ignoring the tiny volume of the atoms, we would have a virtually ideal two-dimensional lattice capable of accommodating a two-dimensional universe.

In our three-dimensional reality we could, for example, place a second layer of graphene

about ten centimetres above the first layer, also hosting a two-dimensional universe, then a third layer, a fourth, a fifth, and so on (Fig. 2).

All of these universes would be independent of each other, like their invisible supports, and they could be infinite in number.

Looking from above (the position of the circle in Fig. 2) it is possible to see through many universe-layers and follow their respective activities.



*Fig. 2*

Moving on to four-dimensional space, a similar situation to the three-dimensional world appears: as we move along the fourth spatial axis, we may meet an infinite number of three-dimensional layers, each with its own universe, and if we continue to move, we could follow the activities of any one of them while simultaneously observing many others. Let us consider the three-dimensional reality we are all familiar with: we know all its characteristics and it seems completely normal. As far as we are concerned it is the only existing one, in which we see and feel things and people in our usual manner and we never consider the possible existence of a reality other than that based on the three mutually orthogonal classical Cartesian axes. But if we add another spatial dimension, and we consider a space with four mutually orthogonal axes instead of three, things change considerably.

Because it is not our normal world, it is extremely difficult to visualize four-dimensional space, although it can be analyzed and described mathematically. By this method we notice that as we move away from our usual three-dimensional reality by

travelling along the fourth axis, the situation is analogous to what happened when we added a third axis to the two-dimensional world – all of our three-dimensional reality is visible simultaneously from every angle, in a way as if it were seen not from a single point of view but from an entire spherical surface at once.

We can move closer to better examine something or move farther away for a better overall view, but everything in every direction is always visible – nothing is hidden. In the same way that a two-dimensional reality is completely visible from any external point, and moving up or down from this point allows for a better view, in a four-dimensional world we can move along a corresponding point external to the three dimensions and focus on particulars as we wish, while always maintaining an overall view.

As we continue to move further away along the fourth axis from a three-dimensional reality, it is possible to see an infinite number of others, some of which are close to it (such as offshoots of the same reality, like tree branches) and others very distant and independent of it (e.g. other universes). We therefore come across a situation that is more complex and articulated than our usual three-dimensional reality.

Given that in four-dimensional space all four axes have the same characteristics, any one of them can be the ‘fourth’ axis and they can be considered as being four sets of three axes forming different three-dimensional realities. If we call the four axes  $w$ ,  $x$ ,  $y$  and  $z$ , the possible triplet combinations become  $wxy$ ,  $xyz$ ,  $yzw$  and  $zwx$ .

It is worth noting that our three-dimensional ‘reality’  $xyz$  has two axes in common with the other triplets:  $wxy$  contains  $xy$ ,  $yzw$  contains  $yz$ , and  $zwx$  contains  $zx$ . This means that if one of these three-dimensional realities within four-dimensional space were sufficiently close to our  $xyz$  to intersect it, even partially, we would glimpse two-dimensional projections of that reality, somewhat like being at a cinema.

Certainly then with the addition of a fourth spatial dimension, it becomes possible to have

an infinite number of different realities and even an infinite number of universes.

### A FIRST LOOK AT THE FIFTH DIMENSION: THE BLOCK PLANE

Let us now return to our three-dimensional reality and suppose we have at our disposal an extremely high number of small square blocks of equal size and a huge rectangular plate with one very long side (labelled north-south, or N-S), and a shorter side (labelled east-west, or E-W). The blocks are then arranged in rows in a brick wall configuration covering the whole plate (Fig. 3).

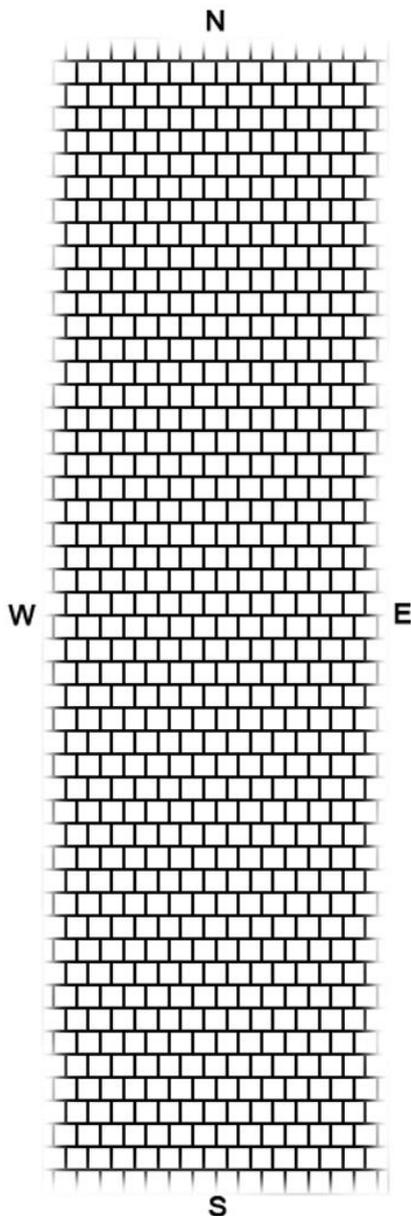


Fig. 3

Let us also suppose that we have a device that moves from south to north one row at a time and forces each block to choose a block from the following row. When each individual block is forced into a choice, it can only access the two above it. Consequently, each block has a limited choice and can only proceed in one of two directions: north-east or north-west (but always ultimately in a northerly direction). So after row  $n$ , there is  $n+1$ , then  $n+2$ , and so on.

### THE “CHOICE DEVICE”, THE “MOVIE”, AND TIME

Let's suppose that each block contains an image. Starting with one block/image, it's possible therefore to create a long movie by executing one choice after another. The stills would follow one another (Fig. 4) and we could state that each one represents a unit of time from the movie. We can then determine its duration by counting the images that constitute it (movie's length), while the succession of rows of blocks represents the passage of units of time relative to the whole rectangle (total time).

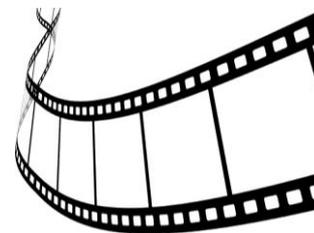


Fig. 4

Furthermore, let's suppose that as the choice device moves along, it automatically deletes all the images that are NOT chosen, only leaving behind those chosen; to its south remain all the movies effectively “shot”, and to the north lie all potential movies (Fig. 5 – the “choice device” is shown as a grey line).

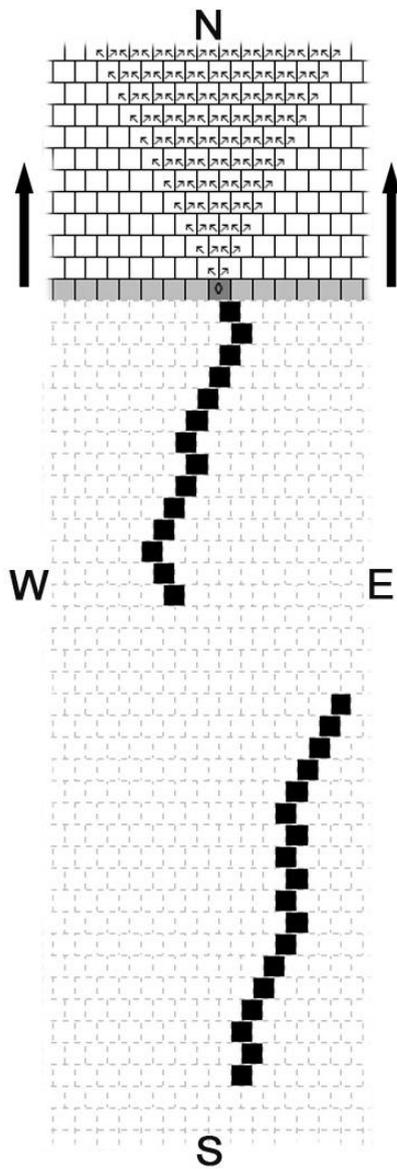


Fig. 5

The passing of time of the movie is represented by a numerical sequence of stills, each one being an image, or in other words, a choice. The numerical sequence of the succession of chosen images (the choices made) represents the total time passed. Evidently the perceived time/movie may also be very different compared with the overall time, because it's possible, for example, to have a sequence of identical images; in fact, time is perceived as a succession of variations (changes) and in the absence of these it appears to stand still. Since time is inherently represented as a succession of changes (of anything), we can distinguish between those changes associated with the continuous flow of forced choices – which we can call *objective time* – and the changes associated with what we can call

*perceived time*, which instead depends on what our senses are in some way able to read (no change = no passing of time perceived; many changes = much passing of time perceived. How many times have we heard or said something like: “We only saw each other last week but I’ve been so busy it seems like a month!”).

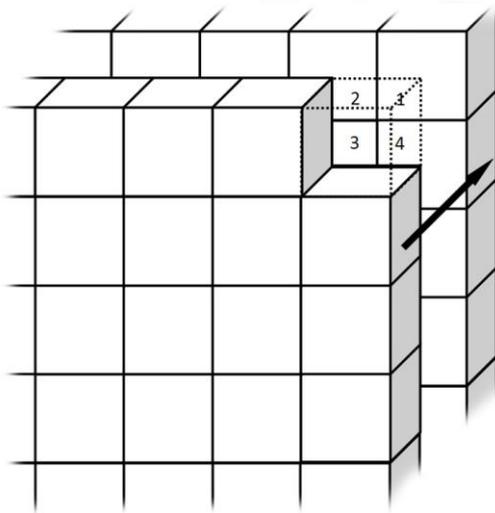
In either case, compelled choices produce the apparent fastest passage of time: this is *objective time*. In *perceived time*, the number of images equals the changes perceived, but each image could be the result of a long series of choices that have not produced any apparent change, thus the movie’s length would appear to be short (equal to the number of *different* stills). However, with respect to *objective time*, many choices would have transpired and therefore many stills. To someone watching in objective time, the *perceived* movie would appear in slow motion.

If we view the plane from above (the outside), the sequences of images which make up the “shot” movies would all be visible at the same time and we would be able to play back any one sequence and look at the constant flow of images in the order they were “shot”, or chosen.

## BASIC BLOCK MODEL

Extending the example to everything on the planet, the depiction of square images on a plane becomes infinitely large; we would have an incredibly large number of static images all present at the same time.

We could then imagine an extremely thick surface, its length equal to its width, thus constituting an extremely long parallelepiped made of square sections composed of a huge number of cubes in a staggered formation (Fig. 6), in which each block/cube now has twice as many possible choices as the previous example.



**Fig. 6**

From far enough away the entire parallelepiped can be seen, and it would be possible to approach at a certain point for a more detailed view of something (the more distant areas would be less visible), and to focus on a particular sequence of block/images to watch a particular ‘movie’. As we have seen however, the images are sequentially viewed in one direction only – that which is followed by the ‘choice device’, which acts simultaneously on all spatial dimensions.

We therefore have a parallelepiped with one “reading” direction only, but which is also static and can be travelled along in both directions (the two arrows of time) in order to choose a position from which to begin watching the ‘movie’ composed of a series of images.

Of course this example can be expanded to the whole universe in which we live, and we would obtain a universal recording of the choices made. But those choices are not solid objects and the example of the universal recording becomes ridiculously simple and even misleading with respect to reality.

### **LIMITED FREE WILL AND SIGNIFICANT BRANCHING**

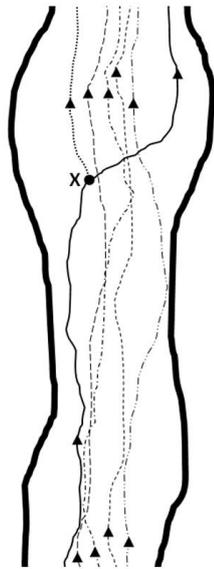
Let’s go further with a practical example and consider a very tangible case of three friends – we’ll call them Peter, Phillip and Paul – who are meeting for dinner after not having seen each other for a while. They enter the

restaurant and sit at a table; they order dinner and start chatting about their lives. It makes no difference whether Paul or Phillip speaks first nor if, while Peter talks, the others eat or drink or do some other insignificant thing; after the meal is over all three exit the restaurant together. The entry and exit from the restaurant represent two key moments between which the men’s respective life movies have a common sequence, irrespective of which one enters first: two junctions, the first one when three separate life movies converge, and the second when they separate again, such that each friend lives his life independently of the other two. It’s possible they could meet again at a future time.

Between those two points in time the three friends have limited free will. One could drink a glass of wine or go to the bathroom, scratch an ear, or choose one dessert over another, without any substantial change occurring. One could not, on the other hand, make a quick dash to China or at that particular time be with his sister at her house watching TV.

In a nutshell, they have a wide-ranging free will within a boundary of limited choices (Fig. 7). Nevertheless while Paul is speaking, Phillip follows his own train of thought (which is abstract, but has a concrete influence on his actions), and instead of eating the steak he ordered, could use his knife to kill Paul. Although an extremely improbable choice, it is still among the limited spectrum of choices available to his free will.

In this eventuality there would be a ‘branching’ (X in Fig 7), and the line representing Paul’s life would be interrupted while those of Peter and Phillip would diverge significantly: one goes home (after the police formalities) and the other to prison. The three would not emerge together from the restaurant and their three movies could never again have common scenes, primarily because one was interrupted. The situation would thus be completely different to what would otherwise have been easily predictable.



**Fig. 7**

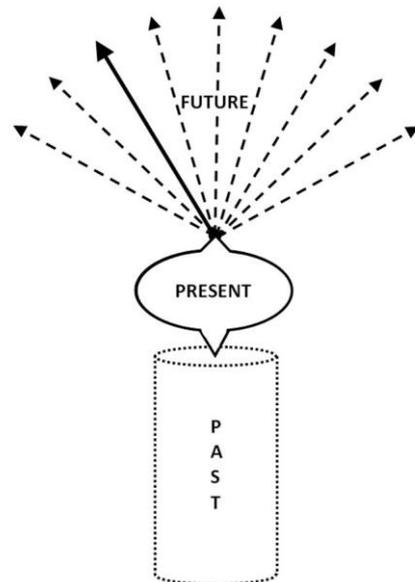
The two thick lines represent the impassable boundaries of free will. The smaller dotted lines illustrate some of the possible behaviours. The continuous thin line is the actual behaviour adopted and X is a branching off point where the 'normal' behaviour of the dotted lines diverges due to an unpredictable choice, creating a branch.

### ABSTRACT MOTIVATIONS AND STATISTICAL PREDICTIONS OF THE FUTURE

The previous example illustrates not only an abstract thought affecting tangible behaviour, but also a series of already completed concrete acts (shot movie) and a choice of future acts not limited to the many unimportant variations, which can also create a virtually unpredictable divergence. This creates a lot of difficulty when trying to predict an individual's future, because it depends substantially on highly improbable acts. Although relatively easy to predict the future of a population of millions because of the statistically most likely outcome, this statistical probability loses its importance when dealing with an individual because the bulk of influence comes from his/her choices, which can be irrational or, at least, not easily predictable.

We can affirm that it is the *present* (the aforementioned 'choice device') that separates the combination of actual lives lived

(the *past*/shot movies) from the set of *potential* lives, also called the *future* (Fig 8). The *present* is composed of tangible circumstances imposed by completely intangible choices and if these choices are unknown, it would be like watching movies with no soundtrack. The sound would seem to be 'abstract', but still influences tangible behaviours which can be seen and, because the soundtrack is inaudible, would be deemed incomprehensible.



**Fig. 8**

“Choice” here does not mean only what is dictated by a thought, or better yet, an *intention*<sup>1</sup>, but also what is dictated by physical laws, which cause rocks to erode or create waterfalls. These laws, like thoughts, are also abstract. The *past* is no longer *concrete* and the future does not yet exist: only the *present* is concrete<sup>2</sup>.

<sup>1</sup> In this article the term “Intention” has a different meaning to its traditional one. While I associate the term “Will” with an uncertainty about the result (eg: *I want to cross the street walking on a tight rope*). However, I feel doubtful and afraid of falling), “*intention*” is here associated with a certainty about a positive outcome – something like blind faith (e.g.: *I’ll get on my bike to go and buy the paper*. I know the newsagent is open and I have money, so there is no doubt; I have been doing it for years and do not even consider a different outcome).

<sup>2</sup> This reasoning dates back to at least the time of St Augustine (c. 5th century AD), and possibly earlier.

“Concrete” is defined in this context as possessing mass and energy, and neither the *past* nor the *future* have these properties: the *past* exists only as a recording, the *future* is only potentialities, and only the *present*, as fleeting as it is, is active and real.

If we look at a photo of ourselves taken some years back, we understand that it represents a body from the past that no longer exists; apart from noticing fewer wrinkles and marks, or a different hairstyle, we know that since then all our cells have undergone significant changes. It makes us aware of the fact that the body we inhabit and that appears relatively stable is, in reality, very temporary and continually changing as the *present* moves towards the *future* and becomes the *past*.

### PAST, PRESENT, AND FUTURE

What we call the ‘passage of time’ manifests as the *present* composed of a real and tangible universe, which leaves behind it a trail of *past* (actualized) states or situations, and has before it infinite possibilities from which to choose, all of which are *abstract* and still non-existent. This resembles a travelling tsunami leaving a trail of physical consequences behind it while its future consequences remain unknown. Its behaviour can only be broadly predicted, and it remains impossible to know beforehand the fate of each person along its path, as this heavily depends on their choices, which in turn depend on their free will.

Thus the only tangible thing is the *present*, which is conditioned by the past, but past and future are not concrete: there is only a record of the *past*. Just like the tsunami, the present is a front of energy/mass which advances towards a *virtual future*, leaving in its wake only a *record* of what occurred.

The fossilized bones of a T Rex that we find at a dig site are *not* the *past*, they are the *consequences of the past* that remain in the present. The *real past* is the battle to the death between that T Rex and the Triceratops, which, millions of years ago, won the battle instead of itself being killed and eaten. If we could access at least the *visual recording of*

*the past*, we could watch that battle as if at the cinema.

### THE PRESENT AND THE COLLAPSE OF THE WAVE FUNCTION

The collapse of the wave function as described by Schrodinger’s equation<sup>3</sup> probably provides the key to a correct interpretation of the phenomenon. According to this theory, the collapse occurs in the *present*; the future probabilities, described abstractly by the wave function, materialize during that collapse and form the *present*. If this happens to a single elementary particle, its resulting behaviour (its collapse) would appear random (as is typical in the quantum world), but if there are many billions of them, their overall behaviour (the sum of all their collapses) would be in accordance with normal physical laws pertaining to objects in the normal (*macroscopic*) world<sup>4</sup>.

This kind of theory, however, poses the usual problem of influencing the collapse: if, in fact, a phenomenon exists potentially as a

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<sup>3</sup> Based on experimental evidence demonstrating that all elementary particles behave as waves, in 1926 Erwin Schrödinger published a partial linear differential equation with the “wave function” as an unknown, describing the evolution in time of a quantum system. According to the prevailing Copenhagen interpretation, the square of the wave function’s modulus denotes the probability that a particle will be found in a specific position, and the wave function collapses irreversibly after a subatomic particle’s property (e.g. position, spin, or velocity) is measured. We can describe it like this: an elementary particle is, with varying probabilities, present simultaneously in all its possible locations. As soon as its exact position is determined, the wave function collapses. The same goes for its velocity or spin, which are all possible values until their respective collapses at the moment they are measured.

<sup>4</sup> Consider this example: a stream of water that comes out of a tap can be looked at in two ways – discontinuously as single water molecules, or continuously as a flow of water. Individual water molecules are governed by the statistical laws of quantum physics, but if the number of molecules is huge, such as in water out of a tap, their behaviour (deterministically unpredictable as single entities) becomes predictable as a whole, and they are then subject to the laws of normal liquids.

wave function and only materializes when observed (measured), someone or something can influence one particular outcome out of all the potential outcomes of this wave function. It is possible that *intention* (conscious or unconscious) of one or more “local” observers plays a role in directing the outcome of the collapse, as shown in the earlier example where one dinner companion, instead of predictably cutting his steak, unpredictably uses the knife to kill his friend. Cutting the steak and killing the friend are both products of abstract thought that produces tangible consequences which then materialize as the *past*.

Abstract thought, such as *intention*, initiates choices that influence the collapse – either unseen or conspicuous – causing the *future* to transform into the *present*. However if the *present* is characterized by the collapse of the wave function, it must be remembered that there is an infinite number of wave functions and intention only acts upon some of them, while the rest are left to chance. They can act upon each other, but their materialization – according to quantum theory – will be determined by statistics.

### NON-LOCALITY AND ABSOLUTE UNIVERSAL TIME

This leads us to think that conditions of the collapses (and their relative observers) originate locally and are therefore subject to all relativistic limitations; nonetheless there is something called “quantum entanglement<sup>5</sup>”, a property connecting particles which have previously interacted and that gives this connection non-local properties, allowing –

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<sup>5</sup>QUANTUM ENTANGLEMENT: although quantum mechanics states that it is impossible to accurately predict the value of a particle’s measured property, it has been known for some time that if they have in some way interacted or originated simultaneously from a natural phenomenon (e.g. radioactive decay) such that their total quantum state remains unknown until one of them is measured, the two particles constitute an entangled pair. This means that whatever the observed value of one particle’s property, the other instantly assumes the opposite value regardless of the distance between them (non-local behaviour). It is now known with certainty that this also applies to groups of atoms and is thought to also be so for macro systems.

according to recent studies – instant information exchange regardless of the distance separating them (see: Aspelmeier et al, 2013; De Riedmatten et al 2005).

If everything in the universe had a common origin (either from the Big Bang or something else), then everything that exists in it – having interacted in the beginning – could then be connected via quantum entanglement and exchange of information in zero time would be possible.

We could imagine the existence of an observer, or group of observers (see later section HIGHER LEVELS OF COGNITION) able to observe the entire universe in real time, and who through quantum entanglement have all information at their disposal. By this means they can relay their intentions (which is also information) anywhere in the universe instantly, so that the whole universe is, in a certain sense, “synchronized”.

There are three main consequences of this:

- 1) The presence of an immaterial informational system with inherently non-local properties permeating the whole universe.
- 2) The existence of a “primary” intention that would enable, by establishing a series of *present* moments, all subsequent “secondary” choices, allowing individual local observers to express free will.
- 3) The existence of an *absolute universal time*: if information were universally non-local, relativity would be confined only to situations which do not allow infinite velocity, and that would imply the possible existence of a “universal time” and the verification of the simultaneity of events separated by vast distances.

But quantum entanglement is not necessarily the only non-local means of communication. Research conducted on altering the randomness of events produced by a random number generator based on the tunnel effect<sup>6</sup>

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<sup>6</sup> In classical mechanics an electron can never overcome a potential energy barrier which is greater than its own kinetic energy; despite this, a certain (statistically predictable) number of them do so, almost

(Tressoldi et al 2014) show that it is possible to mentally act on this generator from a distance with absolutely no physical connection to it. This urges us to investigate this something that acts ‘outside’ the body. This something is not photons though, because the REG (Random Event Generator) made by Psyleron is impenetrable to photons (having a built-in Faraday cage and magnetic shield) and can also be influenced, and we know that it reacts even when enclosed inside an additional Faraday cage. It most likely is something which generates or locally controls electrons, which in turn generate physical effects. Regardless, it is certain that *intention* is the cause, which is obviously capable of interacting with matter, affecting materialization of the *present*. Seeing as *intention* is purely information, it is not restricted by relativistic speed limits regarding mass and/or energy and this leads us to suspect that it behaves non-locally; it would therefore make an excellent substitute for quantum entanglement for the instantaneous transfer of information.

## VISUAL MEMORY OF THE PAST

A traditional movie is composed of a series of two-dimensional images over time, but it is possible to also record a series of 3D images, such as on a DVD or other medium. The events would be stored in terms of position, colour, and voxels (3D pixels) luminosity. The recording would be restricted to characteristics of spatial surfaces and their evolution in time, and if during the recording a surface emitted, for example, yellow light, its representation would require an energy source (in this case a light projector able to supply the requisite energy via appropriate devices) as per the recording, such that our eyes see that surface as yellow like the original.

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as if it were perforated (hence the term ‘tunnel effect’). This can be explained by Schrödinger’s equation which on either side of the potential barrier never equals zero, therefore the square of its modulus (i.e., the probability of finding the particle in a specific position) confirms the presence of electrons outside the barrier.

We therefore see that position in space and time, and visual surface characteristics are the bare minimum for a visual recording of past events as a 3D movie. The PAST, however, poses an important problem: a medium for storing memory. Although we cannot say exactly what it consists of, we do know that the medium can be of any type since it only needs to hold data (i.e., information) and not matter/energy. Consequently anything that can store data, even possibly immaterial, can serve as a medium for memory storage. This task could be carried out by the space-time fabric itself, since as well as being able to support reality, it is such that each voxel’s address is unique.

If we assume that space and time are quantized, we can then envision memory cells, each of which contains information relative to a minimum portion of four-dimensional space (Quantum of Space) and an extremely short instant of time, also a minimum (Quantum of Time). Each memory cell would be distinctly referred to by five co-ordinates, relating to the spatial position in four dimensions and that of time (fifth dimension).

The memory cell could then contain all the information our senses can detect; for example, visual and audio data (which are physical) would suffice for us to see, as in a four-dimensional ‘movie’ with sound, what happened in the past<sup>7</sup>.

This should be technically possible because it deals with reference points and data that can be described mathematically and are familiar;

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<sup>7</sup> This is something reminiscent of Father Ernetti’s legendary “Time Machine” – a much talked about device which has become an urban legend, even though its existence has never been proven. It was allegedly designed to reproduce images and sounds of the past, allowing one to choose an event to watch, and in 1972 came to the attention of the public with an interview in which the Benedictine monk Father Pellegrino Ernetti (1925-1994) stated that he had built one in the 1940s, assisted by Father Agostino Gemelli and even Enrico Fermi and Wernher von Braun. He said he had used it to look and listen to significant historical events. It is rumoured that the only existing sample is secretly stored in the Vatican.

we only need the technology to make it accessible.

## READING THE PAST

We have heretofore considered a five-dimensional reality composed of four spatial dimensions (inherently two-directional) and a fifth one of time, also two-directional and therefore, once we have identified the nature of its memory storage, we have easily identifiable properties and co-ordinates that seem theoretically technically accessible. At least a spatial-time-energy/matter recording of events should be viewable via devices that are physically feasible, thus allowing us to see and hear what occurred even millennia ago like watching a holographic movie.

The concept itself of an accessible recording (forward and back) of a numerical series of events entails the existence of two-directional time, while the ‘collapse of the wave function’ implies that something intangible becomes tangible, and not vice versa.

A succession of ‘collapses’ – meaning causes become effects – indicates therefore an arrow of time that converts the virtual (*future*) initially into the real (*present*) and then into a recording (*past*). For that matter, a recording is only worthwhile if it can be accessed and so has to allow motion forward and backward in time. However, from the moment it is accessed, the arrow of time (that which converts cause into effect) becomes uni-directional. It is exactly what happens when we search for, and then start to watch, a particular scene in a movie on a DVD.

To summarize: THE TWO-DIRECTIONAL ARROW OF TIME FOR THE SEARCH BECOMES ONE-DIRECTIONAL UPON ACCESS.

## BEYOND VISUAL STORAGE

Nevertheless we cannot just look at one particular case; indeed the *present* must at first produce a recording of the characteristics of the energy/mass combination, as well as everything that justifies the choices destined to become the *past*. It is therefore necessary to

record not only all the choices made, but all the results of these choices, including anything (even if immaterial) that was occurring at that moment and influenced the choices. A recording of the *past* must contain everything that could in some way be linked to the concrete materialization of the *present*, to wit, its energy/matter content and the non-matter conditions that steered the choices (i.e., the collapses of the wave functions).

Henceforth the acronym STEM (Space-Time-Energy/Mass) will be used to denote the fundamental informational combination SPACE-TIME-ENERGY/MATTER.

Each STEM belonging to a section of the *past* is characterized by the following:

- The STEM’s spatial location in four dimensions.
- The STEM’s position in time (fifth dimension).
- The energy/matter content of the *present* and conditions that determined the choices – the “story” of the reasons associated with the STEM.

Moving beyond the earlier very limited example of the cubes, we can think of the *past* as a very long snake, a sort of cylinder with a huge diameter (equal to the particular reality we are concerned with) containing all the recorded STEMs. One end of the cylinder is the active part – the *present* – which appears as a thin *slice* (the collapsing section), advancing as it swallows the *future*, which expands ahead of the cylinder to encompass all the potential choices.

The number of STEMs in a ‘slice’, or section, of the recorded space-time-energy/matter cylinder is greater the larger the space we focus upon; the number of slices (sections) however is greater the longer the recording through time. Their combination forms a complete recording of a “story” and of the section’s space-time-energy/mass properties.

## JOURNEY THROUGH TIME AND MULTIPLE REALITIES

The STEMs, also containing a recording of the immaterial reasons for the ‘choices’ and their relative wave function collapses, are in practice able to supply everything necessary

for a real “journey through time”, with the resulting creation of a new branch.

According to the authors of “Open Quantum Relativity”<sup>8</sup> (Basini & Capozziello 2005), it is theoretically possible to implement a true journey in time, for example transferring a person into one of the aforementioned “slices”, provided that conditions inhibit the Law of Conservation unless there proves to be a ‘hole’ in space-time<sup>9</sup>. For all we know there could be a simpler way, but we are a long way yet from its discovery.

In this way it would be possible to relive the past in terms of information, as well as intervene in it, creating a new branch through different choices compared to what was previously recorded – a new parallel branch – and such that from that point on, there are two different recorded space-time-energy/matter cylinders<sup>10</sup>.

<sup>8</sup> Founded on the laws of conservation, Open Quantum Relativity (Basini & Capozziello) mathematically describes a reality based on four spatial dimensions and one of time, in which the latter has two arrows – forward and back – instead of only one going forward. Furthermore this theory unifies Einstein’s Relativity with Quantum Relativity and predicts the possibility of physical time travel.

<sup>9</sup> According to Open Quantum Relativity, which is based on the Law of Conservation, it is only possible to travel in time under conditions which inhibit this law. The theory does not explain how it can be achieved, only that it is possible.

<sup>10</sup> Anyone travelling to the past would disappear from the present reality and that reality would continue to exist without him; he would subsequently appear in a previous reality, for example, before his grandmother’s marriage, and he could then court and later marry her, thus starting a new line of descent totally different from the one he came from. In that reality he could never be his own grandfather, simply because he himself cannot be his grandson. The two realities would co-exist and represent different branches. It could be possible to apply this to a population which has dwindled to a small number of people virtually to the point of extinction, either due to war or some other disaster where the environment has become inhospitable; with the knowledge of time travel, someone could be sent back to a previous historical time before the catastrophe to steer events in another direction. As we have seen, the sudden appearance of a person from another historical context would cause the formation of a new branch. Let’s suppose that in this new branch (the original one continues, catastrophe included) the

If in fact, as alluded to previously, the *present* creates a cylinder of the *past* that can no longer be changed, because even a ‘journey through time’ would give rise to a new divergent cylinder and would count as a new different *past* from that moment onwards, this means that there should exist an environment in which all possible branchings could co-exist independently.

To resolve this problem we need at least a fourth spatial dimension, as discussed from the start, and two arrows of time – the usual one pointing towards the future and another one pointing to the past – from which ensues a five-dimensional space-time (Fig 9).

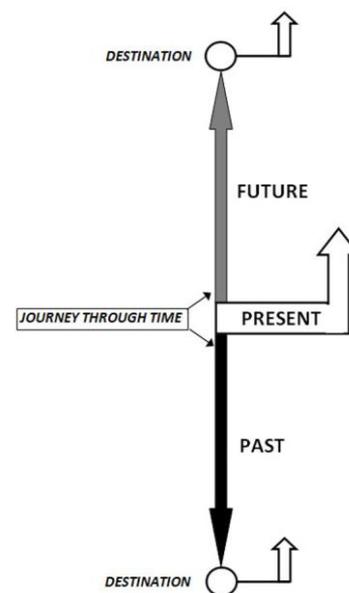


Fig. 9

## EXAMINATION OF NON-PHYSICAL CONDITIONS OF CHOICES

We have until now examined the space-time origin of STEMs and their content, describing and putting in context the functions of the basic micro-components of reality, but reality itself is extremely complex and expresses itself in a myriad of ways, both living and non-living, from sub-atomic particles to

devastation is avoided; it would then be necessary to allow enough time to pass until it is just after the time journey began (otherwise there would be two travellers of different ages), then by way of another short time journey, transfer the whole almost extinct population into the new modified and more hospitable reality.

galaxy clusters, including us. So then what exactly constitutes the *immaterial conditions of choices*?

In order to explain the organizational complexity of reality, we must factor in all the laws of nature, known and unknown, that are responsible for the arrangement of STEMs into rocks, trees, animals, humans, planets, and every part of macroscopic reality, giving each component its individual identity.

STEMs have to store it all, otherwise our bodies would not be able to evolve and continue to exist: a STEM at the instant a choice is made must contain all required information to enable our bodies to exist physically up to the moment the next choice is made. This requires the implementation of a vast collection of laws (abstract conditions) which must be strictly adhered to. Below is a highly simplified but useful example, cited from an article entitled MATERIALISM, SPIRITUALISM AND THE MIDDLE PATH (Pederzoli 2013):

*“I will begin by stating the prosaic fact that our civilization is now dependent upon computers, so much so that almost everyone owns at least a reasonably powerful one. Another obvious fact is that our civilization is based on mass communication, which itself would not exist without telecommunications by way of electro-magnetic waves. Given these premises, let’s suppose that in the near future our civilization completely dies out (not altogether impossible given humankind’s behaviour) and, after several thousand years, a new technological civilization arises that is unaware of the existence of EM waves. Let us also suppose that an archaeologist from this future civilization discovers in what seems to be a cave, but that long before was a high-tech laboratory, a perfectly preserved anthropomorphic robot with in-built computers to control it. Together with scientists from appropriate disciplines, a team is formed to learn as much as possible about the ancient population who built this “thing”. If these scientists have humanoid bodies, they would easily figure out that the ‘thing’ is a copy of a human form and a machine of some kind rather than a statue; they would also quickly figure out its basic functioning and be*

*able to build something mechanically and electronically similar.*

*After in-depth studies they would then figure out how both the sensors and the in-built computer work, and realize that they respond specifically to well-defined algorithms that govern the computer’s behaviour and therefore of the robot itself.*

*The scientists would deduce that they are dealing with a ‘servant’ robot that follows the orders of its algorithms generated as a response to its sensors, and behaves in pre-determined ways – basically a simple machine, something purely “materialistic”. However if they were aware of the existence of electromagnetic waves and their possible uses, those scientists would know that a small device on the robot, seemingly an unidentified sensor, is in reality a transceiver able to connect via EM waves to another device outside the robot itself for the purpose of data exchange.*

*By altering data representing the robot’s instructions, the connection device allows an external controller to command the robot at will, changing the information responsible for the algorithms and the algorithms themselves. We can say that the robot’s ‘overseer’ is the computer’s external operator and a “spiritualistic” conclusion of the matter would be satisfactory.*

*This example illustrates that in ignoring the connection with the external computer, we can accurately describe the machine but not understand its true function. On the other hand, in stating that the external operator is all-powerful, we ignore the fact that this operator, notwithstanding its capability, can do nothing without the machine to carry out its commands. Therefore, if we want to know everything about this robot, we need to consider both the machine and its external operator, including all the machine’s physical traits and all the operator’s psychic traits.”*

In order to understand our world and continue to exist in it, it is important to understand what STEMs are and how they work (how the robot is made), as well as what is ‘outside’ or ‘above’ it, without the limitations of three-dimensional reality and the little we know about it to date.

## THE FIRST LEVEL OF COGNITION

It is the STEMs' task to allow the world we know to physically exist in the *present*, and our bodies to have their own identities and autonomies. Using the robot example, they enable the hardware to exist (the concrete part of the robot and its on-board computers).

But computers also have a BIOS, the operating system that "teaches" them how to carry out their main tasks. A computer cannot function without it so it is extremely important: it is a kind of immaterial cognition reducible to storable algorithms.

Computers are equipped with what is simply called an OPERATING SYSTEM, which 'teaches' them how to use the software programs that perform calculations and solve all manner of predictable problems. In employing the OPERATING SYSTEM and programs, the robot can perform the task it has been designed for: it is another form of cognition (awareness), superior to the previous one, but also reducible to storable algorithms.

Lastly there is the REMOTE OPERATOR, who may be skilful at writing software and creative problem solving. The operator's decisions are completely immaterial, but able to resolve even unpredictable problems. His/her thoughts are abstract, seem to be of a different nature to the other two, and don't appear reducible to storable algorithms, but this may just be ignorance on our part, if only because it has been scarcely investigated. The operator has his/her own memory support.

A practical example of hardware and of three immaterial levels of cognition is represented by the robotic vehicles currently exploring the Martian surface; using their on-board programmed computers they can move by themselves and do what they are designed to do. However, if something untoward happens, someone from Earth will need to step in.

Like robots, we too have a physical body capable of autonomous survival, but does the body only have one level of cognition attached to it, or do we also have higher levels? In our three-dimensional world the BIOS is represented by the FIRST LEVEL OF COGNITION – what allows our bodies to

survive and move, ensuring a productive life. It has a physical memory support and, as non-tangible as it is, this level of awareness – although complicated – is potentially describable in algorithmic terms and bestows life and limited autonomy to the body.

## THE SECOND LEVEL OF COGNITION

The descriptions obtained from NDEs (Near Death Experiences) and OBEs (Out of Body Experiences) lead us to believe that the SECOND LEVEL OF COGNITION – itself also immaterial – falls under the domain of four-dimensional space. In that domain, it is possible to identify oneself with the Physical Body while looking at it from the outside, as it is also possible to see everything else in our three-dimensional world, from all directions simultaneously.

It is possible to move along the fourth spatial axis towards the Physical Body and eventually absorb it, or to move away from it: it is like having a Body with just the right amount of concreteness to enable it to interact with the Physical Body to control it and receive necessary information from it, a Body that also has a memory and its own conscious awareness. Given its characteristics, the most appropriate name for this four-dimensional Body seems to be Subtle Body.

When the (four-dimensional) Subtle Body absorbs the Physical (three-dimensional) one, they effectively become one with an individual identity.

However the four-dimensional body need only detach itself slightly from its three-dimensional counterpart (primary OBE state) to be able to pass through (almost without feeling) solid objects from the three-dimensional body's world which, under these circumstances, considers the other Body as "practically immaterial" because it is almost invisible and their mutual interaction is imperceptible. The Subtle Body can see the whole of the Physical Body's reality from the outside by moving along the fourth spatial axis and focusing on one aspect or another of three-dimensional reality.

In light of what was stated above we can presume that if, other than what we call the

Physical Body, we also possess a four-dimensional one, then this can combine with the three-dimensional body and become one with it. But, at least in theory, it would also be able to detach from it and join another three-dimensional body – that is, another Physical Body.

The various possible Physical Bodies would therefore be only parts of the four-dimensional body. This is similar to how the intestine, which has its own partial autonomy and consciousness, is a part of the body and its consciousness as a whole, which is superior to the intestine and can act upon it, but which can also act upon the cardiovascular system, which itself is also a part of the body and has its own partial autonomy and limited consciousness.

The four-dimensional body we are referring to here also exists concretely, like the three-dimensional one, in the same temporal position (or ‘slice’ of reality) – the *present* – and constructs the *past* through time like the three-dimensional body, continually making choices (via *intention*) from the options made available by the *future*.

As far as we currently know it appears that this level of cognition cannot be described in algorithmic terms. Nevertheless, if the **FIRST LEVEL OF COGNITION** is associated with the brain and its functions (which constant scientific research tries to reduce to algorithms), we can theorize – in the four-dimensional world – of an equivalent association of the cognition/consciousness typical of the Subtle Body with its thoughts, intentions and emotions.

Just as the **FIRST LEVEL OF COGNITION** is able to control the Physical Body, theoretically the Subtle Body, using its **SECOND LEVEL OF COGNITION**, also solely via *intention*, can control one or more Physical Bodies simultaneously through the **FIRST LEVEL OF COGNITION**. There have simply been no scientific investigations carried out on the non-physical connections between three- and four-dimensional entities. Also, as well as being more than one, Physical Bodies could even exist in separate universes.

A Physical Body’s death would not necessarily imply the simultaneous death of its associated Subtle Body, which can continue to exist to inhabit other Physical Bodies or, being dependent on time in that it is ethereal but concrete, therefore mortal, it can also survive for a long period of time without them.

The memory of an individual identity would typify the **SECOND LEVEL OF COGNITION**, which would have a Multiple Personal Identity with the potential ability to oversee multiple personalities while keeping the individual Physical Bodies (if they are present) and their relative life memories separate.

### **THE THIRD LEVEL OF COGNITION**

From results of hypnotic regressions we are led to consider the presence of a **THIRD LEVEL OF COGNITION**, itself also immaterial, situated in the five-dimensional space-time domain. Within this domain it is possible to freely move in three- and four-dimensional space as well as forward and backward along the time axis, thus seeing what happened along the way<sup>11</sup>. In each *past* cylinder there is a chronological order of events, represented by the series of sections forming the cylinder itself, and so it is possible to determine whether, when accessing this order, a particular life occurred before or after another.

The Multiple Personal Identity which through *intention* can potentially oversee several living Physical Bodies simultaneously would become, when the fifth-dimension is added, a Super Personal Identity (or Psychic Body), holder of the **THIRD LEVEL OF COGNITION**. It is able to ‘see’ and simultaneously administer all the Subtle Bodies (and associated Physical Bodies) it occupies at any one time, thus accumulating a vast amount of experiences, since it has the

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<sup>11</sup> This is an accurate description of what is perceived by the Psychic Body; it can move back and forth in time and does not need to pass through or around solid bodies because it has the ability to see every detail of the physical body’s three-dimensional reality.

ability to re-examine each and every memory from all of its Physical Bodies.

In order for a memory to be useful there are two requirements:

- An accessible recording of the events.
- Knowledge of the recording's existence.

In this case both these requirements are satisfied.

Once it becomes available, the memory offers the following possibilities:

- Its access allows events to be realistically examined as they occurred.
- Access also includes thoughts and emotions felt during an event.

STEMs provide an objective recording of events and their motivations, but the three Bodies must have their own memories through which their personal experiences are developed. Undoubtedly past lives can be re-examined individually; it is yet to be determined whether or not this is due to a specific limitation of the current life's personality.

It is also as yet undetermined whether or not the past life being examined belongs to a specific evolutionary sequence of lives (in a 'spiritual' sense). We are lead to think that only rarely does the Subtle Body simultaneously administer more than one Physical Body, and usually only has one; at the moment this is only a theory worthy of investigation. If it is in fact capable of administering several Physical Bodies at once, how would each of these lives fit into the overall scheme of lives governed by the Personal Super Identity represented by the Psychic Body?

If the Psychic Body (five-dimensional) encompasses the Subtle Body (four-dimensional) and the Physical Body (three-dimensional), each can consider itself as belonging to a single unit and together assume an individual identity even if they can be separated and are capable of functioning independently.

One theory that could explain the structured control mechanism is as follows: the **FIRST LEVEL OF COGNITION** acts with *intention* on the creation of reality through the Physical

Body; the **SECOND LEVEL OF COGNITION** acts with *intention* on both the **FIRST LEVEL OF COGNITION** and the Physical Body through the Subtle Body; the **THIRD LEVEL OF COGNITION** acts with *intention* on both the **SECOND LEVEL OF COGNITION** and the Subtle Body. If then the Psychic Body were able to issue a particularly strong and effective *intention*, it could probably directly affect the manifestation of reality.

Even if it seems certain that the connection between the Psychic Body and the Subtle Body exists (in fact, controlled OBEs under hypnosis have clearly shown that the Psychic Body is able to control the Subtle Body), it is difficult to assign a concrete property to the (ethereal) Psychic Body in that it is, in a sense, *outside* of time and the completed cylinders of the *past* and *present*, looking on as they expand and become future possibilities. Furthermore, given that the time axis is not uni-directional, the Psychic Body should not have a limited lifespan. Since the Psychic Body is an observer on the outside of time means that in each *present* moment, the *future* offers many possible paths that the Psychic Body can choose from and if need be it can 'transport' itself to the one of choice to simulate a specific future reality, although with no guarantee that this particular one will be the actual progression of events.

## HIGHER LEVELS OF COGNITION

Some faint clues given during hypnotically-induced OBEs lead us to theorize that psychic bodies come together to form small groups (probably more or less of the same evolutionary level) that share their experiences and that similar groups in turn get together to form larger groups with greater possibilities of sharing. If we define what these unions enhance as **AWARENESS**<sup>12</sup>, this increases as these groups raise their levels.

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<sup>12</sup> To be "aware", in its traditional sense, means "I have full knowledge and perception of a situation or fact", but in this context it means "I know that I know".

This is something like the “security clearances” necessary for access to certain levels generally used in the secret services. In this case, the clearance level could also be called the “awareness level”.

In having access not only to information about the objective recording of how events appeared, but also to information about all the Physical, Subtle, and Psychic Bodies, it would amount to enough knowledge to acquire TOTAL AWARENESS (consistent with the idea of a **Supreme Being**).

In fact, in the same way that from the fourth spatial dimension it is possible to control (in the sense of knowing it completely) a three-dimensional reality (to the point of controlling an infinite number of them), an increase in AWARENESS leads to total control of five-dimensional reality; that is, having a total view of all aspects of space-time, all non-physical causes, all effects, and of time.

This suffices for a brief outline of what we call “our broad reality”, but we only need to speculate about the existence of a sixth dimension to see that similar realities can multiply indefinitely.

## CONCLUSIONS

- Results from a number of controlled OBEs in an hypnotic state show that animals and plants also possess a type of Subtle Body, as do minerals, which appear to ‘share’ one, but it is still unclear if this one is associated to a specific type of mineral or all minerals in general.
- We can think of *intention* as being something potential hovering just ‘below’ the physical world and that influences it by controlling physical manifestations of wave function collapses – an *almost-physical* level.
- Basically the ‘choice device’ is a type of “Universal Observer” which is constantly watching (evaluating) and bringing about a series of choices (collapses of the wave function).

- If we define intelligence as being, at the least, the ability to process available information to generate logical arguments and behavioural models to make predictions, then it necessarily requires a processing system with an independent memory. It can produce *intentions*, but only when concrete information is supplied by the conversion of the *future* into the concrete *present*, and then into the *past*. This applies to all the Bodies (except the Physical which is made from the concrete *present*) as well as higher groupings: they all need the passage of time to acquire *experience*.

Experience, which is the basis of COGNITION, is based on remembering and re-examining past events, and it is obvious that if we aspire to COGNITION, it is not enough to look at only the events and their preceding thoughts, we also need access to emotions and their causes.

Gaining Experience, then, means acquiring new concepts and developing previously unknown methods of reasoning. It appears therefore that the Multiverse (all the universes examined to date) exists as a means of learning while never truly reaching COMPLETE COGNITION<sup>13</sup>.

Is there a Supreme Being forever learning?  
If so, we have something in common!

## EXAMPLES OF ‘PARANORMAL’ PROPERTIES THAT BECOME ‘NORMAL’ IN LIGHT OF THE PRESENTED MODEL OF REALITY

### NDE and OBE

Spontaneous or induced detachment (by self or other) of Subtle and Psychic Bodies from Physical Body. It appears that detachment of only one of these from the Physical Body is

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<sup>13</sup> Learning entails the concept of time because it necessitates a “before”, when the knowledge has not yet been acquired, and an “after”, once the knowledge has been acquired. However, faced with a never-ending stream of choices from infinite universes in perpetual evolution, learning continues indefinitely. We therefore have something which depends on time but is above it – an endless learning.

also possible and even detachment of the Subtle from the Psychic after ‘exiting’ from the Physical Body. In hypnotically-induced OBEs it is possible to ‘interview’ in real time the external Body/Bodies as it/they move about freely in four-dimensional space and time. When two people have an OBE simultaneously (possibly while asleep) it may become like a physical encounter and information exchanged freely.

### **Remote Viewing**

This appears to be a self-induced detachment of the Subtle Body from the Physical Body (the projection generally occurs in the *present*), followed by an exploration of the target and its subsequent description (things and actions with pictures and sounds) after re-joining the Physical Body. It is possible that the Psychic Body is also involved, especially if the viewing is not in the *present*. Remote viewing has some similarities to controlled OBEs under hypnosis, but real-time interviewing of the ‘traveller’ is not possible, therefore in post-viewing descriptions the traveller tends to remember only things of personal interest - something which is heavily conditioned by one’s cultural background.

### **Clairvoyance, clairaudience**

Very similar to remote viewing but limited to images and sounds only. Generally also limited to the Present.

### **Psychometry**

This seems to be a sort of self-induced OBE through concentration on an object, involving motion through space and time to enable a description of the events the object in question was privy to, all the while maintaining the ability to communicate with the questioner via repeated ‘exits’ and ‘re-entries’.

### **Scrying**

On the whole, equal to psychometry but here a crystal (for example the traditional sphere or a stone set in a ring) is used as a means to facilitate entry into an modified state of consciousness to enable one to ‘see’ the matter in question.

### **Future predictions**

However it is accomplished, it seems to be similar to scrying. There is a lack of certainty in future outcomes because each individual’s free will can unexpectedly change the course of events.

**Mind-Matter interactions** [*electronic voice phenomena; action at a distance (e.g. pranotherapeutic healing, reiki, theta healing, etc); automatic writing; materialization/dematerialization; levitation; telekinesis; poltergeists*]

In all these cases the influence of mind on matter appears due to a fairly strong *intention* (knowingly or not) of one or more persons acting on the transformation of *future* into *present*, which then quickly becomes *past*.

### **Telepathy**

Telepathy also appears to be linked to a person’s *intention* acting on another person’s mind (either when information is transmitted mind to mind, or mind-reading, or both simultaneously).

### **Invisibility**

Ability to influence via *intention* the mind of a potential observer such that the observer does not notice the other’s presence.

### **Thought-forms capable of physical actions**

Strong *intention* from one of the non-physical Bodies to turn *present* into (possibly distant) *future*. It is theorized that the Psychic Body is involved, it being able to freely move in time.

### **Visions of ‘presences’ (passive or autonomous)**

*Passive* presences, or those without behavioural autonomy (showing repetitive actions of limited duration, or are anatomically incorrect) seem to be the product of beliefs or emotional reactions – in other words, “created” by one or more person’s subconscious *intention*. *Active* presences, on the other hand, have similar characteristics to the Subtle Body and seem to be a consequence of interactions between our three-dimensional world and the four-dimensional one it belongs to (see next point).

### **Communication with the deceased**

If the Subtle Body can indeed survive much longer than the Physical Body, then in principle nothing would prohibit contact with it through the Subtle or Psychic Body of a living person in a modified state of consciousness.

### **Bilocation**

In the case where a person is seen “sleeping” in one place and appears at the same time in a different place, this can be attributed to an OBE during which the sleeper’s *intention* causes his Subtle Body to be seen as if it were the Physical Body.

Perhaps an exceptionally strong *intention* could explain the very rare cases in which a person’s Physical Body is seen present in two places simultaneously; we have an actual double of the Physical Body in another place, with the Subtle and Psychic Bodies controlling the two. This is a substantial effect of the mind-matter interaction.

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