

In Support of Zeno's Metaphysics by Nigel Glassborow Feb 2019

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What follows is an amalgamation of a number of individual posts and essays written over a number of years – so apologies for any repetition. The essays are an attempt to look to where the rationale of the Stoic metaphysics of old takes us when considered against a rationale that considers the input of knowledge from the modern sciences.

Existence

They [the Stoics] think that there are two general principles in the universe, the active and the passive. That the passive is matter, an existence without any distinctive quality. That the active is the reason which exists in the passive, that is to say, God. For that he, being eternal, and existing throughout all matter, makes everything. And Zeno, the Cittiaean, lays down this doctrine in his treatise on Essence, and so does Cleanthes in his essay on Atoms, Chrysippus in the first book of his Investigations in Natural Philosophy, towards the end, Archedemus in his work on Elements, and Posidonius in the second book of his treatise on Natural Philosophy. [The Lives and Opinions of Eminent Philosophers by Diogenes Laertius, Book VII, The Stoics, Life of Zeno LXXVIII Translated by R D Hicks]

And they say that the substance of all existing things is Primary Matter, as Chrysippus asserts in the first book of his physics; and Zeno says the same. Now matter is that from which anything whatsoever is produced. And it is called by a twofold appellation, essence and matter; the one relating to all things taken together, and the other to things in particular and separate. The one which relates to all things taken together, never becomes either greater or less; but the one relating to things in particular does become greater or less, as the case may be. [The Lives and Opinions of Eminent Philosophers by Diogenes Laertius, Book VII, The Stoics, Life of Zeno LXXVI Translated by R D Hicks]

Here we are looking at how Stoicism claims Existence is made manifest here and now. Not how it is supposed that it came into existence by some magician type god 'pulling it out of an empty hat' in a moment of 'creation' - but how it exists as a flow of change from one moment to another. And in this respect Zeno settled on a 'theory' that is not too dissimilar to ideas that can be arrived at by looking to disciplines such as quantum science and ideas that scientists are presenting us with today.

We are told [The New Scientist 2nd Feb 2019 page 28 'What is Life' by Paul Davies, professor of physics at Arizona State University] that scientists are recognising the equation:

$$\text{Life} = \text{Matter} + \text{Information}$$

Where 'information' is seen as a 'physical quality' that changes the nature of 'material' from inanimate to animate.

Taking into account the Laws of Nature, it is a small step to the equation:

$$\text{Existence} = \text{Matter} + \text{Information}$$

Or in Stoic terms:

The Cosmos = the Passive quality of Matter + the Active quality of Matter

Where *'the active is the reason which exists in the passive, that is to say, God.'*

Back in Zeno's time there was a debate between the Stoics and the Epicureans. The Epicureans effectively claimed that all of material existence was made out of 'atoms' that were seen as being the smallest possible building blocks of all that exists. They saw 'atoms' as being akin to individual 'balls' that bounced around randomly and just happened to produce the world we see about us. Their view was the same as some scientists in the twentieth century that claimed that the Universe as we experience it is just the result of *'an accidental blip of organisation in a sea of chaos.'*

Whereas the classic Stoicism of Zeno tells us that there is a stage beyond 'atoms' and 'the elements' and that at this level a 'prime matter' manifests everything from subatomic particles right up to the 'Universe' itself through the fact that there is a pan-universe 'God like' quality that animates the 'prime matter' – a quality without which Existence would be *'without any distinctive quality'*. Contrary to the Epicurean view, Stoicism claims that Existence is not a random state, but is 'governed' by reason and rationality (or even 'information') whereby the Universe holds together as a single whole.

Nowadays, science tells us that 'atoms' are in fact made up of yet smaller pieces of 'matter' called 'particles' and that these subatomic particles do not operate as 'a random sea of chaotic activity' but in fact their activity is in some way the result of 'probability' and that there are what are theorised as being 'fields' that permeate the whole of the Universe and that impart qualities/information to all of the individual particles. (This is of course an over simplification of what is a vastly complicated view.)

At the same time we are told that, in some scientific experiments, many of these physical 'particles' of matter do not always act as pieces of solid 'matter' but will at times act as if they are more like a 'wave' whereby the 'wave' will only show up as a 'particle' of 'solid matter' if it is 'observed'.

Taking into account other aspects of what modern sciences is telling us, the rational conclusion of such is that the totality of the 'matter' that is the Cosmos is in some manner self-observing.

While all of this new science (the last 100 years or so) is confusing for many of us, what comes out of it is that Stoicism was some 2000 years ahead of its time when it comes to understanding how Existence is manifested here and now, albeit that some of the ancillary Stoic theories of old need to be clarified in order to follow the advances in knowledge regards the physical world.

Now, in Zeno's days the Greeks saw the Universe as being no more than Planet Earth with the Sun, Moon and planets circling it within fairly close proximity. So it was reasonable to see all of this as being the manifestation of 'matter' imbued with some form of coordinating 'intelligence', akin to the properties often attributed to 'God', whereby the Universe is seen as the body of 'a single living creature' governed by 'one mind', so leading to the belief that the small Universe as envisaged by the ancient Greeks is to be seen as the 'body of the one God'.

Today's knowledge of the vastness of the Universe demands a restating of such ideas.

We hear talk of 'master programs' that coordinate imagined universes within computer programs and games. We talk of 'artificial intelligence' whereby computer programs operate in a manner that achieve something akin to what we would recognise as learning which leads to reasoned and rational output through the various interfaces with such Artificial Intelligence programs.

So it is clear that we are now able to recognise that there are non-human states that are capable of 'intelligently' manipulating and coordinating aspects of Existence. And if we can see such in animals and in machines etcetera, why not some form of 'master intelligence' that coordinates and manages the manifestation of the Universe as a whole?

The scientists are able to envisage a Universe wide 'field' that instantaneously imparts the quality of mass to various individual subatomic particles right across the whole of Space. (A process that is not limited by the speed of light). There is no reason to not consider that such a 'field' could be just a small part of an overarching system of coordination and enforcement of the laws of nature whereby the laws are applied and enforced in every corner of the Universe at every moment.

In fact, such 'laws' would not be 'laws' unless there is some property that permeates the whole Universe that ensures that the 'laws' are enacted as appropriate and wherever needed. Without some such 'master intelligence'/'impartor of information' there would be nothing but '*an existence without any distinctive quality*'.

Now, seeing such a 'master intelligence' as being 'the God' (that so many faiths see as being involved in guiding and showing an interest in the human race) may be seen as being a long stretch of the imagination. However, without a singular 'master intelligence' the Universe would not be able to form into the coordinated state that it is. The Universe would not be

knowable, for a Universe not governed by a 'master intelligence' would not provide any consistency from one moment to the next. Cause and effect at the most basic of levels could not be relied on.

Of course, while science and logic dictates that such a 'master intelligence' must exist, its full nature has to remain just speculation. But as science is showing, the 'master intelligence'/the purveyor of 'Information' must permeate the whole Universe and as such the Universe is the Cosmos in that 'Cosmos', by definition, is the Universe seen as 'a well ordered whole'.

Much of modern cosmology is based on what we can see of 'the visible universe' – so limiting us to the same vision of the extent of the Cosmos that the ancient Greeks were limited to, only today we can 'see' so much further with the aid of technology. But regardless, our science based knowledge is still limited to what is observable as our planet spins on its axis or as is visible from within the solar system in which our planet exists.

Our knowledge of the size of the Cosmos is at present limited by the speed of light and the vast expanse of Space. We 'see' a 'Universe', but it is clear that it is not rational to assume that the 'Universe' we 'see' reflects the extent of the Cosmos in which we exist. And as such, in that there are limits to what we can observe, we cannot set limits to the Cosmos or to the extent and the involvement of the 'master intelligence' that permeates it – namely God.

For all intents and purposes, from the human perspective, the Cosmos is infinite and eternal. At the same time our experience of its physical nature is the result of the 'master intelligence' manifesting all that is around us – very much as a 'master program' will manifest an 'existence' in which a computer game is played.

If the Cosmos as a whole was not made rational by the input of the 'master intelligence', way down in the scale of size, we humans would not be able to be the 'gamers' in 'the game of life' that we are. As said, without the 'master intelligence' there would just be *'an existence without any distinctive quality'* – and that means there would be no 'us'. From all that we now know, the fact that we exist within the Cosmos and that it holds together in a knowable manner whereby we are able to see out our 'three score years and ten', demonstrates that it is a rational Cosmos governed by a 'master intelligence' – or as originally viewed by the Stoics, the Cosmos is made manifest by

'the universal governor and organiser of all things' [The Lives and Opinions of Eminent Philosophers by Diogenes Laertius, Book VII, The Stoics, Life of Zeno LIII. Translated by R D Hicks]

And what else is this than that which is behind every World Faith – known to some by the appellation 'God' or 'the One God' – being that which is responsible for manifesting the Existence that we are part of.

Our Stoic view of God is not of a God being involved in some imagined 'point of creation' whereby the Universe suddenly came into being, but of a God that is the Cosmos and that is the very cause of the Cosmos appearing as it does.

God, the 'master intelligence', as perceived by Stoicism, manifests all that exists around us moment by moment and so is ever present. God did not light the blue touch paper and retire to a safe distance to watch the effects of some 'big bang' firework. God has been with us all along, and still is with us for we exist within the body of God.

This Stoic belief in the Cosmos as the body of God together with believing that the Cosmos is being manifested moment by moment by the 'master intelligence' that is God is key to developing and understanding the rationale of the whole Stoic framework.

Marcus Aurelius, the Stoic Roman Emperor, tells us:

'Cease not to think of the Universe as one living Being, possessed of... a single Soul; and how all things trace back to a single sentience; and how it does all things by a single impulse.' [IV. 40. 'The Communings with Himself of Marcus Aurelius Antoninus' Translated by C R Haines.]

This is the foundational faith of Stoicism:

The Cosmos is a singular living physical Being, that is imbued with a 'master intelligence' that is God and that is the *'the universal governor and organiser of all things'* and as such the Cosmos and everything within the Cosmos is the body of God. And reason therefore tells us that we are one with God – we are all the children of God – for we are manifested out of God's body. And this translates into ethics in that we then understand that as individuals we ought to live up to the standards incumbent on us as 'the children of God' and as 'citizens of the Cosmos'.

On the Nature of Existence

In order to understand the nature of the life we have been born into we need to have some idea as to how things work. And for this, the starting point is to have a concept that guides us to an understanding of the very nature of Existence. This may seem a bit over the top and an ask too much for someone who is just trying to get on with life as best they can. But in that all of the guidelines presented to us by Zeno relate back to the nature of the Cosmos, if we want to be Stoics, this is where we need to start in order to achieve any real understanding of what is the best we can each individually achieve regards living a Stoic life of harmony.

We need to look to the big picture if we are to understand how we are to best fit in with life as a whole. We need to understand how things work in order to be able to follow what Zeno

called 'the smooth flow of life'. And to do this we need a concept as to what that ultimate state of existence is, namely the Cosmos as a whole.

So here goes:

One of the basic principles in Stoicism is "Live in accord with Nature". What this means becomes apparent as one studies the whole of Stoicism. But starting with the largest aspect of the Cosmos, namely itself as a whole, we have Marcus Aurelius [Meditations, iv. 40] talking of its nature as follows:

"Constantly regard the universe as one living being, having one substance and one soul; and observe how all things have reference to one perception, the perception of this one living being; and how all things act with one movement; and how all things are the cooperating causes of all things that exist; observe too the continuous spinning of the thread and the structure of the web."

So what is the modern day Stoic to believe about this 'universe' that is "*one living being, having one substance and one soul*" in light of the advances in science, especially today's scientific cosmology and the subatomic and quantum sciences.

The ancients' view of the Cosmos was mostly based on the 'universe' being little bigger than this planet of ours with all the other 'lights' circling it in the sky – hence the Latin word 'universe', the root of which means 'one turn' or 'one cycle'. The 'universe' of the ancients was Planet Earth and the visible sky that revolved around it. (And yes, the Stoics understood that our planet is a sphere floating in space long before all the hoo-hah about the idea of a 'flat earth'.)

The ancient Greeks believed that all 'things' that exist are made up out of a mixture of the then recognised four elements of Earth, Water, Air and Fire, mixed in differing proportions according to the nature of what was being examined. These elements may be seen to represent what we would today call the states of solid, liquid, gaseous and energy - that is, they are the characters of material 'things' that we perceive through our senses.

The root of the word 'element' may be translated as 'first principle'. While modern ideas may make the idea of 'the four elements' as the building blocks of all 'things' look outdated, it is mainly because in science we now use the word 'element' to talk of different types of chemical atoms rather than as the character of the manifested state of anything. However, looked at as 'first principles' even the term chemical 'elements' may be seen as outmoded and we have to go beyond the atom to the subatomic world and the quantum world as the scientific community pushes back the boundaries and discover new 'first principles'.

Now the remarkable thing about Stoicism is that, despite the limitations of the ancient Greek world view, many of the Stoic conclusions about the nature of the Cosmos still hold, albeit on a larger scale than originally envisaged. So the question is, how does the ancient Stoic metaphysics stack up against modern scientific theories?

The Stoic approach is first and foremost a 'statistical' one. Looking to the wisdom of the ages (the musings of wise people across different eras, nations and cultures) the Stoic asks, what is the common ground (the 'common perceptions') to be found across the millennia? From east to west the issue of how the material world came to be as it is has been discussed in great depth. And there are two 'ideas' that come to light.

One. While everything in existence appears to have a 'birth' and a 'death', in actual fact there is a continuum whereby everything evolves or grows from what was already there. The various religions and wise people were right when they saw that there was a process of 'creation' as far as our planet is concerned. In fact cosmologists have been able to offer a very good explanation of the processes involved in the formation of stars and planets in that they are observing areas in deep space where gravity is taking vast clouds of 'space dust' and is giving birth to new stars in the same manner as our solar system was originally 'created'.

But none of this supports the idea of a planet, let alone the whole Universe, being created out of nothing. The wise recognise that 'God' is an engineer and is not a magician. If one comes across a creation theory that has a 'beginning' one is always left with the question, "What was there before that beginning?" The answer has to be that the totality of what exists is the same totality that has always been, only its form changes – a principle that Einstein confirmed.

So we may conclude that the Cosmos is eternal and it rejuvenates itself through its own self destruction – not through a 'big bang' or a 'Cosmos-wide conflagration' and then start all over again from scratch; but through the growth and death of the individualised parts within itself. While the material that makes up Planet Earth will have gone through many 'conflagrations', as was to some degree envisaged by the Stoics of old, we now know that the Cosmos does not need to be totally 'destroyed' and/or recreated in order to explain its existence. Scientists describe us individuals, Mother Earth and our whole solar system as being made out of 'star dust' that comes from previous stars and planets that have died – there is no knowing how many times this process of solar death and rebirth has happened. What the Stoics of old described as 'regular conflagrations' where our planet is totally destroyed can now be seen as our solar system being engulfed in flames when our sun eventually explodes – just as the scientists have told us is liable to be the outcome for Mother Earth.

And when it comes to the cycles of solar creations and destruction we are told that the creation of many of the chemical elements and subatomic particles can be attributed to the processes that happen within stars and the processes that occur during the death of the stars. So the idea that such elements were created as a result of the 'big bang' that supposedly created the whole Cosmos is unnecessary. By applying 'Occam's Razor' we can see that to explain what the scientists have discovered there is no need for any theory that suggests that the Cosmos has a beginning.

Some offer us a more cogent view of the science of existence, the rationale of which shows that at the larger scale of the Cosmos it is not necessary for the Cosmos to have an absolute beginning. It is more logical to accept that the Cosmos has always existed as an ever changing state of Existence. It is also logical to accept that while our solar system has a finite lifespan, that the part of the Cosmos that scientists perceive of as the 'observable expanding universe' may be eternal. At this scale of existence all we have are theories, theories about the creation and the end of the Universe.

While science still looks to theories predicting the death of the Universe, it is near to giving up on its early creation story, the 'Big Bang Theory', and is having to look to try to understand what existed before the 'expanding universe' started to expand. And the answer to this is to be found in the Stoic metaphysics and the second 'common perception'.

Two. The second 'idea' that comes to light is the principle that there has to be some form of 'consciousness' that 'causes' the whole of existence to be as it is – be it called the Divine Fire, God, the Tao, or whatever. Or as was written of the early Stoic view:

"That right reason that pervades everything, being the same with Jupiter [God], who is the regulator and chief manager of all existing things." - [Diogenes Laertius, The Stoics, the Life of Zeno 'Lives of Eminent Philosophers' Volume VII LIII – Translated by R D Hicks.]

Diogenes goes on to say of the Stoic metaphysics:

"There are two general principles in the universe, the active and the passive. That the passive is matter, an existence without any distinctive quality. That the active is the reason which exists in the passive, that is to say God. For that he being eternal, and existing throughout all matter, makes everything." [Volume VII LXVIII]

These two 'principles', the passive and the active, are described as being indivisible – they simply describe two qualities of the same Oneness. To the Stoic way of seeing things, matter and consciousness are two facets of the one state of being.

And science is moving towards the same conclusion where, in order to explain many aspects of science, but more especially that of the quantum world, scientists have to talk of 'consciousness' – or indeed 'The Consciousness' as some scientists call it.

From Sir James Jeans (1877 – 1946, an English physicist and astronomer) we have the following quotes:

"The stream of human knowledge is heading towards a non-mechanical reality. The universe begins to look more like a great thought than a great machine. Mind no longer appears to be an accidental intruder into the realm of matter. We are beginning to suspect that we ought rather to hail it as the creator and governor of this realm." — [His book The Mysterious Universe (1930), p. 137.]

He is also reported as saying

"I incline to the idealistic theory that consciousness is fundamental, and that the material universe is derivative from consciousness, not consciousness from the material universe... In general the universe seems to me to be nearer to a great thought than to a great machine. It may well be, it seems to me, that each individual consciousness ought to be compared to a brain-cell in a universal mind."

And

"What remains is in any case very different from the full-blooded matter and the forbidding materialism of the Victorian scientist. His objective and material universe is proved to consist of little more than constructs of our own minds. Mind and matter, if not proved to be of similar nature, are at least found to be ingredients of one single system."

And while Sir James clearly offers a less materialistic view than that of the ancient Stoic teachings, from professors Brian Cox and Jeff Forshaw [*The Quantum Universe: everything that can happen does happen.* 2011 Penguin Books] we have:

"Quantum Theory describes a world in which a particle really can be in several places at once and moves from one place to another by exploring the entire Universe simultaneously." [Page 2]

"The ball flying through the air 'knows' which path to choose because it actually, secretly, explores every possible path." [Page 53]

"When an electron in one of the atoms settles into a particular state it does so in the full 'knowledge' of the states of each of the other twenty three electrons, regardless of their distance away. And so every electron in the Universe knows about the state of every other electron. We need not stop there – protons and neutrons are fermions too, and so every proton knows about every other proton and every neutron knows about every other neutron. There is an intimacy between the particles that make up our Universe that extends across the entire Universe." [Page 139]

These two professors, in keeping with many others, find a need to talk of aspects of consciousness and purpose when trying to describe what they believe is going on – they talk of 'exploring', 'knowing', 'knowledge' and 'intimacy'. However, despite the rationale of their ideas leading us to a 'recognition' of some form of consciousness, their ideas are sometimes irrational for they are still trying to find 'solutions' at the smallest of levels. For an individual particle to 'know' what every other similar particle in the Universe is doing it would need a brain the size of the Universe. The last phrase above, *"an intimacy between the particles that make up our Universe that extends across the entire Universe"*, is closer to what is a rational conclusion.

Science is now having to talk of 'fields' that extend throughout the Universe that impart 'qualities' to particles and/or make particles "*pop in and out of existence*". There is but a small 'leap of faith' from acceptance that there is some form of unified Field of Consciousness that permeates the whole Cosmos and causes the Cosmos to manifest as it does, to that of the Stoic metaphysics.

Science is effectively looking at the Consciousness that causes each subatomic particle to 'pop into existence' from a state of non-existence – that is a sea of possibility – and that acts as a coordinating 'master program' that imparts what 'knowledge' each subatomic particle needs in order to exist and to coordinate with the rest of Universe. No longer does the particle need to 'explore' the whole Universe instantaneously at every moment in order to 'know' about the state of every other similar particle. It is instead reasonable, and certainly more rational, to assume that each particle is manifested by, and is part of, the overall Consciousness that permeates the Cosmos and which imparts to the particle all the 'Information' that it needs in order to exist as it does.

Science is looking ever further into the subatomic world to try to find the 'first principles' that make up the subatomic particles and forces etcetera while also looking outwards to see when the Universe was 'Created' in order to try to explain what they see. They are looking to discover how 'matter' is constructed and to try to understand the creation, history and evolution of our part of the Cosmos – the 'observable Universe' or the 'expanding Universe'.

They are examining and theorising about Existence as they find it through observation and experimentation. That is fine in order to try to advance knowledge, but it is sufficient for the Stoic way of life to simply know that science has not negated the Stoic view of the Cosmos as a conscious living singular state of being. It is sufficient, at present, to know that science appears to be moving towards confirming the Stoic take on matters rather than denying it.

As the prime principle to which all other Stoic principles and ideas are referenced back to, Stoicism tells us that every 'thing' within the Cosmos is an individualised aspect of the singular living conscious Cosmos. We as 'individuals' are part of "*this one living being*" - we are '*sparks of the singular sea of mind-matter that manifests the whole of existence*'.

We are manifested out of the body of the Cosmos and so we are one with the Cosmos. In Stoicism this may equally be stated as, "We are manifested out of the body of God and so we are one with God." As such we come to another of the Stoic principles - any harm we do to the whole we do to ourselves for we are one with the whole. This naturally leads on to another Stoic principle – as individuals, for our own sakes, we are guided to try to live in a manner that is as harmonious and in keeping with the nature of the life we have been born into as we are able.

And every other aspect of the search for the understanding as to how the art of living life is to be achieved is predicated on this one thought – the Cosmos is a living conscious state of being. The Cosmos is the body of God.

To repeat the words of Marcus Aurelius:

“Constantly regard the universe as one living being, having one substance and one soul; and observe how all things have reference to one perception, the perception of this one living being; and how all things act with one movement; and how all things are the cooperating causes of all things that exist; observe too the continuous spinning of the thread and the structure of the web.”

The Manifestation of All That Is – a rationalisation

The Stoics *“think that there are two general principles in the universe, the active and the passive. That the passive is matter, an existence without any distinctive quality. That the active is the reason which exists in the passive.”* [Diogenes Laërtius, ‘The Lives and Opinions of Eminent Philosophers’: The Stoics, the Life of Zeno: Book VII : LXVIII.]

In accord with Zeno’s methodology, if we do not in the least have a framework of knowledge about the physical nature of Existence, and hence our place within it, how can we possibly know how to live life.

And one thing that Zeno was certain of is that the whole of Existence, together with everything that happens or exists within it, is physically real. But how is this physical state of existence manifested? The answer to this question helps to put the whole of life into context.

Zeno saw the four elements and the whole of physical existence as being manifested out of a finer ‘creative material’ that is both ‘solid’ and ‘conscious’ at the same time.

This turned out to be a remarkable insight.

Today, from an overview of much of the advances in knowledge, it may be seen that all that we experience is manifested as it is through the interplay of three ‘primary dimensions’ rather than four – and these three ‘primary dimensions’ are Space, Movement and Consciousness.

What are commonly called the ‘three dimensions’ are simply ‘secondary dimensions’ and are aspects and measurements of volume. It is also clear that volume, as we know it here on Planet Earth, is just one aspect of a complex multi layered interrelating system of measurement and location needed to fully identify a ‘three dimensional’ object in space.

In Zeno's time Planet Earth was seen as being stationary with the heavens circulating around it, so any given volume was effectively seen to occupy one place in space relative to the surface of the planet. However, we now know that volumes exist within volumes and volumes will also move within volumes. One can use the normal 'three dimensions' to describe a simple volume from a particular perspective, but if one tried to track that volume one would have to refer to many other levels of volume and movement.

Consider a box here on Earth – it is what we call 'three dimensional' and so it has a volume, but that volume is moving in space as the planet spins and so exists within the rotating volume that is the biosphere of the planet, and the planet and its biosphere as a single volume is moving within the volume that is the solar system, and so on. Eventually one arrives at the volume that is the 'visible Universe' as seen by scientists.

Even though scientists often do not 'recognise' a further level of volume because they have no way of identifying it, there has to be at least one other level of volume into which the 'expanding Universe' is expanding (assuming that it really is expanding) – especially if the scientists are right about the nature of the Universe as they see it. How many more levels of 'background' volume there are we will never know.

What we do know, is that volumes as we experience them are individualised aspects of Space.

The Cosmos is 'the whole and the all', seen as the ultimate system that contains and coordinates all other individualised systems. It has a base requirement of needing a property that allows individualities within it to have volume so that they can exist in relationship to each other. The Stoics of old talked of this property as 'extension'. This property is the 'primary dimension' Space. The dimension Space is a base requirement if the Cosmos is to manifest as it does.

Space manifests relativity.

Space is the stage on/in which the play of life is acted out. And it is no coincidence that the Stoics of old used the concept of a play being acted out on a stage as a metaphor for life itself.

The second base requirement for the manifestation of the Cosmos is Movement. We now know that every aspect of material existence is moving and interacting. The scientists have shown this from their study of cosmology on down to the study of the subatomic world - from the largest to the smallest, Movement is seen to be an inherent feature of everything that exists. It may even be said that Movement is what the ancient Stoics recognised as being 'the passive principle' in 'matter'.

Science tells us that, even in deepest space, at every point movement is to be found, including particles '*popping in and out of existence*'. At a point, scientific study sees

subatomic particles as little more than 'waves'. All sense of 'fixed stationary solidity' vanishing as one looks ever closer to the limits of our ability to observe the subatomic world. Even forces such as gravity may be seen as aspects of Movement.

But this primary dimension called Movement takes on an even wider meaning when talking of the nature of the Cosmos from Zeno's point of view, for it is 'the flow of change in the Experiential Moment'. It is this Movement that we experience as physical existence. No Movement, no Existence. Stillness does not exist anywhere in the Cosmos.

Movement is not just the physical movement of an object from one place to another. It is the very means whereby existence can be manifested within Space. The dimension Movement is the potential to manifest any given state of existence at any given point within Space as required.

The whole Cosmos only exists here and now, in the same moment that we as individuals are experiencing the 'here and now', and it is within this Experiential Moment that change happens. (It is to be noted that the word 'moment' that relates to what we see as 'time' has the same root meaning as the word 'movement'.) We are not talking about the 'history' of change and evolution that is our memory of what was and how it became what it is now, but rather the active flow of change as it is happening now. And 'active', 'change' and 'movement' are all different words for describing the same aspect of the state of being that is the Cosmos.

Movement is the 'mechanism' that enables the ongoing manifestation of existence within Space, together with all the individual states to be found within it.

The primary dimensions of Space and Movement are the means whereby there is a potential for the physical Cosmos, as we know it, to be manifested as it is - just as a television offers the potential for programs to be displayed. A television has a screen and the means to show action pictures, but none of the pictures would happen without the input of the signal from the broadcaster that takes the potential of the television to show pictures on to the actuality of the television showing the program.

And this is where the primary dimension Consciousness comes in. It is the third base requirement for the manifestation of Existence.

Science shows that there are laws of science and laws of nature – 'permanent' rational processes that enable things to be as they are. Science is also beginning to see that the very processes that happen at the subatomic level and the quantum level need the involvement of some form of 'Consciousness' in order to explain 'how things work'.

We are told that *"The ability to describe reality in the form of waves and 'probability' is at the heart of quantum mechanics."* And 'something' is needed to translate what is 'a sea of waves of probability' into the synchronised physical Universe that we experience.

We have moved on from our part of the Cosmos being seen by some scientists in the 20th century as *'an accidental blip of organisation in a sea of chaos'* to seeing that everything manifests as it does as a result of the input of 'Information'. And 'Information' suggests some form of organising system creating order.

Scientists have claimed such things as, *"for the Universe to exist there had to be an observer"* (their error being in the use of the past tense) and that *"every particle in the Universe has to be 'aware' of the state of every other similar particle in the Universe"*.

The only rational explanation for such ideas is the existence of some form of 'self-observing Consciousness' that imparts 'information' instantaneously to all parts of the Cosmos (instantaneously rather than at the speed of light). As the Stoics of old called it, *"the universal governor and manager of all things"*.

People who play games on computers would recognise it as akin to the master program that sets up the boundaries and the rules of the game that enables the game to be played. With the computer game, the 'master program' is that which enables the game to be manifested on the screen (Space) and is that which provides the means for the game to proceed (organised and purposeful Movement). The master program sets up and controls the progress of the game through various subprograms while allowing the gamer to play and affect the course of the game.

The master program controls much of the 'background' to the game (the laws of science and nature). The master program is that which causes the game to be as it is and to appear on the screen and as such the master program is not part of the game. However the master program, through its various subprograms, is involved in the progress of the game and so adapts the game to the input of the gamer and allows the gamer to influence the outcome of the game for good or for bad.

So also the primary dimension Consciousness is not strictly part of the play of life for it is the play of life. In a way, it is not part of Existence for it is that which enables Existence to be manifested as the rational coherent state that it is. However it is also to be found permeating the whole Cosmos ready to adapt the play of life to the input of the 'will' of the many 'conscious' individualisations within the Cosmos.

The primary dimensions of Space, Movement and Consciousness as described are a conceptual framework for understanding different aspects of the 'singular coordinating system' that manifests all that exists. It is through an understanding of the interconnectedness of all three of these 'primary dimensions' that we can have some visualisation/concept as to how the Cosmos is made to manifest as it does.

We cannot know exactly what the 'primary dimensions' of Space, Movement and Consciousness are or how they work, for that would require that we be able to see 'behind

the scenes' of Existence. We can be aware of how they impinge on Existence, but there will always be a limit beyond which science will not be able to go.

Over two thousand three hundred years ago Plato reported that Socrates said, *'The Universe has plenty of Limit, an equal amount of Unlimit, and also a potent Cause which brings order and arrangement'* and these ideas may be directly translated as the primary dimensions of Space, Movement and Consciousness. The dimension Space gives us the quality of 'Limit'. Movement, through the infinite possibilities it offers us, gives us the quality 'Unlimit'. And Consciousness, seen as God, offers us the 'potent Cause'.

And as stated, the Stoics of old talked of two indivisible principles that can be seen in the Cosmos - the passive principle as being matter without form, and the active principle as being the 'reason' that pervades all of existence so transforming the passive into the many aspects of the Cosmos that we know of around us – that is, Movement and Consciousness with Space being described as a sort of 'extension'.

In this respect, these thinkers were not considering how the Universe evolved to become what it is. They were instead looking to how the Universe is 'manifested' here and now.

Zeno and his Stoics arrived at their ideas based on their study of the 'common perceptions' of the day, drawing from all the philosophies they came across – the philosophies of Greece as well as the philosophies from East to West and from North to South - whereby they concluded that, for Existence to exist there has to be a 'oneness of purpose' and a 'principle' that ensures that the Cosmos exists in harmony with itself – a 'consciousness' that they described as *"the universal governor and manager of all things"*.

Despite all the destructive and creative forces that are to be found throughout the Cosmos, it still exists as a coordinated whole. So it is seen to be reasonable to see the Cosmos as a single entity that is manifested by a single coordinating Consciousness.

Science has an issue regards the nature of 'consciousness' and how it can have evolved out of a supposed strictly physical unconscious mechanical happening that their cosmic picture has painted in the past. For Stoicism there is no such issue, for 'Consciousness' is an intrinsic aspect of the physical Existence and as such it did not need to 'evolve' out of anything for it has always been there as an aspect of the very nature of Existence as a whole.

Consciousness offers a counterbalance to entropy.

Science is gradually coming to the same conclusions and is developing ideas about the interconnectedness of all aspects of the Cosmos even down to the instantaneous coordination of subatomic particles – no matter how far apart they are. In order to arrive at a complete understanding of the nature of the Cosmos and how it is manifested, through their theorising about such things as the 'Higgs Field', science is demonstrating the need for

some form of “*universal governor and manager of all things*” that permeates the whole Cosmos and that coordinates matters instantaneously throughout every corner of the Universe.

And recognising this interconnectedness of all that exists through ‘*the single conscious state that permeates the whole Cosmos*’ colours how the Stoic starts to view all around them and how at many levels such knowledge will impinge on their view of their place in Existence – for, at a personal level, the group of particles that manifest as our individual physical bodies contains a ‘spark’ of the Consciousness of the whole Cosmos – ‘*God is within us*’.

At the very least, through the particles that form our bodies, we are inextricably one with the whole Cosmos. Albeit at what may be seen as an insignificant level compared with the vastness of the Cosmos as we now know it, it is to be seen that we do have an effect on the state of the Cosmos in our neck of the woods - for we and it are one.

Just look at our effect as a species on the balances within the biosphere that is our mother planet. What we do in our individual lives needs to be considered against what we do as part of the human race and the effect of our species on the Whole.

An Alternate History of Time and the Experiential Moment

From a collection of writings regards the Stoic view on time we have:

SVF II 571

Time is the interval of the world’s motion and movement

SVF II 514

Most of the Stoics assert that motion itself is the essence of time.

SVF II 518

Chrysippus says that ‘past and future time are non-existent, but have subsisted (or will subsist); only present time exists.’

An understanding of the nature of ‘time’ is fundamental to understanding our relationship to the whole of Existence.

In order to carry out their observations and calculations scientists have a need to view ‘time’ in a particular way. Unfortunately this can lead to theorising that goes down blind alleys in that many people talk as if ‘time’ actually exists as a physical state and, together with many science fiction writers, believe that we are ‘travelling through time’ in a similar manner to how we travel through ‘space’. In fact they go so far as to combine ‘space’ and ‘time’ into a single theoretical state of ‘space-time’.

However, as claimed by the Stoics of old, ‘time’ of itself does not exist.

In many respects, 'time' is nothing more than a system of measurement and as such it is not that which it measures.

'Time' is a means of mentally ordering and physically measuring our experience of Existence as a flow of change. 'Time' is the means to understand this flow of change and to be able to use experience of the flow of change to have some idea as to what to expect from the ongoing flow of change that is Existence.

So we have 'time' as our experience of the flow of change that is a core aspect of the nature of existence – a means of mentally ordering events, etcetera. And we have what now may be described as 'clock time' whereby we measure the relationship between past states of existence, the present state of existence and possible future states of existence whereby we consider matters relative to a specific stage in the changing 'experiential moment' – more about the 'experiential moment' a little later.

'Clock time' for us originated as the human experience of the cycle of day and night, the changing of the seasons and the like.

We started to standardise such into measurement systems – most probably starting with crude sundials.

Once we had established a measurement for the length of a day by observing the movement of the sun in the sky we went on to observe the length of a year, lunar cycles and many other observations of regular cycles of natural events and over the years we have standardised these into weeks, months and years.

As we 'progressed' we found the need to be able to break the day down into measurable segments but there was an issue in that we could not measure 'the passing of time' very efficiently when we could not see the sun. At first this was done by crude timers such as where some substance was allowed to seep from a container whereby it would take from noon on one day to noon on the next day to empty the container or through burning a candle that was designed to burn for a day. Through such instruments it was possible to set markers on the measuring instrument that would indicate how much 'time had passed' – and so eventually we came to the concept of 'the hours of the day'.

With more progress, the concepts of minutes and seconds were developed so that we could measure 'the passing of time' ever more accurately – and in the end we came up with clocks and watches as measuring instruments. To the point whereby we now have fantastically accurate clocks that use regular repeating subatomic events as a standard for the measurement of a 'second of time'.

Scientists have now defined 'one second' as '*the period it takes for one caesium electron to oscillate exactly 9,192,631,770 times.*' And so, instead of taking the cycle of the sun as the

standard for measuring 'the passing of time', we take our new 'standardised second' and multiply it up to arrive at one minute, one hour, one day and one year etcetera.

OK, we have to make some adjustments to our now standard system of measurement in order to keep these super accurate clocks in line with what actually goes on in the real world – such as having to adjust the measurement of the passing of years by adding in a leap day (29th February) every four years. All of which confirms that, despite setting up a highly accurate measurement system through 'clock time', in fact our measuring systems do not accurately reflect reality as we experience it in everyday life.

And here we come to the difference between 'clock time' and 'the passing of time'.

Scientists and science fiction writers can theorise about 'travelling through time' – including traveling back in 'time' – but as 'time' does not exist except in our minds or as a measuring system, it is not possible to travel 'through' it.

Time is not a 'prime dimension'.

To understand the relevance of 'time' we need to understand what it is measuring.

As we are told in the Fragments quoted above, time is the experience of, or the measurement of change.

So to understand 'time' we need to understand the nature of change.

If one travels from A to B and back from B to A one does not arrive at the same 'place' as one started out from, let alone at the same 'time'. When one arrives back at A one certainly is not back at the same 'moment' that one left A. One is also 'somewhere else' for 'point A' has also been travelling through space as a result of change going on all around.

If one travels from Delhi to Mexico City and then returns to Delhi one has not returned to exactly the same place in space as one set out from for the World has moved round its axis and the World has moved in relation to its orbit around the Sun and so on. So many processes of change whereby, in truth, Delhi is constantly moving in space albeit that in relation to its place on the surface of the planet Delhi is apparently to be found only in one place. Also, by the very nature of the constant change that has gone on in Delhi, the Delhi one returns to is not exactly the same Delhi as it was when one left it. Babies have been born. People have died. Building projects have progressed. Other buildings have deteriorated.

So while Delhi has moved within space, it has also undergone change and it is this overall flow of change that we casually talk of as 'time passing' when in fact we are talking about what is an active flow of change.

So, in relation to 'Past', 'Present' and 'Future' we do not travel from the Past, into the Present and on into the Future.

What is Past is past for it cannot be changed for there is no active process in the Past. And as such the Past no longer 'exists' other than as a 'memory'. The Past and Future do not exist other than as concepts to enable us to learn from experience and to forecast the probable state of events as they are liable to unfold.

All that we perceive as being 'the Future' is simply possibilities of what may happen as a result of the flow of change that is occurring now (in the Experiential Moment) combined with what may occur as a result of what is being consciously 'determined' in the Experiential Moment.

Some aspects of what we see as 'the Future' seem almost a certainty because of the mechanics of 'cause and effect' and the Laws of Nature. But it is to be remembered that scientific ideas about 'cause and effect' expressly exclude the intervention of any 'outside' action when trying to predict how a 'closed' mechanical system will progress. But as Consciousness permeates the Cosmos, no system is purely mechanical and so 'cause and effect' is not all powerful.

Simply because of the conscious actions of us humans, and other 'living' individuals, the Future is not fully 'preordained' – the idea that the Future is pre-determined is based on an assumed belief that the Cosmos is a mechanical system only. However all living conscious beings add to the unknowability of what is to be. And when it comes to the Consciousness that is an aspect of how the Cosmos is manifested, we can have no knowledge as to what influence this may have regards shaping the flow of change – the whole future is up for grabs. It is simply a matter of probability.

We are in fact all living in a state of change and change only happens in 'the here and now.' Only the Present moment exists in that Existence is manifested out of the active process of change and such change is the process of manifesting the Cosmos out of Movement and this only happens in 'the here and now' – the Experiential Moment. What we call the 'Present' or the 'now' is where Existence exists. It is where the Cosmos is made manifest.

The whole of the Cosmos exists and always has existed only in the Experiential Moment. Everything only exists in 'the Now'. We do not move along in a flow of time. We stay in the one Experiential Moment and experience the flow of change around us and within us as it happens.

Once change occurs because of the flow of change, the state of the Cosmos as it was ceases to be – all that exists from the 'Past' is a memory in the 'now'.

The fossilised dinosaur bones exist now, and through them we have a 'memory' of what they were probably like in an earlier state of the Experiential Moment when the dinosaur was alive.

As light from a distant star arrives here on Earth for some astronomer to view it, all they are viewing is the light here on Earth – they are not viewing the star as it is 'now' – they are viewing a 'memory' of a star as it existed years ago, the memory being kept alive by the light it emitted during an earlier state of the Experiential Moment. For all the astronomer knows, the star may no longer exist at this stage in the Experiential Moment. The light we see has travelled to here as a result of the flow of change and as such has always existed within the Experiential Moment, just the position of the light within Space has altered.

To say it again, existence is the active flow of change and there is no active flow of change in what we call 'the Past'. All that is to be experienced can only be experienced in the Now.

Such theoretical ideas as 'multiple time-lines' that suggest that every possibility actually happens so causing every possible 'Future' to happen are totally irrational – such is the makings of science fiction. Such are not rational nor are they reasonable beliefs.

There is only one Experiential Moment and it is here that the 'happening' that is Existence happens. There are no 'parallel Universes'. There is only one – and it is the Cosmos in which we exist.

What is 'Past' is fixed for it 'has happened' and so cannot be changed. We cannot change the Past.

What is seen as the 'Future', being a 'forecast of a possibility' or 'probability', can be changed. We can try, in the present moment, to move the flow of change in a different direction than it would normally go if left solely to the mechanics of 'cause and effect'. How successful our individual attempts to affect the flow of change, so as to bring into reality a hoped for future state of the Present, is a whole other question.

Within the Experiential Moment we are faced with what cannot be changed because, as a result of the flow of change, it is now the Past. What we are faced with is '*as good as it gets*'. All the wishing things could be other than what they are is fruitless. The 'immediate Past' is where the flow of change has brought us to. It is fixed for the active flow of change is moving on. But as the active flow of change moves on we are also faced with how we can influence the probability of a particular Future through understanding what can be changed in the Experiential Moment – how we can influence the 'flow of change' in the hope of leading to a better 'future' Present.

The 'Present' is not the sudden 'flat' interface between Past and Future – it is an event, or more correctly 'the constant ongoing event that is the Cosmos being made manifest'.

Some present scientific theories that have such things as subatomic particles traveling back in time are clearly based on incorrect visualisation as to what 'time' really is. By understanding 'time' as the flow of change within the Experiential Moment we can see that

Space/Time as used by many scientists ought more correctly be seen as Space/Change. Such would eliminate the false ideas as to anything being able to travel back in time.

We can only 'travel in time' by staying within the experiential moment and so experience 'the passing of time'.

So, as Zeno tells us, it becomes clear that what we do with the life we have been given is what counts. We can be the actor in the play of life that offers nothing more than to make up the numbers or we can learn to be the skilful actor whose life contributes to the betterment of the play overall, regardless of our role within the play.

Within limits, we are free to try to help determine how the flow of change will progress within our neck of the woods. As there are so many other factors determining the direction of the overall flow of change, what we try to determine may not always come to fruition. But if we do not at least try we will never be able to play our part in determining what happens next.

We can be 'puppets' or 'robots'. Or we can be 'skilful actors' or 'gamers' helping to develop the flow of the play of life.

At the same time, such an understanding of the nature of the Past, Present and Future will help us to be more accepting of what we cannot change and so more accepting of what is.