

Metacomputics Labs

Programming of Everything

Preface

This is a fairy tale.

It is written for those who are open to an alternative story to the ones they have been told so far about;

- The world we live in, such as creation, existence, reality, time, space, entity, fundamental building block of the universe, laws of nature;

and

- Ourselves, such as consciousness, mind, identity, language, experience, perception, thought, feeling, emotion, sensation and action.

Like all fairy tales, it is made up. As such no systematic attempts have been made to establish its truthfulness through rigorous reasoning or precise mathematical proof.

Nevertheless it offers a new perspective and illumination that potentially help some readers to navigate through their lives with elevated level of clarity, ease, control and joy.

Acknowledgement

The author would like to thank all those who have contributed to the development of computation theories and technologies that have provided conceptual tools for this work.

Many great minds and their thoughts also provided a rich source of inspiration for this work. These include:

- Laozi's 'Dao gives birth to One, One gives birth to Two, Two give birth to Three, Three give birth to everything';
- Parmenides's 'The Unchanging One';
- Heraclitus's 'The succession of opposites as a base for change', and 'Permanent flux';
- Hegel's 'three-valued logical model';
- Plato's 'allegory of the cave', 'Realm of Forms';
- Pythagoras's 'number as essence of Universe';
- Kant's 'un-removable time-tinted and causation-tinted sunglasses';
- Locke's 'blank canvas mind' and
- Berkeley's 'to be is to be perceived'.

Introduction

Throughout the history of human civilization, driven by our never-ending curiosity, many ideas have been proposed to explain the world we live in.

Observation of the world gives us conceptual metaphors that are often used to propose theories and models. Light as a wave, light as particles, gas as billiard balls, electric current as flow and the atom as a planetary system are all examples of metaphor based hypotheses that have been accepted as mainstream scientific theories. Many others, including the plum pudding model of the atom, were discarded when they failed to explain new experimental results.

Since the second half of the 20th century, inspired by the development of computation and telecommunication technologies, some computer scientists and physicists have proposed new ideas of the world that can be categorized by the terms digital physics and digital philosophy.

These theories are grounded in one or more of the following hypotheses that the universe:

- is essentially informational
- is essentially computable (computational universe theory)
- can be described digitally
- is in essence digital
- is itself a computer (pancomputationalism)
- is the output of a simulated reality exercise

The previous works however have not considered how such a giant computer capable of calculating the universe could have come into existence.

This book proposes a metaphysics framework that provides a foundation to support digital physics and digital philosophy hypotheses.

The use of metaphysics approach is necessary to establish a computation system outside the physical universe in order for it to construct and operate the physical universe. This belief is based on the idea, as Albert Einstein said, that “No problem can be solved from the same level of consciousness that created it”.

Proposed in this book is a 3-tier hierarchy model that describes the creation of the metacomputation system (MS). This MS consists of three faculties (data, program and processor) that construct and operate the processed existence.

Through the convergence of computation theories and metaphysics the proposed model clarifies a range of important concepts and phenomena that cannot be explained by existing accepted theories.

Source Mind

The metacomputation system (MS) is derived from a 3-Tier hierarchy metaphysics model based on the following premise:

- There exists Source Mind. Source Mind is the potential power to conceive, to perceive, and to be self-aware.

Source Mind is one aspect of Life. Other imaginable aspects of Life such as unconditional love, joy, beauty, benevolence, as well as its unimaginable aspects are beyond the scope of this model.

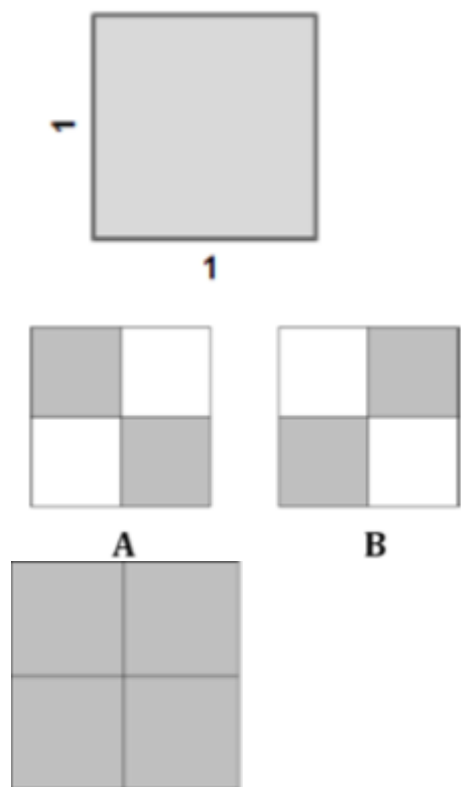
Using the following descriptive terms, we can get a sense of what Source Mind is not:

Timeless, non- spatial, dimensionless, infinite, boundless, non-dual, formless, no-thing, non-changeable, non-destructible, non-compréhensible, non- describable.

The content of Source Mind has a 3-tier hierarchy structure described as follows.

Unity Tier

The most fundamental creation that Source Mind conceives is Unity Screen represented in Figure 1. Unity Screen is created so that Source Mind can express itself in form; by projecting itself onto Unity Screen Source Mind makes itself perceivable.



Unity Screen of one pixel is then split up into two symbols: A and B, as illustrated in Figure 3.

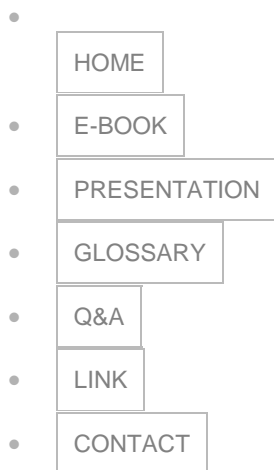
Each of these symbols contains 2 pixels and 2 voids.

Fig.2. Division of Unity Screen into 4 cells of equal size.

A void is a cell within Unity Screen that contains the potential power of Source Mind but is absent of the projected power of Source Mind.

Thus duality is conceived as the polar opposites of the potential and projected power of Source Mind.

Void represents potentiality whereas pixel represents actuality.



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Fig.4. Looped movement of the inter-connected symbols A and B across Unity Screen (outlined with thick lines).

From this point of view when the inter-connected symbols A and B move across Unity Screen, each cell within Unity Screen switches from one state (pixel or void) to the opposite state.

Thus a clock is perceived from the perspective of Unity Screen with its 4 cells alternating between the two opposite states.

At the first half clock cycle, symbol A switches to symbol B; at the second half clock cycle, symbol B switches to symbol A.

The passage of the inter-connected symbols A and B creates temporality. Temporality is measured using Unit.

1 Unit = the width of Unity Screen

Present Moment (**PM**) is defined as the temporal duration for 1 switching cycle to complete.

At the duality tier,

PM = 1 Unit.

Clock speed = 1 cycle/Unit.

Change, movement, switch and clock are thus derived at the duality tier and perceived by Source Mind.

The nature of existence at duality tier can be described as: changing, moving, dynamic, and rhythmic.

Trinity Tier

In Figure 2 Unity Screen of 1 pixel is divided into 4 pixels in 4 cells. Each pixel can be further divided into 4 pixels in 4 cells.

This sequence of division and resulting duration of PM can be described as:

Suppose the number of times Unity Screen is divided = N, then,

PM is represented by the shaded cells in the centre of Figure 5 where Unity Screen is divided 6 times.

Conception of Metacomputation System (MS)

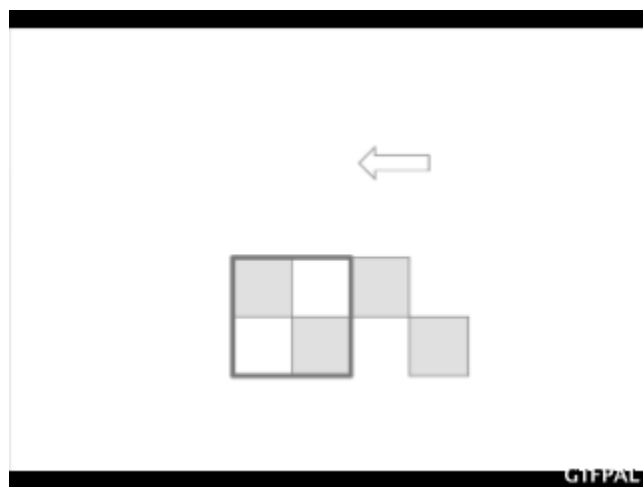
The availability of a sufficient number of switches and memory derived from the grid in Figure 5 (named MS Grid) enables the creation of the metacomputation system (MS) that consists of the following three faculties:

- Data – Specific configurations of pixels (1s) and voids (0s) in binary opposites derivable from the MS Grid.
- Program – Sequences of codes in binary opposites derivable from the MS Grid that instruct the processor to process data and output results.
- Processor – Purposefully configured set of pixel/void switches derivable from the PM in the MS Grid that enables arithmetic and logic operations and memory functions. It accepts data, performs instructed computations and outputs results. A clock is used to regulate the speed of computation.

The metacomputation system (MS) is a moving grid of cells of pixel/void passing a fixed window of PM. MS contains data, program and processor. Computation occurs at PM.

The MS is created, sustained and powered by Source Mind.

{4,16,64,256,1024,4096, ... }



$$PM = 2^{-(N-1)} \text{ Unit}$$

Clock Speed = $2^{(N-1)}$ cycles/Unit.

Number of cells = 4^N ,

The number of cells produced by each division is:

Suppose the number of times Unity Screen is divided = N, then,

As each cell can be used to store binary data by assigning a pixel as 1 and a void as 0, thus,

It should be noted that the cells in the PM are operating switches. In the PM:

Memory of the grid = 4^N bits.



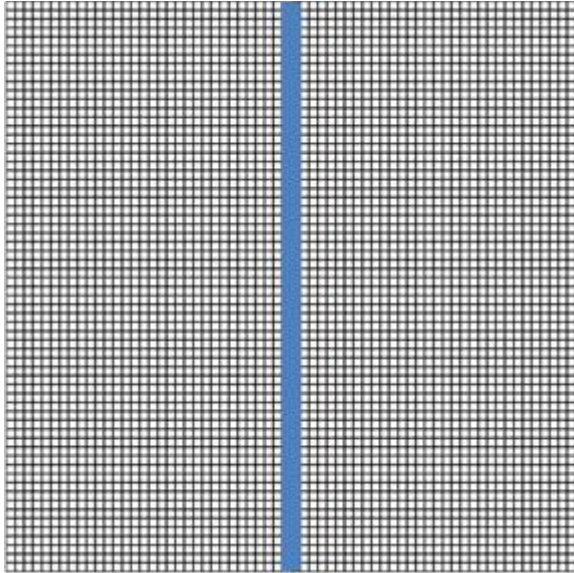
Conception of Change

As Unity Screen ([see Figure.1](#)) defines the limited scope of perception of Source Mind, the two separate symbols A and B can no longer be perceived at the same time. Thus the two symbols are to emerge in Unity Screen in temporal sequence one after the other.

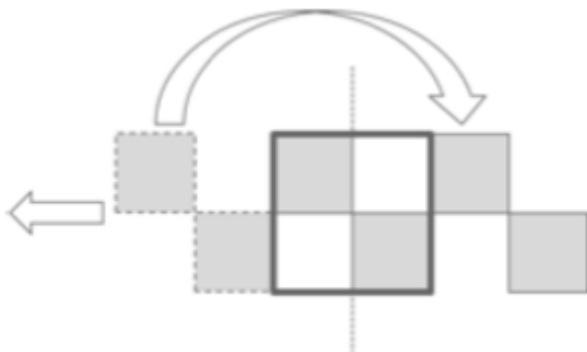
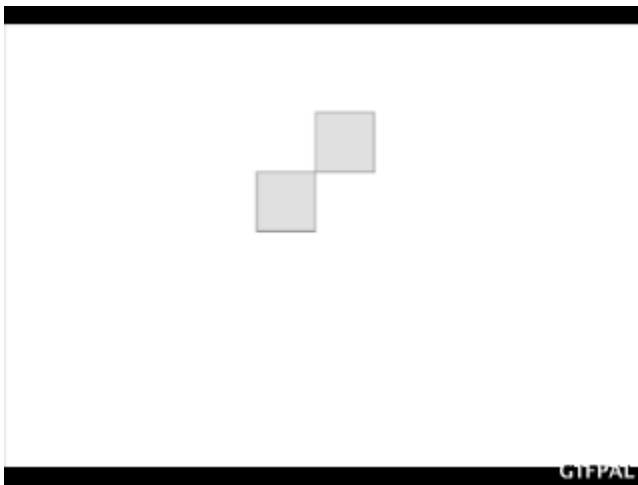
The alternating appearance of symbols A and B ([Figure. 3](#)) can be imagined to be brought about by a looped movement of the inter-connected symbols A and B from right to left as illustrated in Figure 4.

Fig.5. MS Grid showing Unity Screen is divided 6 times. The shaded cells represent PM.

Number of operating switches = 2^{N+1}



$\{1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \frac{1}{32}, \frac{1}{64}, \frac{1}{128}, \frac{1}{256}, \frac{1}{512}, \dots\}$ Unit





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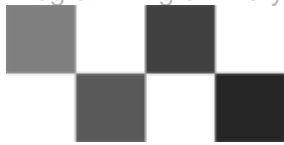
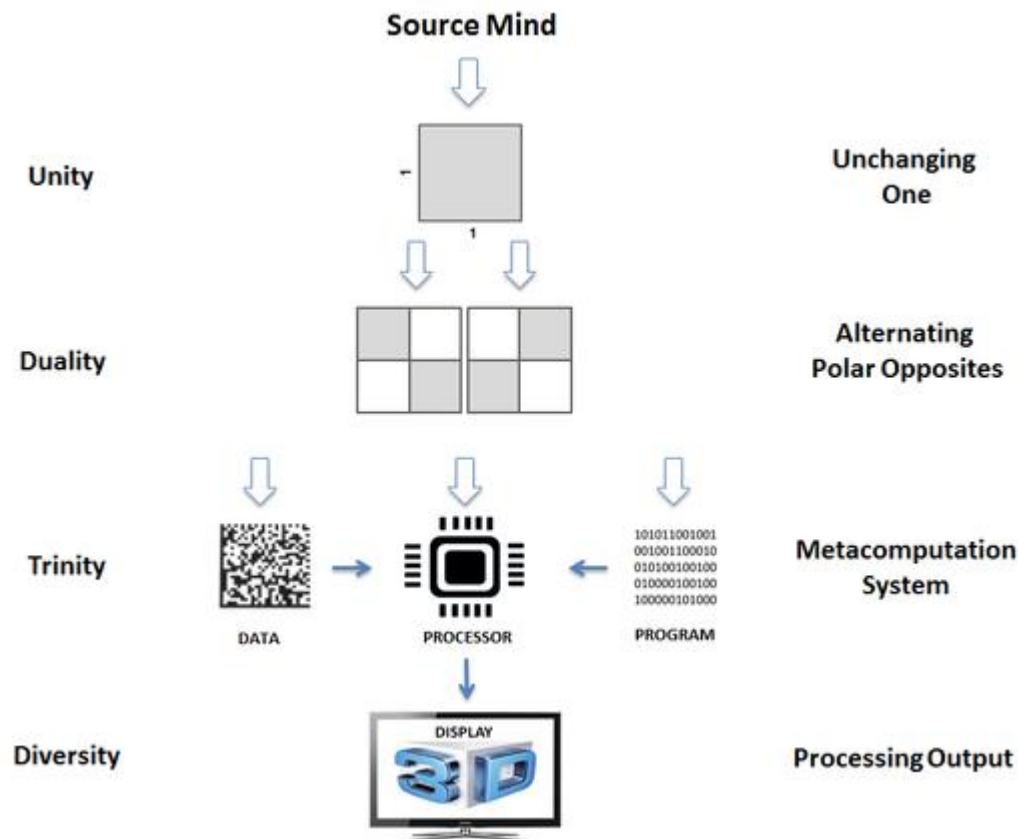


Fig.6. Mechanism of creation in which the MS is derived from a 3-tier hierarchy conceived by Source Mind. The resulting MS constructs processed existence as its processing output.



Construction of Processed Existence

Figure 6 illustrates the content of Source Mind in which the MS is derived from a 3-tier hierarchy conceived by Source Mind:



In Figure 6, each subsequent tier is a derivative of the previous substrate tier. Existence increases its complexity when the derivative tier is conceived.

The derived MS consists of 3 faculties – data, program and processor.

These 3 faculties interact to construct the processed existence including time, space and all its content.

This is modelled from our daily observation in this digital age. For example, a DVD disc contains data, but only when it is put into an operating computer and processed with programs can the image and sound then be perceived. According to this model all our perceptions and experiences are processing outputs of the MS. This will be discussed in more details in the following sections.

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Time

Figure 7 is a segment taken from the centre of the MS Grid in [Figure 5](#).

As shown in the graph, inter connected symbols A and B ([see Figure.3](#)) form a square wave of alternating pixels and voids. The waveform can be likened to the clock signal used in electronic computers.

Present Moment is a window from which perpetual progression of the pixel square wave from right to left is perceived. The position of the window is arbitrary and can be fixed anywhere in the MS Grid.

Future is represented by the parts of the pixel square wave that are moving towards but have not yet arrived at present moment; Past is represented by the parts of the pixel square wave that have moved away from present moment.

Within PM outlined by the thick line in Figure 7, each of the 4 cells completes a full switching cycle at every Unit.

PM is the moment when switching and therefore computation takes place.

Time is thus defined as: One directional perpetual progression of the pixel square wave that completes one switching cycle in PM.

The pixel square wave that defines time in Figure 7 can be expressed as two rows of time bit strings of perfect regularity:

.....1010101010101010.....

.....0101010101010101.....

Time bit strings can be regarded as a program. Time is perceived when the program is executed.

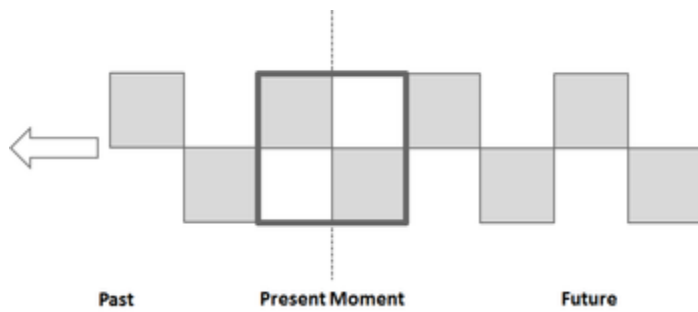


Fig.7. Illustration of Time as the perpetual progression of the pixel square wave that completes 1 switching cycle in PM.



2-(N-1)

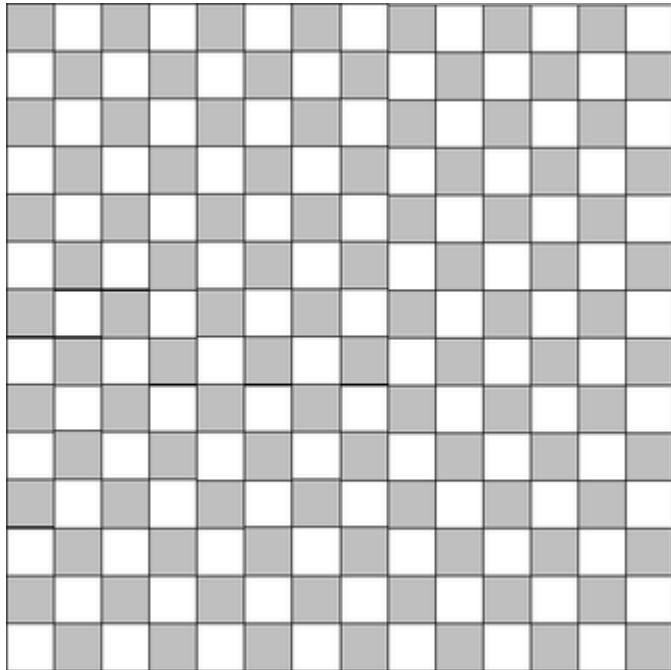
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Similarly, a program can be deployed to create 3D coordinates using time bit string with an additional Z axis.

With such program, a 3D grid as illustrated in Figure10 is constructed.

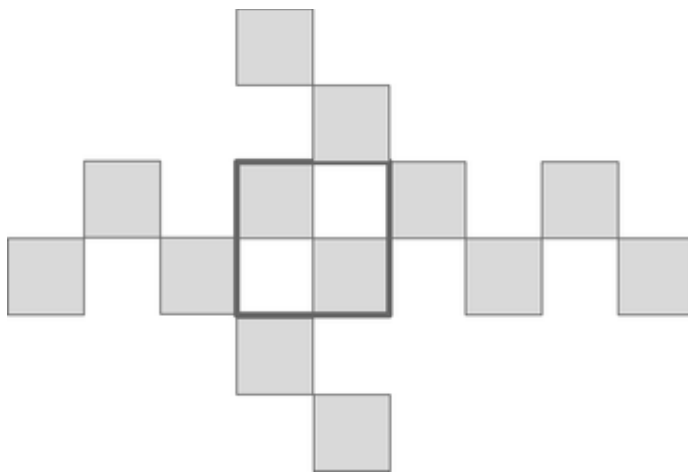
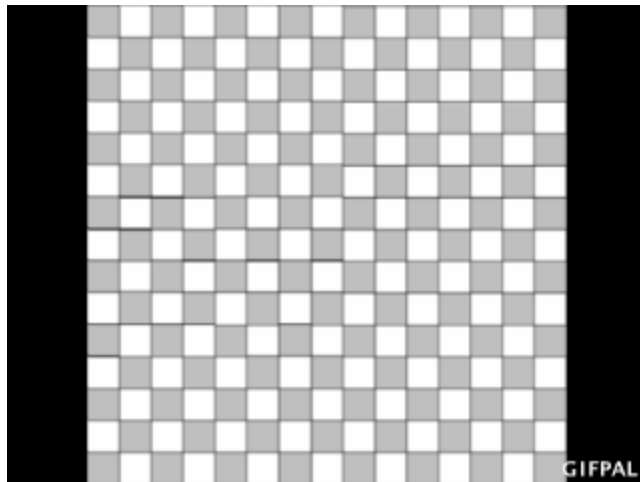
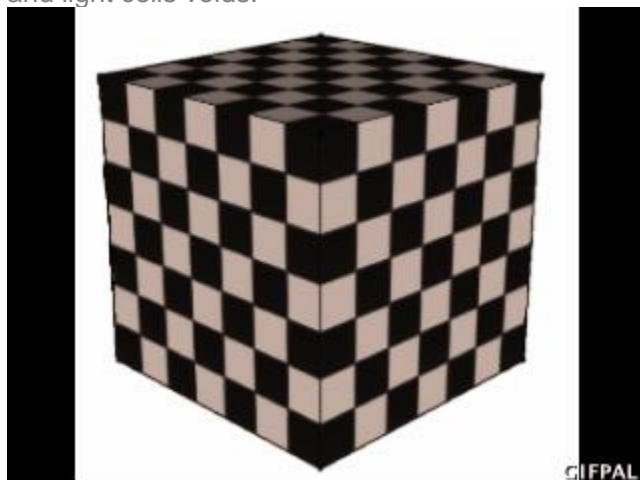


Fig.8. Propagation of the pixel square wave in vertical direction caused by progression of the pixel square wave in time in horizontal direction at PM.

Fig.10. 3D space represented as 3D grid. The dark voxels are voxels and the light voxels voids.
Fig.9. 2D space constructed by using time bit string in an X and Y axis. The shaded cells are pixels and light cells voids.



Space

Unity Screen in [Figure 1](#) defines the scope of temporality in horizontal direction. It also defines the scope of dimensionality in vertical direction.

The progression of the pixel square wave in time in horizontal direction at PM can be imagined to cause propagation of the pixel square wave in vertical direction. This is illustrated in Figure 8.

Thus the 1D space in vertical direction at PM is filled with alternating pixels and voids.
A program can be deployed to create 2D coordinates using time bit string in both an X and Y axis.

Figure 9 illustrates a section of the 2D space thus constructed.

It can be seen that the 2D space is formed by perfect regular arrangements of alternating pixels and voids.

Figure 9 is the state of the 2D space at a given half cycle moment in time. At the next half cycle moment each pixel and void switches to its opposite.
It should be noted that the pixels represented in the 2D space grid in Figure 8 are transformed into voxels charged with the power of Source Mind.

A powered voxel is named a poxel.

Poxel is the 3D expression of the power of Source Mind in space.

According to the model, space is a 3D grid filled with regularly patterned poxels and voids. Figure 9 is a section of 3D space at a given half cycle moment in time. At the next half cycle moment each poxel and void switches to its opposite.

Thus, space is not empty - instead it is filled with regularly patterned alternating poxels and voids.

As Space is constructed using pixel square wave and time bit string it can be said that space is a derivative of Time.

Space also functions as a 3D display. The processing output of the MS is displayed in the 3D space.

For instance, programs can be executed to output into space points, lines, plains, shapes and other forms of abstract objects. These objects are printed in space using poxels.

Specific configurations of poxels and voids are assumed to be responsible for the presence of electrical polarisation and charge. Their dynamics are assumed to be responsible for the presence of electromagnetic waves and fields. Thus it can be said that poxels are the substance of waves and fields.

Space is illuminated by the presence of specific poxel waves that produce light.

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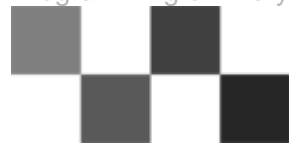
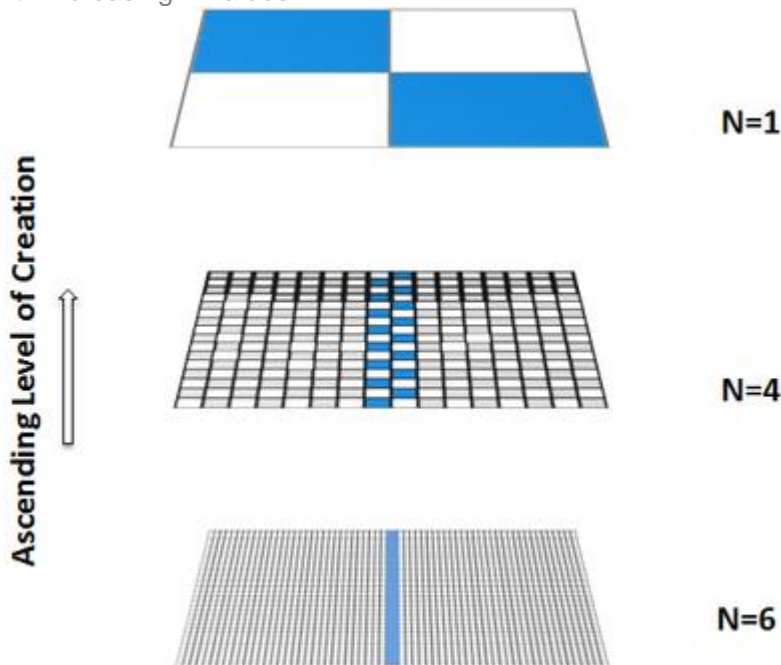


Fig.11. Selection of 3 MSs operating at the 3 different clock speeds. PM (coloured blue) decreases with increasing N values.



Levels of Creation and Multiverse

In the MS Grid, different **N** values can be used to create multiple MSs. Each MS with a different **N** value operates at a different clock speed according to the formula:

It can thus be assumed that many levels of creation are in existence. Our physical universe is one of many parallel universes.

A universe produced by the MS operating with a bigger **N** value is equipped with a more powerful computer and has more memory to accommodate larger quantities of data and programs. It therefore allows richer and more diverse perceptions and experiences.

It should be noted that the position of PM in Figure 5 is arbitrary. It can be positioned anywhere in the grid. Therefore the entire history of creation at all levels can be computed.

We assume the physical universe is a processing output of the MS operating with **N** value. Levels of creation produced by the MS operating with smaller **N** values are viewed as higher levels of creation.

Ascending the levels of creation implies experiencing the universes produced by the MSs operating with a smaller **N** value.

Figure 10 illustrates a selection of 3 MSs in the multiverse.

At the top level, **N** = 1,

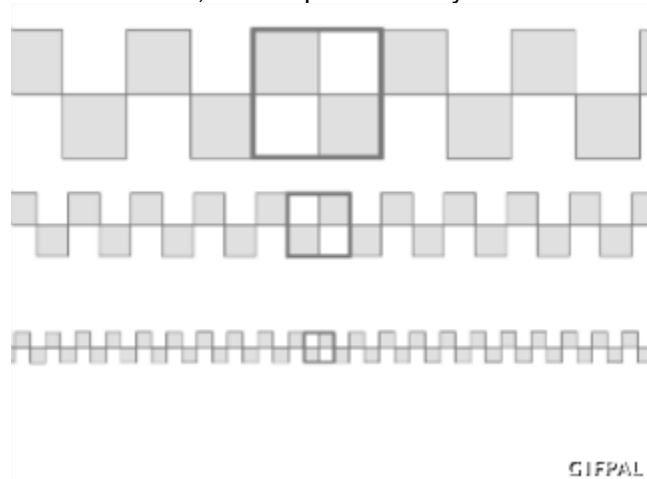
PM = 1 Unit; Clock speed = 1 cycles/Unit

At the middle level, **N** = 4,

PM = 1/8 Unit; Clock speed = 8 cycles/Unit

At the lower level, **N** = 6,

PM = 1/32 Unit; Clock speed = 32 cycles/Unit



Clock speed = $2^{(N-1)}$ cycles/Unit

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Creation of Entities

Entity is a being with both subjective and objective aspects. For instance, a human being is an entity having both a mind (the subjective aspect) and body (the objective aspect).

The objective aspect of an entity is the processing output of the MS displayed in space as a 3D image named Entity Image (EI). EI is determined by a specific dataset, as well as the programs and processors that are deployed to produce the output.

Poxel is the building block of EI. EIs are created by arranging the poxel in specific configurations and patterns that deviate from the regularity exhibited by space.

In this digital age, perceiving images on screen is part of modern day living. For example, a mobile phone receives digital data in the form of 1s and 0s, they are then processed using programs. The processing output is the image displayed on the screen of the phone.

Likewise, entities can only be perceived as meaningful forms when the dataset of an entity is processed by the programmes in the MS.

A given physical entity exists at every other level of creation and is perceived as different EIs at the different levels of creation.

With an increasing **N** value more powerful processors become available. The dataset of an entity as well as programs available increase in size and complexity.

With more complex data and programs that give properties to EIs, such as mass, solidity, transparency, colour, texture, richer features of the EI can be perceived.

The physical form displayed at the physical level of creation is a complex EI of a given entity. At higher levels of creation (with a smaller **N** value) simpler non-physical EI is perceived.

Entities can be categorised in different ways, for example:

By size and composition:

Universe, galaxy, planets, material object, cell, molecule, etc.

By state:

Solid, liquid, gas, plasma, etc.

By complexity:

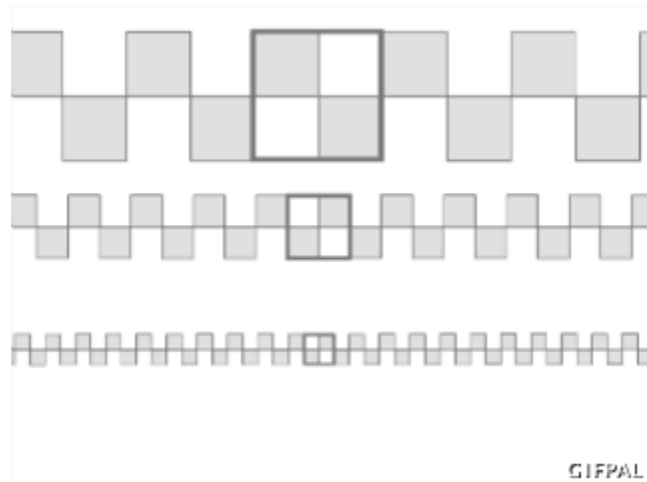
Human, animal, plant, mineral, air, water, etc.

The subjective aspect of an entity is its mind (see section **Mind**).

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2^m

PM = $2^{-(N-1)}$ Unit.

$$\mathbf{PM_m / PM_p = 2^{-(N_p - m - 1)} \text{ Unit} / 2^{-(N_p - 1)} \text{ Unit} = 2^m}$$

2^m

Dilation of Time

From the definition of PM, it is established that

PM decreases with the increase of the N value.

Suppose the physical universe is produced by the MS operating with a value PM in the physical level of creation is of the value

We call the level of creation that is m level higher than the physical universe level **m**, then

Thus,

PM at level **m** is times that of the physical level creation.

Suppose **PM** = 1 (day),

Then,

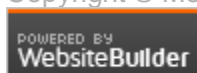
1 (day) **m** level time = (day) physical level time
PM_p,

$$N = N_p - m,$$

$$PM_m = 2^{-(N_p - m - 1)} \text{ Unit},$$



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Language

Program is identified by giving a name to it.

Specific words are intended to name specific programs.

The true meaning of a word is the perception experienced from executing the program.

For example, Space is perceived by running program {Space}.

Light is experienced when program {Light} is executed to produce specific pixel waves in space.

Redness is perceived when program {Red} is executed.

{Apple} identifies a program that enables the concept 'Apple-ness' to be perceived.

Names of complex programs giving meaning to entities in creation include:

Cosmological objects: galaxy, planet, etc.

Physical matter: solid, liquid, gas, plasma, etc.

Biological systems: plant, animal, human, cell, etc.

Programs are used to define the meanings of abstract concepts.

The meaning of number, for example {2}, is perceived when a successor program is executed with 1 as the initial state.

{Mass} is a program that defines the inertia of an object to change its state of motion in space.

{Force} is a program that defines the cause for an object to change its state of motion in space.

{Heat} is a program that defines the dynamic property of a system.

{Energy} is a program that defines the capacity of a system to do work.

Other programs include the descriptive terms used in human languages. These programs allow the human mind to experience a wide range of thoughts, emotions, feelings, sensations, actions and interactions.

The evolution of human civilisation is marked by development of programs. The creation of each new word corresponds to the availability of a new program to the society where the word is used.

Programs are stored in the memory of the MS and can be identified and retrieved through the use of language.

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L_p

Lifecycle of Entities

We have established that the memory of the MS at level N =

As a computation system with finite memory, its processing output cannot increase indefinitely. This leads to a logical conclusion that entities have to go through a life cycle and have a limited life span.

All entities run program {life cycle} that progresses them through the stages of inception, expansion, deterioration and termination in time.

It is assumed that at a given level of creation, an EI has a life span determined by a fixed number of processing cycles (or fixed number of **PMs**) from its inception to termination.

As each level of creation is constructed by computation at different clock speeds, each EI's life span at a different level of creation will be different for a given entity.

For instance, for a given entity, if the life span of its EI at the physical level

Then the life span of its EI at level m

The entity thus experiences times as long a life span with its EI at level m compared to its EI at the physical level.

For a given entity, its EI's life span at a different level of creation can be illustrated as a hierarchy shown in the example in Figure 12, where is the life span of the EI at the physical level, is the life span of the EI at 2 levels above the physical level and is 4 levels above the physical level.

For a given entity, with a descending level of creation (increasing N value), multiple EIs with a shorter life span exist consecutively in time.

The life span of its higher EI is the sum of all the life spans of its lower EIs.

Many EIs at a lower level of creation can correspond to one EI at a higher level of creation.

L_{p-4}

L_{p-2}

$$L_p = k (PM_p)$$

4^N

2^m

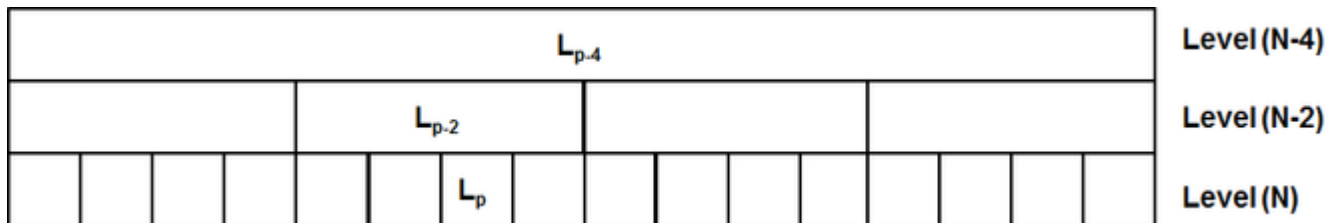


Fig.12.Example of the relative life span (L) of a given entity at different levels of creation.

$$L_m = k (PM_m) = k \times 2^m (PM_p)$$

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Memory of MS

Theoretically Planck time is the smallest meaningful unit of time in the physical universe.

If we assume:

Width of the pixel = Planck time,

Time span of perceivable creation

= Size of Unity Screen

= Life span of the physical universe

= (13.8 + 5) billion years,

Then,

It is possible that the physical universe is one of many creation events within Unity Screen, thus **N** could be significantly larger.

Practically, we can assume the clock speed of the MS that creates the physical universe is the maximum detectable frequency of electromagnetic waves in the physical universe.

According to this model, all phenomena, including electromagnetic waves, are a processing output of the MS. Therefore the frequency of the processing output cannot exceed the clock speed of the MS.

In our physical universe, the highest measurable frequency of an electromagnetic wave is Gamma ray radiation that is at least Hz.

Thus,

Thus it can be concluded that the MS that constructed the physical universe operates with an N value of at least 119.

$$2^{(N-1)} \text{ cycles/Unit} = 10^{19} \text{ cycle/Sec}$$

$$t_p = 2^{-N} \text{ Unit}$$

$$5.39106 \times 10^{-44}(\text{s}) = 2^{-N} \times 18.8 \times 10^9 \times 3.1536 \times 10^6 (\text{s})$$

$$2^{-N} = 9.093 \times 10^{-61}$$

$$N = 200$$

$$10^{19}$$

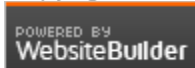


$$2^{(N-1)} / 18.8 \times 10^9 \times 3.1536 \times 10^6 (\text{s}) = 10^{19} / \text{s}$$

$$2^{(N-1)} = 5.929 \times 10^{35}$$

$$N = 119$$

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Mind

Mind is a partition of Source Mind. The partitioning is a processing output of MS achieved by running program {Individuality} or {I} or {Self}. This program produces a sense of 'I' or 'self', and identifies itself with an individual EI.

Mind is the subjective aspect of entity.

As a partition of Source Mind, mind shares the same qualities and traits as Source Mind. Metaphorically it can be likened to the fact that every droplet of water in the ocean has the same wetness as the ocean.

Therefore mind has the power and capability of conception, perception and self-awareness. Mind also has access to the three faculties of MS - data, program and processor.

As each individual EI is normally localised at a specific level of creation and specific space and time, mind has limited access to data, program and computing capability.

As one aspect of entity, each mind is further partitioned into many lower-minds at the subsequent level of creation. Mind, and its subsequent lower-minds, computes using different MSs operating at different clock speeds. Each mind is also a partition of its higher-mind.

A human mind operating at the physical level conceives the virtual entities by programming a physical computer. The virtual entities however cannot perceive the processing output displayed on the computer screen.

Likewise, the higher mind conceives the physical entities by programing a MS at a higher level creation. The human mind is however, unlike the virtual reality game entities, able to perceive the

physical world displayed in 3D space as objective existence and thus able to experience an individual localised personal life.

Higher mind conceives the data and programs in the MS at a higher level creation; Lower mind perceives and experiences the processing output of the MS at a lower level creation.

Human Mind

The human mind shares the same qualities and attributes of its higher mind and ultimately, that of Source Mind. It has the power and capability of conception, perception and self-awareness.

A human mind is associated with a human body including the brain. Our physical body is localised at the physical level and in specific physical space and time. This imposes limitations on our access to data and programs.

Each individual human mind perceives an individual world that is a processing output determined by its access to data and programs. On our planet there are approximately 7 billion worlds perceived by 7 billion human minds. 2 individual worlds can only be identical if the two individual human minds process the same data with the same programs.

The content of a human mind is the processing output of the MS displayed in space and in the body.

Space is used as a display onto which the EI's visual output is projected.

The brain is used as a display onto which thoughts, feelings and emotions are projected.

The physical body is used as a display onto which bodily sensations and actions are projected.

The development of the human body including the brain is a process of upgrading the display so that it can display the output of MS from accessing increasing amounts of data and running an increasing number of programs with increasing complexity. This allows for the expansion of life experiences of the human mind.

At a particular moment during early stage of our lives, each human mind starts to access and run program {Time}. The moment this happens is the personalised PM for that human being. Contemporary human beings share the same PM.

Relativity of Reality

Reality is what is perceived by the mind as objective existence independent of processing.

A human mind operating at the physical level creation can conceive a physical computation system. A human mind can also conceive a virtual world by programming a physical computer and perceives the processing output displayed on the screen.

Likewise, higher mind can conceive space and the physical world by programing a MS at a higher

level creation.

From the perspective of the higher mind, the physical level existence is the processing output of the MS and therefore is a processed existence.

Physical object is projected into space as an output of the MS in the form of 3D poxel barcode in specific configurations and patterns. It can be said that poxels are the building blocks of matter in the physical universe.

From the perspective of the human mind, however, the perceived physical world is an objective existence.

The fact that the physical world is perceived by the human mind as physical reality instead of 3D poxel barcode is due to the availability of the abundant resources in the MS, including:

- Large memory and processing capability.
- Display being a 3D space with high resolution.
- Programs that give physical properties to objects such as {Transparency}, {Solidity}, {Rigidity}, {Mass}, {Colour}, {Texture} etc.
- Programs that govern the behaviours of physical objects and their interactions, such as {Laws of Nature}, {Gravity}, {Field}, {Force}, {Electromagnetism}, {Mechanics}, {Energy}, etc.
- Complexity of the human brain that is capable of displaying a wide range of physical properties and concepts as complex electrical and chemical signal patterns.

When a human mind processes {Space}, a 3D grid with regularly arranged alternating poxels and voids are projected. Poxels are programed to be transparent so space appears to be empty.

When a human perceives an object in space, for example, an apple, the 3D poxel barcode dataset is scanned by the eyes to trigger the execution of program {Apple}. This produces a templet "Apple-ness" followed by adding more details and properties such as colour and texture in the brain. The 3D image of an apple is then projected into space by the human eyes. An apple EI in a specific location in space defined by the dataset is thus perceived by the human mind.

Programs such as {Mass} and {Gravity} ensure that the apple EI falls to the ground when it is detached from the tree branch. Programs such as {Solidity} and {Rigidity} ensure that the apple EI stays on top of the surface of the ground and doesn't go through the earth EI.

Our higher minds program the physical world. Some of these programs give processing outputs expressed as mathematical laws, scientific theories, laws of nature, arts, technologies and industrial processes such as energy generation, product design, development, manufacturing and application. Programs that are robust, reliable, and repeatable are accepted as mainstream programs at certain period of time in human history.

In theory, mainstream programs can be interrupted or altered by the higher mind to cause phenomena that appear to violate and disrupt the physical laws of nature. Nevertheless, at our physical level of existence, miracles and paranormal phenomena are rare, generally non-repeatable and un-controllable. They only occur in some special circumstances.

Further research

The proposed MS model predicts that the fundamental building blocks of the physical universes is poxel. Experiments need to be carried out to verify its existence.

Further research is also needed to discover programs that compute not only EI's geometric properties but also physical properties such as {Transparency}, {Solidity}, {Rigidity}, {Colour}, etc.

{Laws of nature} governing the behaviours of physical objects and their interactions, involving {Mass}, {Energy}, {Force}, {Gravity}, {Field}, {Electromagnetism}, {Mechanics}, {Heat}, etc, should be determined.

Other challenging tasks include the discovery of programs that can compute the full range of human experiences including thoughts, feelings, emotions, sensations and actions.

Ultimately we will be able to rewrite every word and sentence in human languages with codes.

Metacomputics is the systematic study of the origin, fundamental structure, composition, nature, properties, dynamics and applications of the MS that constructs and operates the universes as its processing output.

Summary

The metacomputation system (MS) is proposed to support the hypothesis that the physical universe is the processing output of a computation.

The MS is derived from a 3-tier hierarchy metaphysics model and it consists of 3 faculties – data, program and processor.

The MS is the unprocessed existence of creation. The processing output of the MS is the processed existence of creation.

The model is developed from the convergence of metaphysics and computational theories. It offers a new perspective and clarity on many important concepts and phenomena that have perplexed humans for millennia, including: consciousness, existence, creation, reality, time, space, multiverse, laws of nature, language, entity, mind, experience, thought, feeling, emotion, sensation and action.

The model predicts the existence of powered voxel that is the fundamental building block of the physical universe.

According to this model, the following can be deduced;

- Time is one directional perpetual progression of a pixel square wave in the MS Grid that completes one switching cycle in Present Moment.
- Present Moment is the temporal moment when switching, and therefore, computation takes place.
- Space is a derivative of time.
- Poxel is the 3D expression of the power of Source Mind in space.
- Poxel is the fundamental building blocks of the physical universe.
- Poxel is the substance of electromagnetic waves and fields.
- Space is constructed with alternating regularly patterned poxels and voids in a 3D grid.
- Space is a 3D display onto which processing output of the MS is projected.
- Many levels of creation are in existence. Each level of creation is constructed from different MSs operating at different clock speeds.
- The physical universe is one of many parallel universes and is at the lowest level of creation in the multiverse.
- Time dilates when ascending from lower to higher levels of creation.
- The MS that constructs the physical universe has at least bits memory.

The following can be implied;

- Words are created to name programs. The true meaning of a word is the perception experienced by the mind from executing the program.
- An entity is a being with both subjective and objective aspects. The objective aspect of an entity is the processing output of MS displayed in space as a 3D image. The subjective aspect of an entity is its mind.
- A physical entity exists as different entity images at different levels of creation.
- All entity images run program {life cycle} that progresses them through the stages of inception, expansion, deterioration and termination in time.
- A mind is a partition of its higher-mind and ultimately a partition of Source Mind.
- A mind and its subsequent lower-minds compute using different MSs operating at different clock speeds.
- Entity images are generated in the MS and projected into space by the sense organs. Physical eyes are projectors as well as receptors.
- The brain is a display onto which thoughts, feelings and emotions are projected as complex electrical and chemical signal patterns that can be experienced by the mind.

<http://www.metacomputics.com/e-book.html>

- Higher mind conceives the data and programs in the MS at a higher level creation; Lower mind perceives and experiences the processing output of the MS at a lower level creation.