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Review Article

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Space is the Same thing as Energy-The Underlying Structure of the Observed Universe

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Abstract

Energy and Matter is the same thing. Space and Energy is the same thing. Time and change are different. These conclusions give rise to a different view of Atomic and molecular Structure and force.

The model universe is a Quantum Universe, Quantum solution for quantum point driven, Time Free, Dimension Free, Thermodynamic Free and therefore entropy free.

AuT built this list which is foundational and unique.

1. *All dimensions present (at least 5) exist together within the matrix of the universe and in any regional matrix; subgroups of these dimensions are present.*
   - *Space has no dimension, precharge exists in a single dimension, prephotons exist in two; neutrons (complete matter) in 3 and blackholes in 4.*
   - *The definitions of time and space mean that exchanges of information state (ct state) between space and prephotonsoccur independent of time. Time as we experience arises between the prephoton states and ends with compression to neutrons.*
2. *All change is quantum change in response to a single variable leading to the universe existing as a series of quantum states or snapshots. Force and time are effects based on this quantum change.*
3. *Time and change are different. Changes in the single variable lead to time, but time is not required for that underlying change nor does it affect that change.*
4. *Time is an effect like force and dimension of the quantum change between states some of which occur without time-based reference giving rise to features like wave - particle false duality and the impression of charge among other features.*
5. *Space is made of the same type of information as all other states (energy, matter, black holes) which are folded from space based on exponential compression/folding.*
6. *Waves, Photons, Electrons and protons are examples of transitional states (ct3-ct4) between prephotons (ct3) and neutrons (ct4); atoms (after hydrogen) and molecular states through neutron stars are transitional states between neutrons (ct4) and black holes (ct5) along with intervening transitional ct3-ct4 states.*

Introduction

This is a summary article. It gives applications to Physics associated with the article first published for peer review Journal of Physical Mathematics October. "Algorithm Model defining Dimensional Features," [1]. References are made to "The Original Article" where appropriate. An update to the Original Article is currently being published in the Journal for Advances in Theoretical Physics. Reference to the updated article will be provided in the Drawings link provided below.

Details of this theory can be found in **Algorithm Universe Model, 2nd Edition** (hereinafter AUM or Algorithm Universe Model) and **Algorithm Universe Theory Compendium Volumes 1 6th edition and Vol 2 3rd edition** and references are liberally provided where appropriate. Those books are over 800 pages long together. Only the latest editions of these works correspond with this article. Figure numbers come from Algorithm Universe Model. PUBLICATION OF SOME DRAWINGS IN THE PRINT VERSION WAS IMPOSSIBLE. THIS DRAWINGS WITH NUMBERS ARE SHARED AT A FREE DRAWINGS LINK which can be found here: https://my.sendinblue.com/users/subscribe/js_id/3ur2i/id/1.

The link above allows you to be added to the author's subscription list after which you will be directed to a link where you can view for Free the PDF drawings for the latest edition of Algorithm Universe Model.

The core feature of the universe:

The core feature of AuT is that all features of the universe including space, force and time are the result of a specific set of solutions to a specific mathematical equation. It is obvious from this feature, that the results of the equation must be incorporated into the universe as we observe it and hence the equation must be visible to us. This equation is the denominator of pi, called Fpix herein and is built from -1 according to this formula **([-1^x plus 2x (-1) ^x-1])**.

One critical result of the core feature is that **time and change is separate**. Change is a quantum count resulting in a universe composed of quantum snapshots. Time is a result only existing in certain dimensional states and is described in detail below.

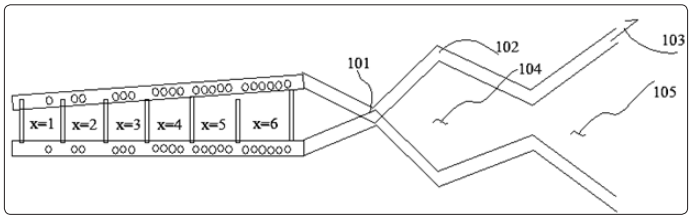

Figure 49 the universe as quantum snapshots

The Function of the universe

Built into each solution for fpix is a **fuse**. This fuse is defined by the **evolving value** of the **solution**.

As the count increases by a quantum amount, a new solution is generated. Each solution starts with the value -3 (or 1 in some embodiments) and the value of the solution is the fuse between the current solution and the next solution to fpix. So after 3 changes in x, the first solution changes to 5. After 5 changes in x the first solution changes to -7 and so on. By the time there are 8 changes in x, there are 8 solutions, each having a fuse burning at a slightly different rate.

A broad by precise calculation of the number of data points at the universe at this time is possible. At least for the visible universe it is less than5.2916E+153 and the average fuse length is equal to one-half this number.

The center of the universe has the slowest fuses, the edges the fastest and where we live in the middle the fuses are in the middle. Fuses are aligned at the ct1 level providing a continuity of domino falling changes with each fuse back and forth, being two changes in x apart from the next. Compression allows for distant values of fuse length to affect one another as they are folded over exponentially increasing the complexity of interaction.

How the universe is displayed with Fibonacci (F-series) compression.

The Original Article shows how F-series compression can arise from the fpix solutions.

Compression of fpix information is necessary in order to get results observed and the results will be covered including their application to atomic and molecular features below.

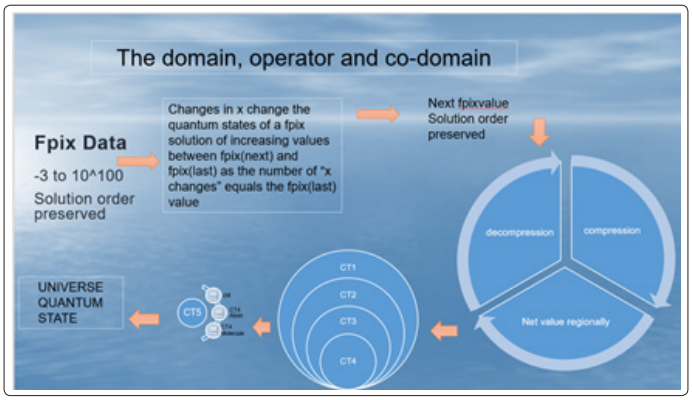

Figure 2: The domain, co-domain and operator diagram

There are two parts to compression: 1) Compression states and 2) Hinge States. Specific equations exist for compression:

Hinge State solutions: [2f (n)-1] ^ [2^n-1] also called Hinge solutions.

Compression State solutions: 2f (n) ^2^n also called compression solutions.

Polynomial approximation features heavily into the observed universe. Hinge states are not directly visible in scale analysis for this reason. Hinge states are considered theoretically necessary to provide a mathematical basis for folding to get compression and they appear in the sin equation for early values of dimension with a pi numerator between -1 and 1derived in The Original Article as 256:27 or 256 compression solutions to 27 hinge solutions.

A certain amount of variability (not randomness) in compression is inherent in the system. The universe at the quantum level has no randomness. Changes are based only on the static value of the different fpix solutions for any value of x based on the fpix solution, fuse length and solution order.

Line compression

The universe can be said to be a single line of solutions separated only by solution order. At very high values of x, hinge and compression solutions exist which allow the solutions (information) to be folded based on the positive and negative value of alternating solutions.

At certain values of x, the tendency towards compression is higher and the universe "contracts." At other values of x, the tendency is towards decompression and the universe expands. We are currently in a "net" expansion phase of the universe and the inflection point where this shift occurred is referred to as the big bang. There were billions of shifts of this type since the count began and the universe will again shift from net expanding to net contracting in approximately 7 billion years and the calculations relative to that determination can be found in Algorithm Universe Theory Compendium Volumes 1 Chapter 49.

Table 2 compression states

f(N) - CT State	2*f(n)	2^n	2f(n)^2n	Dim State	Force	
Next lower states					prior to	ct1 states
1	2	2	4	Space-0	current	4
2	4	4	256	precharge 1	Gravity	256
3	6	8	1679616	prephoton	Charge	429981696
4	10	16	1E+16	Neutron/Matter-3	Energy/Strong/time	4.29982E+24
5	16	32	3.40282E+38	Black hole-4	Weak/very Strong	1.46315E+63
6	32	64	2.13599E+96	Universe 5	Unknown	5.2916E+153

Graphically Compression can be viewed as shown below.

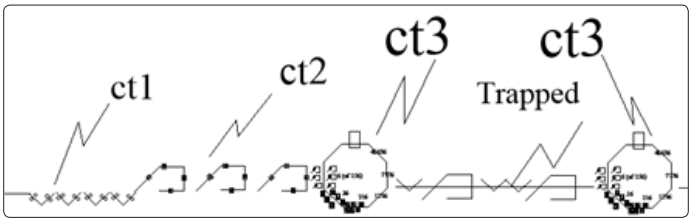

Figure 3: shows conceptually Ct1-Ct3 compression

Compression builds from non-dimensional space (ct1) to black holes (ct5) by increased folding. In so doing, the line becomes partially folded and then folds at an exponentially increasing rate.

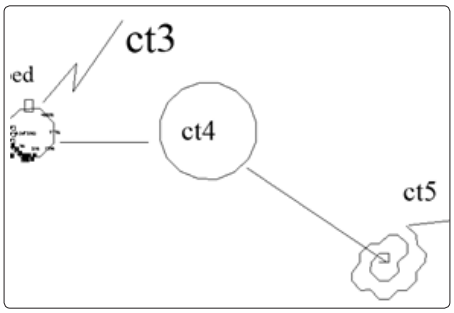

Figure 4: shows conceptually Ct3-Ct5 compression

Intervening lower states appear to approach 1, but not zero between higher states. There are reasons to believe they could reach zero, but this is contraindicated.

A detailed discussion of these drawings and charts and limit equations can be found in the Original Article. The primary differences in nomenclature. For reasons which will be explained, the use of the term precharge and prephoton to describe ct2 and ct3 states were added to provide clarity because the original terms did not match observations.

Proposed Hinge state structure

Table 1 Different Hinge ratios

	ct2 states	2f(n)^2n	ct1 units		3 Hinge	3/4 hinge to	27 times
	changing	compression	CT1 units	State	2F(X)-1^[2^N)-1]	compression	no of ct2
N	ratio	per quantum			Hinges	Hinges	Hinges
1		4		space			
2	1	256	256	charge	27	192	27
3	1679616	1.68E+06	4.30E+08	photon	78125	3.22E+08	4.53E+07
4	1.67962E+22	1E+16	4.29982E+24	matter	2.05891E+14	3.22486E+24	4.53496E+23
5	5.71544E+60	3.40282E+38	1.46315E+63	black hole	4.3144E+37	1.09736E+63	1.54317E+62
6	2.067E+151	3.61655E+90	5.2916E+153	U-PART	2.93874E+89	3.9687E+153	5.5809E+152

Table 2: an evolving hinge model

N	HINGE	2^N-1	Ct1 units	% of comp
2	CT1-2	3	27	0.10546875
3	CT2-3	7	78125	0.046513608
4	CT3-4	15	2.05891E+14	0.020589113
5	CT4-5	31	2.87627E+36	0.008452586
6		63	1.17549E+88	0.003250321

For the universe to fold, information must fold about something. The mathematical proposal is that alternating positive and negative solutions form hinges which allow for separation of results.

The figure below shows how the Hinge may give rise to combined results of alternating positive and negative values showing the amount of compression resulting.

We are used to seeing the sin (opposite over hypotenuse) as a non-quantum value, an infinite series.

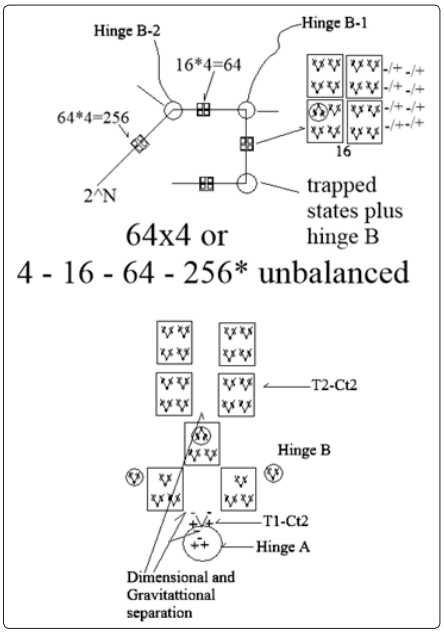

Figure 25 shows the development of hinges conceptually.

What the figure above shows is one graphic model for the development of Hinges for ct1 to ct2 states. It begins as just a negative value above two positive values. The earliest hinge could, for example, arise as 5,-3, and 2.

The only mathematical clue lies in the comparison of the sin for pi (-1) and pi (1) yields 256:27.

The figure above shows more closely what hinge B might arise if the initial 3:4 pattern is maintained; and how the v-shaped pattern where the two positives and negatives repel along their legs might look like. The circled elements within Hinge B might represent trapped ct1 states which, while not part of the hinge itself, are trapped within the mathematical folds created.

Range and Strength of Forces reflecting AuT

n	f(n)	2^n	compression	ct1 states		recorded	force
1	1	2	4	4	space	strength	range
2	2	4	256	256	precharge	1	inf-g
3	3	8	1679616	429981696	prephoton	10^36	inf-EM
4	5	16	1E+16	4.29982E+24	neutron	10^33	10^-18 weak
5	8	32	3.40282E+38	1.46315E+63	black hole	10^38	10^-15 strong
6	13	64	3.61655E+90	5.2916E+153	9.2602E+153	with hinge states	

Force Table-Old

CT	2f(n)^2n	Dim State	Force	AuT Force		change	PreAuT	
State	compr		prior to	spew	Aut Strength	range	recorded	
1	4	Space-0	current				strength	range
	256	1	Gravity	G/AG		ct1-2-1	1	inf-g
2	1679616	2		PreCharge				
		ct2-3	Charge	net sum precharge	variable	ct3-4-3		inf-EM1
3		3		Prephoton		ct2-3-2		
	10^12-10^13	ct3-4	P-E interact	net compression	4.5*10^12-10^16	P-N	Prot/Elec:abs	
4	1E+16	ct3-4	Energy//time	Atomic Prot/Neut abs	e=mc^2 (10^16)	N-P	10^16	
	Transitional	ct4-5	PostAtom	N-P-N weak	10^25	N-N	10^25	10^-15
	Transitional	ct3-4-5	Forced molecular	N-P-e-P-N:EM	10^36	N-P	10^36	Inf-EM3
			strong	N-N 2 arms	10^38	N-P-E	10^38	10^-18
5	3.4028E+38	ct5	Very Strong	ct5 collapse	10^96	N-BH		
6	2.136E+96	ct5-6	Non-Weak	ct5toct6	10^96<	BH-U		
	1.6796E+22	at ct4	3*4					
	5.7154E+60	at ct5	3*4*5					

Force Table-New

AuT initially attempted to work with the strong, weak and electromagnetic force as set out in pre-AuT physics. That effort is partially abandoned. A similar attempt was made to fit spirals into the domain/co domain data generation for several years before capitulating and using the more obvious fpix solution.

The strong and weak Pre-AuT forces are so tied up with particles which are non-AuT transformations that an attempt will be made to treat with these by reference but to abandon them as benchmarks. Compression states are necessarily separated from the forces that intervene between them.

An overview of the new chart, line by line, is as follows:

1. Space is fpix solutions.
2. The folding of ct1 space to ct2 occurs in a pre-time environment so we use a net value once time is applied to the observations. Its reach is infinite and nets gravity and dark energy (the name for anti-gravity).
3. The **precharge state (ct2)** is the fully loaded gravity fold and has a single dimension, towards or away from compression. The direction of loading or unloading reflects the net gravity (positive or negative) over time for subsequent states.
4. The change from ct2 to ct3 generates a state which is referred to as charge which is a net over time and gives a positive or negative compression orientation to equations which follow. Ct2-3 is believed to be the primary spew state of neutrons and generates the magnetic field of the earth.
5. The fully loaded **prephoton ct3** operates has two dimensions. It defines an early form of time, although not complete, hence all changes up to this point are referred to as pre-time changes. As a result there are no limitations over time to their solutions.
6. CT3 loading onto ct4 creates 16 transition states by fold number and all of the features between waves and neutrons including time. The more information that is affected, the greater the time effect experienced. Velocity is defined by ct3 loading primarily since velocity reflects a change in ct1,2 and 3 between ct4-5 states over time. In a **reverse-polynomial approximation** the more dimensionally compressed ct2 and ct3 states have less effect than ct1. Only a single transitional state (the electron) is shown although all wave energies are included within this intermediate stage.
7. CT4 is shown with the **atomic force** and represents the fully loaded ct4 state which has collapsed into a neutron. When it is decompressed it releases all the ct3 states, 10^16 of them and this transition is the source of the e=mc^2 equation. C comes from the ct1, 2 and 3 states released and m represents polynomial approximation of the number of neutrons and protons involved. It has 3 dimensions.
8. There are three **ct4-5 transitions** (of 36) represented between ct4 and ct5. These are representational and not considered to be precise. The first is the **Postatom force** which corresponds loosely with the **weak force**. It reflects ct4 neutrons and protons being aligned on ct5 information arms over the first two information arms and forms the periodic table. It is theorized to be the force holding the protons to the aligned neutrons ct4 ct5 arm loading.
9. The second ct4-5 transition is the **forced molecular force** which corresponds with the electromagnetic force (theorized). As neutrons pull protons together, there is an increase in the interaction of the electrons and protons. his interaction compresses the charge effects of ct3-ct4 loading. Since those effects are pre-time, net effects the range appears infinite, however it is limited by the features with which it is associated in reality, between 10^-15 and 10^-18. Since the more dimensions, the less range, there is a decrease of range between ct4 and fully compressed ct5 states.
10. The final ct4-5 transition discussed is the **strong force** which is considered to be the N-N loading alone from the postatom force. Its range is more limited since the protons are farther out from the core dimensionally.
11. The next **ct5 black hole state** is associated with the **Very Strong force** which reflects the 4-dimensional collapse of ct4 into ct5. There is an obvious transition with neutron stars and variable transitions with heavier dimensional features of the universe but these are not discussed in detail.
12. The final element considered are the transitional ct5-6 states that we call “black holes” but which in this model are collections of

black holes and neutron stars as discussed later. It is theorized that we are in a transitional ct5-6 universe.

Range

Range is the easiest feature to deal with.
Dimensions increase and the amount of coordinated information exponentially increases with compression. Effective area is reduced with an increase in dimension. (see Figure 4).

The range is restricted to the compressed state on which the force in question operates. Since compression reduced range (added dimensions reduce space by compressing it further) the molecular range of the strong force and the weak force are both along the first ct5 arms where we live. The molecular range is more than the atomic range because the force is "outside" of the direct ct4-5 alignment and involves transitional ct3-4 states (protons) which are less compressed.

The electromagnetic and gravitational forces are considered infinite. That is not considered accurate for several reasons and the two are dealt with separately.

Gravity involves a non-dimensional state (ct1 space) and two-pre-time states. Hence for two reasons dimensions and time do not apply to these changes. However, eventually the tendency towards decompression for the universe will change to compression. In the same way, eventually all gravitational features turn to dark energy features. Because these are pre-time1 and pre-time 2 changes they are instantaneous from a time standpoint.

Electromagnetic force deals with the compressed features of ct2-3 compression. It is initially compressed into Photons and waves which are ct3-4 features. These features can be fixed within ct4-5 compression at which point they can be measured as 10^36 scale forces. They can also move about as semi-stable transitional forces within bundles of ct1, 2 and 3 in two dimensions where their movement is governed by changes in ct1 intervening states. Since these are "pre-time2" and post-time1 changes in location, they are seen as speed of light transitions. While they appear to exist at infinite ranges, the decompress and compress so their range is limited by their lifespan just as gravity is limited by its life as compressive or decompressive. (Theorized)

Force

AuT suggests that force is nothing more than the loading and unloading of compression arms over values of x as observed based on time. Since some forces have pre-time elements, the net effect is observed.
There are multiple transitional compression states that become more pronounced with increases in compression. Those that are subject to time are capable of being affected.
Each of the forces is tied directly to the amount of information change involved. Some of these are suggested and some are not.
The quantum strength of the force is tied to the transition in question. For example, a quantum of ct4 turning into ct3 is at the scale of 10^16:1 which is immediately obvious as e=mc^2.
The transition of ct5:ct4 must be 10^38:1 and that is also observed at the mass equation between a minimal size black hole and the neutron. See the calculation in Algorithm Universe Model.
The other forces are more complex because they relate to dimensional intervening states and involve multiple ct states, but they appear to fall into place as shown in the summary.

While not directly observed, the charge to prephoton transition has an absolute force in terms of change in x of 1679616:1 but because we only observe the net effects, we see instead a 1:10^36 transition, just under the 10^38 for the strong force. This force represents the Neutron-Proton-electron information exchange where the Neutron remains stable between absorption and disgorgement of information; while the proton and electron exchange different, lower, compression states as discussed in more detail below.

The final ratio discussed directly is the Neutron-Proton interaction where information is exchanged between those two states reflecting their being held together by this exchange with the quantum transition being 10^25.

In the case of the Strong, Weak and Electromagnetic forces, the exchange is between ct3 and ct4 primarily as is the case in the atomic exchange represented by fusion and fission. It is observed, that complete quantum exchanges are the exception and that even in nuclear explosions the transitions occur over very long values of x.

The terms strong and weak force become problematic. AuT is a model based on observed compression states. The pre-AuT definition of the weak force says that it operates to hold neutrons and protons together. Under AuT it is an effect of the net compression and decompression within the system. It is, roughly the absorption of ct1 by Neutrons from Protons. The compression of the neutron is maintained by the decompression at the poles of the neutron of some of the ct1 states as well as some higher ct states.

There is a "weak" force here because it is only the first two ct5 information arms involved.
The strong force under Pre-AuT physics has to do with ct3 compression, binding "quarks" to form protons and neutrons.

Under AuT, there are no "quarks," but there are transitional information arms, some of which (muons and electrons) are defined under AuT at least loosely.

In this way the initial strength of compression is greater for the strong force because of the finality vrs initiation.
AuT suggests that our concept of "force" can be replaced with information loading and unloading along different compression arms.

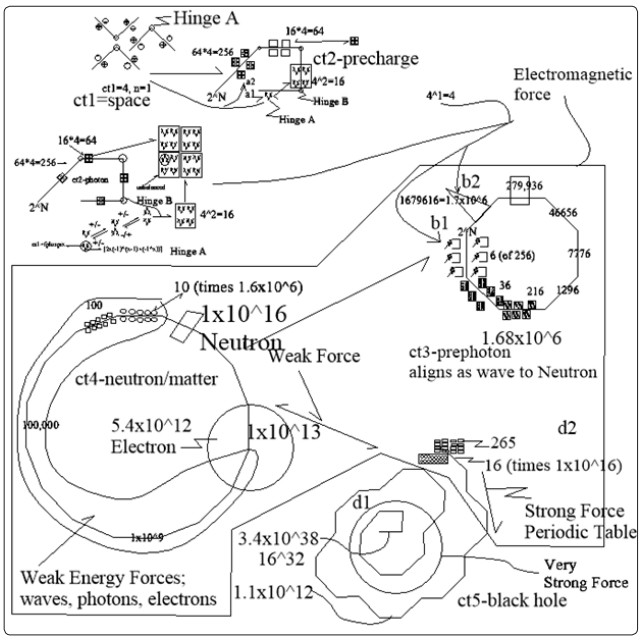

Figure 15: shows compression information arms from ct1 to 5 with the associated force

Using the compression charts shown above, the location of the forces is shown for the strong and weak force and other force where they are "experienced." We experience net gravity and net energy because they change in a time free environment. The range of force is tied to the size of the loading and unloading feature and to pre/post time features being combined when observed over time; dimensional effects present at the point of observation and the effected ct states.

All states maintain their dimensional status. We see the constant interaction of space and precharge as movement. Movement is non-dimensional ct1 space decompressing and unwinding as trapped ct1 states escaping from a folded matrix of higher ct states. Ct2 quantum charge decompress from ct3 prephotons and early compression ct3-4 wave energy from higher transitional compression ct3-ct4 matter. Protons and electrons are ct4 transitional states. Ct5 is what we call black holes and the transitional states of ct5 are what we call Hydrogen atomic structures and molecular structures.

The transitional state (partial loading and unloading of information arms) from ct1 (space) to ct2 (photons) is reflected by gravity and the ct2 to ct3 transition gives rise to electro-magnetism. The strong and weak force reflect ct3-ct4 arm loading and ct4-ct5 arm loading although transitional ct3-ct4 states also load as protons onto ct5 information arms.

A detailed discussion of force is given in Algorithm Universe Model chapter 8; the discussion in the Original Article is dated, but accurate in principle if not specifics.

The origin of time

A representative close up of the ct1 movement within a ct3 state as information compresses and decompresses. Ct2 states are shown with relative locations. All ct1 states can rearrange based on the ongoing fuse solutions. Over a number of values of x, CT1f will move to ct1h in this example changing the arrangement of information within the ct3 state shown as the largest circle.

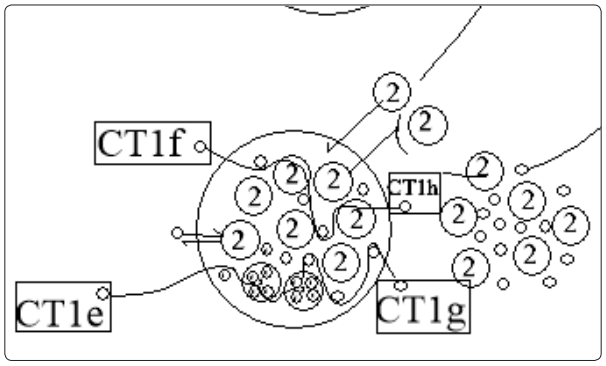

Figure 19 is a Concept drawing of how ct1 decompression changes ct3 history to generate time, which is cut from figure 9.

While this shows where quantum changes in non-dimensional ct1 end up in a folded matrix of a single ct3, it is important remembering that one dimensional ct2 quantum changes move within a ct3 matrix of ct2 states the same way.

You end up with these streams of different states moving through the matrix of the next higher state and carrying it along as it unfolds. Time arises gradually; it requires wave states to store enough information to be observed as fixed histories relative to the changing histories as some quantum states change while others remain the same.

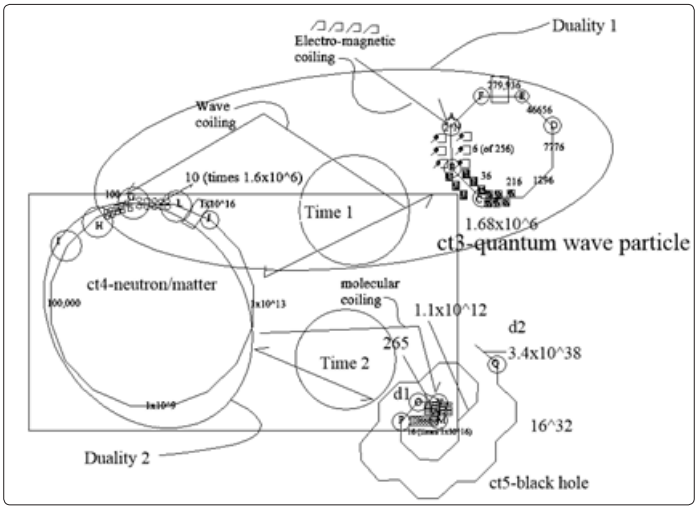

Figure 41 shows the interaction of time and duality over various compression states.

The drawing above shows how time builds from a poor source of saved information in ct3 states (time 1) to a more complex and full historical record (Time 2) incorporating wave states that exist in the ct3-4-5 matrix.

The universe exists as quantum states based on a value of a single variable called x. The amount of information is constantly increasing so the film gets wider, except that it compresses on occasion making it dimensionally smaller.

Since the universe exists in this fashion at the quantum level, within any snapshot value of x, there can neither be time nor thermodynamics.

A cursory examination of Planck length yields a change rate of 5.4x10^44 changes per second, at least at the point where seconds become important.

Assuming we at 10^100 bits, just to pick a number, the longest point exists for 2*10^100 changes of x or roughly 10^66 seconds, the average length in the middle area where we live being around half of that. While this is a very stable state of things, given that there are changes between the points constantly occurring including changes in the fuse which change with every value of x, we get both the stability and movement that we observe. A detailed discussion of time is given in Algorithm Universe Model chapter 6 and 11; the discussion in The Original Article is dated, but accurate. The discussion includes details on velocity and gravitational time dilation.

Fractal Geometry and Transition states

One key take away from the discussions of compression and time is that our observations are tied almost exclusively to what are described as ct3-4 transitions because that is where time exists. This limited area of time is expanded over ct5 initial compression to spread time evenly over a planet despite regional differences experienced, for example, by an individual standing still (at 790,000 mph) at an intersection and a second individual moving relative to the first at 500 mph in an airplane, although the two are normalized by the galactic movement.

(2f (n) ^2(n)) is an interacted function which results in compression of each of the prior functions and therefore an f(x), f (f(x) type equation.

Since our appreciation of the universe is limited in scope, a closer look at how change exists within these compression states leading up to a discussion of the periodic table is warranted.

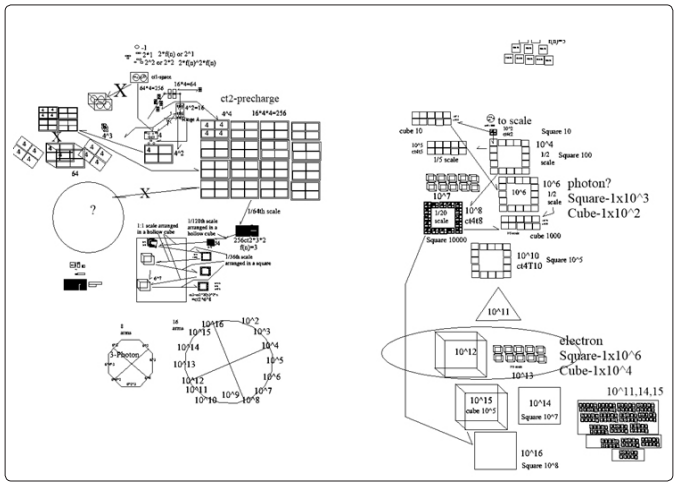

Figure 30 shows the application of fractal states to higher compression states between ct3 and ct4 which also relate to Figures 7 and 8.

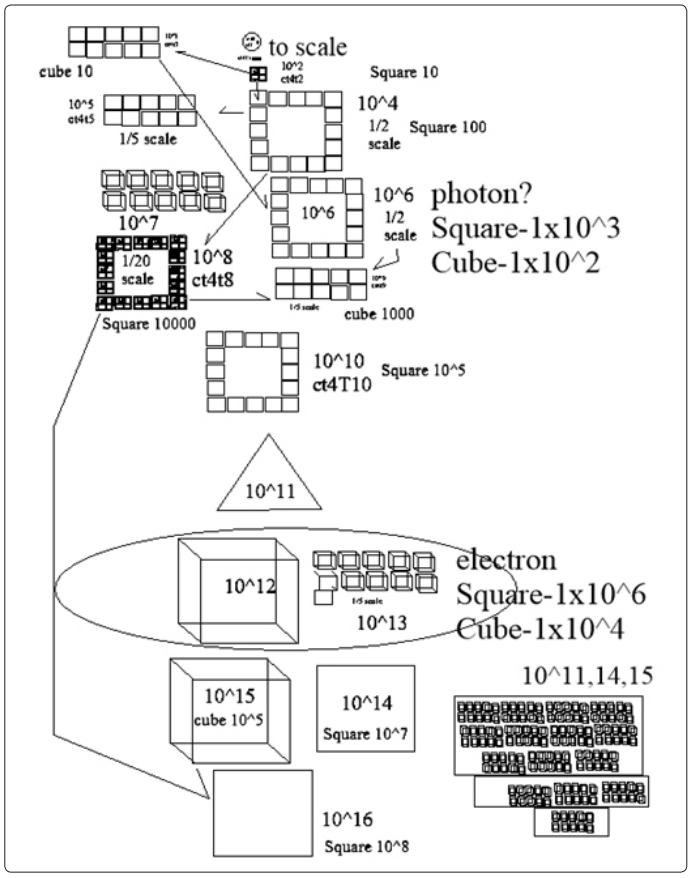

Figure 30f shows the neutron compression at the ct3-4 stage.

This leaves the proton fractals as what i will call shell fractals surrounding the neutron shell, 1:1; 4:4; 8:8; 8:8 on the other side of the 1:1; 16:16 on one side then the other. It works well although the art needs some work the 2, 10, works perfectly with N, then you get the plus 4 which reflects the balancing of the 8:8s on either side allowing more Ns to be stabilized by the resulting additional spews.

Then you get something a little more sporadic as the size of the atom or molecule allows for more N to have sufficient lower state spew to remain largely independent of the matrix.

Importantly this provides for fractal electrons around protons, fractal ct3 around ct4 states and the like A study of fractal mathematics led to substantial detail being added to the Original Article which only shows a cursory view of fractal features. A detailed discussion of fractal application is outside of the scope of this article but can be found in in Algorithm Universe Model chapter 4, 9 and 10 (specifically describing the periodic table).

Only a few conclusions are given here.
The electron is a transitional state between a complete and partial ct4 state at the twelfth level of compression (T12) in the 16 levels or folds of compression corresponding to 10^16 compression in the compression equation. Because of relative mass issues, this T12 compression state exists within a T13 electron bundle of information.

ct4tstate	value	cube form	square
16	$ 10,000,000,000,000,000.00	1E+08	215443.5
15	$ 1,000,000,000,000,000.00	31622777	100000
14	$ 100,000,000,000,000.00	10000000	46415.89
13	$ 10,000,000,000,000.00	3162278	21544.35
12	$ 1,000,000,000,000.00	1000000	10000
11	$ 100,000,000,000.00	316227.8	4641.589
10	$ 10,000,000,000.00	100000	2154.435
9	$ 1,000,000,000.00	31622.78	1000
8	$ 100,000,000.00	10000	464.1589
7	$ 10,000,000.00	3162.278	215.4435
6	$ 1,000,000.00	1000	100
5	$ 100,000.00	316.2278	46.41589
4	$ 10,000.00	100	21.54435
3	$ 1,000.00	31.62278	10
2	$ 100.00	10	4.641589
1	$ 10.00		2.154435

CT4 Transitional State Table
The observed "photon" is believed to be a T4, T6 or T8 state. Waves exist between T1 and T12 compression.

Odd and even exponent interaction

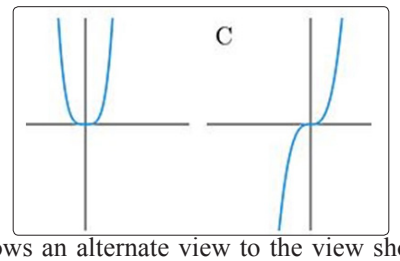

Figure 8: shows an alternate view to the view shown in Figure 7 where the odd and even exponent results are shown separately.

Between Fractal stable compression states (even exponent states) there are hinge states (odd exponent states). The combination of these results with increased compression shown in the drawings above can be applied to generate drawings showing the interaction of these two mathematical results which is critical to the way that the universe displays information visible to us.

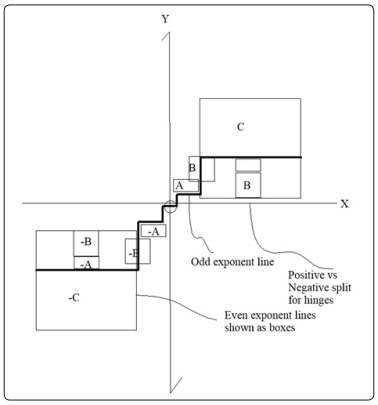

Figure 7: shows the interaction of hinge and compression, odd and even exponent compression shell types.

Higher compression states are folded within the lower compression states and bleed together, but the pulling and pushing with the system remains whichever point of reference is used:

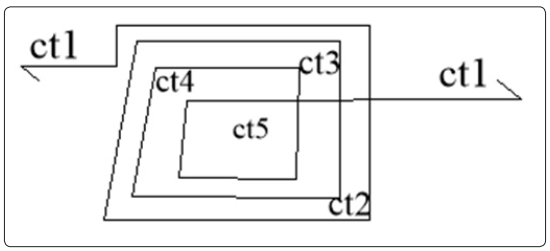

Figure 14: shows how larger mass states have smaller dimensional footprints.

Dimensional states co-exist. Space is non-dimensional; precharge has one, prephotons two, matter 3, black holes 4. We separate dimensions through perspective. Whatever happens to prephotons within waves is invisible. It is also likely that t4 and/or T8 (theorized) photon fractals are partially hidden in a **pre-thick-time state**, so we see the net result as wave particle duality. Time as we experience it involves all the wave states, but since at least prephotons carry some information forward, there is a pre-thick-time state which holds part of time.

Distortions: We see zero, one and two-dimensional features as if they were 3 dimensional. We see change limited by wave state rate change which distorts our perception of the other, lower states changes.

Nomenclature

1. X-The count of the universe, counting in sequential quantum whole numbers (1,2,3, etc.). Each number represents a quantum instant for the entire universe
2. **Quantum points, quantum data points:** individual bits of fpix information which make up the universe. It is estimated there are at least 10^100 of these defining everything from space to black holes. Each has a positive or negative charge for any value of x
3. **Fuse, transition fuse (tf):** the number of changes in x between charge changes (fpix progression) for quantum points. The direction of changes at the ct2-ct3 level is believed to be the source of traditional charge with observed electromagnetism being the effect of this charge when compressed at the ct4-5 level and with ct3 prephotons believed to carry electromagnetic charge within space as a result based on whether it is loading or unloading ct2.
4. **Fpix:** the denominator of pi and an equation that separates quantum points of the universe by transition fuses.
5. **F-series:** The Fibonacci series f (n); f-series compression refers to two times this number.
6. **Exponential compression** 2^n (see information arms).
7. **Place:** Also compression sate defined by the f-series rose to the exponential compression number which defines dimension and is also the numerator of pi for each compression state.
8. **Information arms:** the number of folds represented by exponential compression based on pairing positive and negative lower ct states.
9. **Transitional states:** compression states where the information arms are partially filled or separated by trapped states. Examples are waves, protons, electrons (ct3-ct4); molecules and post

hydrogen atoms (ct4-ct5). Transitional states can be described as the transition between a lower state and a higher state. A ct3-ct4 transitional state, such as the electron and proton, are transitional states between waves and neutrons with too many intervening lower ct states to fully collapse into neutrons.

10. **Fractal States:** Stable mathematical structures for transitional solutions (theorized) and include photons, electrons and stable atomic states.
11. **Hinge States:** mathematical solutions having bending solutions, theorized to be odd exponent solutions to compression equations based on (2^n)-1 exponents.
12. **Compression states:** mathematical solutions yielding compression theorized to be even exponent solutions based on 2^n exponents.
13. **Force:** Changes over values of x in the filling of information arms viewed from a time-based analysis. Electro-magnetism is theorized to be the loading and unloading of ct2 states onto ct3 information arms; gravity ct1 loading/unloading onto ct2 information arms. Since the net effect of time free changes is observed from a time-based perspective, we "see" these time independent changes as forces.
14. **Light speed:** The rate change represented by a single ct2 state relative to a ct3 state viewed from a time-based perspective.
15. **Time:** The ratio of ct1 states passing within a ct3-ct4-ct5 transitional state to ct1 states changing outside of the ct3-ct4-ct5 transitional state. This ratio is the source of velocity time dilation. The movement of ct1 states within the ct3-ct4 transitional state alters the arrangement of the ct3 wave states captured between the proton and the electron altering the history of points within the transitional state and the comparison of one collection of points to subsequent arrangements of the same points creates history.
16. **Electron Bundle:** The wave's states within ct3-ct4 and ct4-ct5 transitional states which hold the history for a regional mass.
17. **Gravity:** the force created by non-dimensional ct1 solutions being "loaded" onto information arms of ct2.
18. **Dark Energy (anti-gravity):** the force created by non-dimensional ct1 solutions being unloaded from information arms of ct2. This may include releasing ct1 states trapped within a higher ct state matrix.
19. Ct1: space defined by fpix sequential solutions
20. Ct2-precharge: The first compression state, unique as coming from a non-dimensional state to a one-dimensional state. Note that the transition between ct1, ct2 and ct3 occur below the level of time and the transitions are therefore partially hidden from a time-based analysis.
21. Ct3: prephotons
22. Ct4-neutrons: Note that neutrons do not allow for significant passing of ct1 states within the ct4 state due to the compressed nature of the neutrons, so time does not exist within neutrons. The origin of ct3-ct4 waves and time which is the changes to wave forms over the ct4-5 matrix. Squeezing out the waves is the source of gravitational time dilation.
23. Ct5-black holes: Molecular states are ct4-ct5 transitional states.
24. Ct6 and beyond: theorized higher compression states that form when the total amount of information in the form of ct5 states is properly aligned and sufficient.
25. **The big bang:** A misnomer referring to the time when the collection of compression solutions of ct1 states into higher ct states went from a net positive compression state to a net negative decompressing state reflecting a greater release of ct1 states from higher states than the corresponding entrapment. We are approximately 13 billion years (13billionx10^44 changes in x) from the latest inflection point and approximately 7 billion years from the next inflection point where the universe will begin to contract again based on observed ratios (book 1 Algorithm Universe Theory Compendium).

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