A view from within mind in Mind

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Abstract

Creation appears to have been an information-based act which separated mass energy plus kinetic energy from equal and opposite field energy. Correlation of particle data with information shows that there are two levels to nature, 1) an information level associated with mind and 2) an energy level that supports evolution of our body and brain in a large universe. The author developed an information-based model of fundamental particles based on these two levels. We perceive information with electromagnetic senses at the interface of these two levels of nature. Particles described by the author's models contain information required to create the universe around us. For example, three energy/information components define a three-dimensional universe. We inherit this information viewing point because we are an integral part of nature. The concept that the information level of nature is mind and that it is a subset of Mind [6][7][8] helps us understand. It leads to the view that life leads to valuable information increases and that we participate in ongoing creation.

Discovery of information values in particle data.

Many physicists believe that particles and fields are fundamental and that the position of particles is probabilistic. Probabilities are information by Shannon's equation information N= negative ln(P) [2]. The symbol ln(P) means the natural logarithm of P. The author discovered an information pattern in the data below that allows the mass of the neutron, proton, electron, and other fundamental particles to be calculated [13]. It led the author to assign information values called N to mass and energy components. The symbol exp(power) in the table below is the natural number e=2.781 raised to a power, i.e., e^(power).

Identifier		Particle Data Group energy	Energy Es Es=e0*exp(N)	N details
v means neutrino	N=ln(E/e0)	E (MeV)	(MeV)	e0=2.025e-5 MeV
taon v		<15.5		
electron v		2.20E-06	0.048	
N component	0.0986			ln(3)-1
N component	0.16667			.5/3
muon v		< 0.17	0.0695	
E/M Field E	0.296	2.720E-05	2.72E-05	3*.0986=.296
ELECTRON	10.136	0.51099891	0.511	10.136=10.432-3*.0986
N component for qua	10.333		0.6224	10+1/3
N component for W	10.408		0.671	90-remainder
Grav field compo	10.432		0.687	10.432=10+1/3+.0986
Grav field compo	10.507		0.740	10.408+.0986
Energy difference Neutron-Pro		1.293		0.622+0.671=1.293
Graviton	10.432 & 10.507	6.00E-26	2.801	3*0.687+.74
Up quark Mass	13.432	2.16	2.490	4*0.622 MeV
Kinetic Energy fo	12.432		5.076	10.432+2
Down quark Mas	13.432	4.67	4.357	7*0.622 MeV
Down quark KE	15.432	93	92.507	101.947-9.44 (quarks)
Down Strong Fie	15.432		101.947	
Charmed Quark	17.432	1275	1273.37	15.432+2
Strange Strong f	17.432		753.291	
Bottom Quark M	19.432	4175	4175.27	17.432+2
Top Quark Mass	21.432	17276	17261.00	19.432+2
W+,w- Boson	22.106	80445	80668.71	22.5-4*.0986
Z Boson	22.234	91188	91757.6	22.5-.0985-.167
HIGGS Boson	22.530	125300	123340.7	22.5+2*.0986-.167

Information sources: Particle Data Group and NIST.
MeV is the abbreviation for million electron volts.

Particle data comparisons with model N values.

The values of N (column 2) form an easy to identify series. Many N values contain the fractional value xx.432= 1/3+0.0986. The value 0.0986 = ln(3/e), where e is the natural number 2.718. Column 3 is data from accepted sources and column 4 uses the relationship Es= e0*exp(N) to correlate N with the data. It supports an exponential relationship between measured particle or boson energy E (MeV) and Es=eo*exp(N) where e0 is 2.025e-5 (MeV). The pre-exponential e0 is derived from the mass of the electron, 0.511 MeV (e0=0.511/exp(10.1362)=2.02e-5 MeV). The electron is N=10.432-0.296=10.1362 (refer to data above). One of the key clues was that 0.296 is N for the electromagnetic field energy 27.2e-5 MeV suggesting that it was separated from the electron.

Probability.

Consider probability one as an initial condition. Probability is not difficult to understand. For anything to have meaning it must be compared to something of the same type. For example, a word in a language means something because it names something within a language you understand. Probabilities written in numbers mean one outcome occurs out of all number possibilities. Probability one as an initial condition means comparisons were unity and not yet separated. Information is related to probability, the lower the probability the higher the information content. Our universe appears to be perceived through neural networks that build information models of reality that include time, space, and energy.

The work below shows that neutron/proton information values are the repository of nature's laws. "*How Nature Computes*, Prespacetime Journal, May 2019 [9], shows that entities in the Standard Model [10] agree with the neutron and proton models. Nature appears complex because particles were duplicated an incredible number of times and have the freedom to move and form objects including us.

The beginning of energy
The idea that nature originates as a series of separations is an old idea, for example, recall that Genesis contains the words "So God made the expanse and **separated the water** under the expanse from the ... as **Genesis** 1:7 ends with the phrase 'from the **water** above it [the expanse]'. One phrase used is "in the beginning was the word."

Information is correlated with net zero equal and opposite energy pairs. Separation from net zero energy means that one does not have to ask; "where does energy come from?" This can be illustrated as follows:

Mass plus kinetic energy	information	information	Field Energy
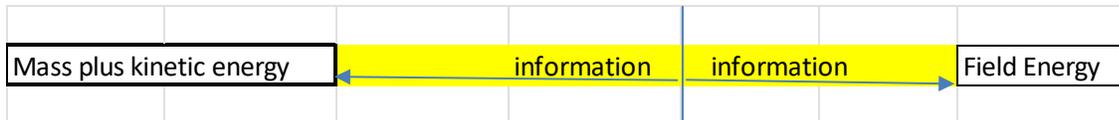
Positive energy is mass plus kinetic energy (energy of motion), and the equal and opposite energy is field energy.

The neutron and proton models.
Information values N, discovered in the original data above, were used to construct math models that match nucleon (neutron and proton) mass within experimental errors. The models are based on two constraints, probability one and zero energy. They show component relationships and details of neutron decay to a proton, electron, and anti-electron neutrino. There are four fundamental forces in the models conceptualized as particles orbiting fields.

Probability=1 constraint
Evaluating energy requires consideration of overall probability, not just the probability of particles. The probability of each particle is extremely low but when duplicated a vast number of times they become certain. Specifically:

P= 1= probability of each neutron* number of neutrons= $1/\exp(N)*\exp(N)$.

Neutron and proton energy components
The conventional equation for energy is $E=h\nu=1/t$. H= Planck's constant= 4.14e-21 MeV-second. h=H/(2pi) is Planck's reduced constant [Wiki]. In the model that follows Et/H=1. We

only need energy terms that are equal and opposite. Involving time, t in the model would be redundant. Details are in Appendix 6. The mass models of the proton and neutron are based on overall zero energy and probability=1. The defining relationship between energy and probability is P=e0/E=1/exp(N). This yields the relationship between energy and N, E= e0*exp(N).

Quarks.

Nucleons (protons and neutrons) consist of components called quarks. The table below shows one of the three quarks with kinetic energy attracted to two fields. Each quark has four N values and four correlated E values, E=e0*exp(N). Energy units are million electron volts (MeV). The table positions for mass, kinetic energy and two fields are not interchangeable.

Proton model position codes from mass, kinetic energy, and fields.

mass	E 1		field1	E3
kinetic energy	E 2		field2	E4

mass=E1			field1	E3
Kinetic energy =E2+(E3+E4-E1-E 2)			field2	E4

Values of N from fundamental data are inserted below:

		N	E=e0*exp	N	E=e0*exp(N)	
kinetic energy		12.43195	5.075635	Field1	10.43195	0.686913
mass		15.43195	101.9469	Field2	17.43195	753.2911
Difference KE			646.9555			
			753.978			753.978

N values for the quark strong field are N=2 higher than quark mass N (for each of 3 quarks).

Probability =1 and overall energy =0.

E1 is the only mass term, E3 and E4 are field energy, and the remainder is kinetic energy. Overall, above: E1+(E3+E4-E1-E2)+E2-E3-E4 = 0.

The model starts with N for the Higgs (N=22.53), Z (N=22.235), and W (N=22.106) bosons on the left-hand side that, according to the Standard Model, are the source of field energy on the right-hand side.

Split 90/4	Higgs=22.53		
	Z =22.235	Z components	
	W=22.106	W components	Action of W-
22.500	22.530		
	-0.1972		0.197
	0.167		5.167
22.500	22.530		
	-0.1972		0.197
	0.167		3.167
22.500	22.235	-10.4316	
	0.0986	10.507	0.197
	0.167	10.333	3.167
22.500	22.106	-10.4316	
	0.3944	10.408	
		10.432	
			12.092
90.000	90.00	22.50	
		22.50	

The bosons above are split into values like N=12.432+15.432=10.432+17.432 in the table below. Each column totals N =90 at the bottom and leads to energy components of mass models for the neutron and proton below:

Neutron

N values for mass	E=e0*exp(N)	N values for fields	E=e0*exp(N)	
12.4319	5.076	10.432	0.687	X
15.432	101.947	17.432	753.291	
12.432	5.076	10.432	0.687	Y
13.432	13.797	15.432	101.947	
12.432	5.076	10.432	0.687	Z
13.432	13.797	15.432	101.947	
Z components	E=e0*exp(N)	Z Field	E=e0*exp(N)	
-10.432		-10.432		
10.507	0.740	10.507	0.740	
10.333	0.622	10.333	0.6224	
90.000		90.000		

Proton

N values for mass	E=e0*exp(N)	N values for fields	E=e0*exp(N)		
12.432	5.076	10.432	0.687	X	
15.432	101.947	17.432	753.291		
12.432	5.076	10.432	0.687	Y	
13.432	13.797	15.432	101.947		
12.432	5.076	10.432	0.687	Z	
13.432	13.797	15.432	101.947		
W components	E=e0*exp(N)	W field	E=e0*exp(N)		
-10.432		-10.432			
10.408	0.671	10.507	0.740		2.801
10.136	0.511	10.333	0.622		
	0.296	2.72E-05			
90.0000		90.000			

The probabilities for the sets of four N values are:

1=(1/exp(12.43)*1/exp(15.43)/(1/exp(10.43)*1/exp(17.43))

1=(1/exp(12.43)*1/exp(13.43)/(1/exp(10.43)*1/exp(15.43))

1=(1/exp(12.43)*1/exp(13.43)/(1/exp(10.43)*1/exp(15.43))

1/EXP(-10.432)*1/EXP(10.408)*1/EXP(10.136)*1/EXP(0.296)/(1/exp(10.33)*1/exp(10.408)*1/exp(10.33))=1. The probabilities are multiplied down through the vertical axis of the table. With each sub-component p=1, overall P=1*1*1=1.

Each quark with kinetic energy (E2+E3+E4-E1-E2) is separated from field energy E3+E4. Field energy E4 is a component of gravitational field energy. When added to the other components, the gravitational field energy totals 2.801 MeV.

Neutron and proton mass models.

Energy values from the table (E=e0*exp(N)) above are arranged into columns below for clarity. The components above total the mass of the neutron and proton below marked in red below

(accuracy vs PDG data is shown). It is a particle-space model because it includes initial expansion kinetic energy 10.15 MeV and expansion potential energy10.15 MeV. The energy E2+E2= 10.15 MeV is fundamental to atomic fusion and expansion of the universe. The neutron decays to a proton, electron, and anti-electron neutrino shown on the right. The total energy at the bottom of each column is 959.868 MeV.

	MeV		MeV			MeV		MeV
	Neutron Mass Components		Neutron Field Components			Proton Mass Components		Proton Fields
	101.947	Mass	753.291	Strong Field E		101.947	Mass	753.291
	13.797	Mass	101.947	Strong Field E		13.797	Mass	101.947
	13.797	Mass	101.947	Strong Field E		13.797	Mass	101.947
	5.076	Ke	2.801	Gravitational Field		5.076	Ke	2.801
	646.955	Difference KE				646.955	Difference KE	
	83.761	Difference KE				83.761	Difference KE	
	83.761	Difference KE				83.761	Difference KE	
	10.151	Fusion KE				10.151	Fusion KE	
	-20.303	Weak Field E				-20.303	Weak Field E	
						-0.622	minus quark mass	
accuracy vs PDG	0.622	adds to quark mass			accuracy vs PDG	-0.048	ae neutrino	
-7.18546E-09			-0.118		-0.0000096	-5.44E-05	Em Field +2	-0.118
939.5654133	939.565413	Neutron mass			938.2720814	938.27209		
PDG					PDG	2.72E-05	EM Field -1	
						0.511	Electron	
						0.671	.622+.048	
						0.11141	Kinetic E	
	10.15127081	KE Expansion				10.15	KE Expansion	
	10.15127081	PE Expansion				10.151	PE Expansion	
	959.8680		959.8680			959.8679		959.8680

Overall, the N values of the mass plus kinetic energy components equal 90. Written as a probability P= 1/exp(90). The equal but opposite field energy components are also P= 1/exp(90). They occur at the same time, multiplying the probability to 1/exp(180). To re-establish P=1 for improbable particles, there must be a vast number. Specifically, P= 1= probability of each neutron* number of neutrons= 1/exp(180)*exp(180). Referring to the concept of wholeness, one can consider the universe consisting of duplicates. The separated proton-space components give it space-wise and time-wise relationships inside a P=1 system. The proton model is the source of information for cosmology and unification [13]. It is the basis of the expansion curve in Appendix 2 that converts kinetic energy to gravitational potential energy.

**INFORMATION IN THE NEUTRON AND PROTON MODELS.**

Time enters nature through the fundamental relationship E=hv. The value v=1/t is frequency. Probability, P=e0/E and E=h/t, gives P=t/t0. Everything is probability= energy ratios= time ratios. This is a clue regarding creation. Component time increments t were shortened against a standard time (t0), creating a low probable. This was repeated for all components but overall P=1 when the probabilities for opposite energies are divided.

> Aside: There are alternative models of orbiting particles, imaginary numbers, and waves. But the model above allows information that creates the universe to be extracted. This is possible only at P=1.

Simply stated, nature's particles and fields are information-based. This is a level lower than Leucippus and Democritus who originated atomistic theory and also a level lower than the Standard Model.

OUR POSITION IN NATURE.

The concept of mind in Mind is that both exist in an information level. In the diagram below, we are the small box labelled mind. The creator changed time ratio t/t0 information to separate energy in the beginning. This created a particle/field energy level. Our senses allow us to perceive the energy level where our body and brain evolved. But the information we perceive is associated with mind.
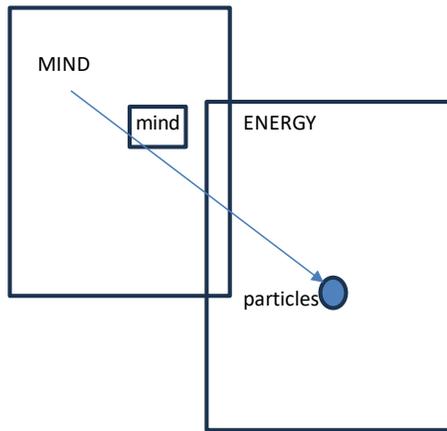
PARTICLES CREATE STRUCTURE.

There are only protons, neutrons, electrons, light, bosons, and a few anti-particles in nature. Nature appears complex because these few particles are duplicated an incredible number of times. Short lived mesons and baryons produced in high energy colliders are combinations of proton components. Nature can also micro-miniaturize, making it difficult to see the parts.

After evolution, we have an energy-based body. It is useful to view our body and brain at the information separation point for mass and fields.
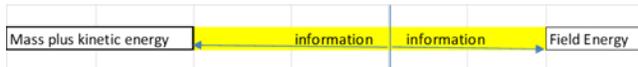

Our brain operates at an electrochemical level, but the molecules and electrons of the brain are at the center of a hierarchy of structures capable of supporting it. Subsequentially the body evolves and supports a brain that deals with energy around it. The brain eventually recognizes that nature has another level, information that we can call mind in Mind.

The proton model helps us understand the universe. The diagram below shows the purpose of proton components and the structure they create.

Purpose	Component	dimension	Mass MeV	MeV Kinetic E	MeV Field Energy
	Down Quark	X	4.36		753.29
	Kinetic E		547.621	202	0.69
Structure x,y,z	Up Quark	Y	2.49		101.95
	Kinetic E		95.069	5.07563504	0.69
	Up Quark	Z	2.49		101.95
	Kinetic E		95.069	5.07563504	0.69
	Strong residual KE		10.151		
	neutrino ke		-0.671		
Create atoms	Weak Field E	fusion	-20.3025	0.00	
			-10.151		
	E/M field		-5.44E-05	0	
	Proton M	proton	938.27		
	E/M field		2.72E-05		
Life processes	electron	orbit proto	0.511		
	Kinetic E		0.111		
	v neutrino		0.671	0.118	
	P match		2.02E-05	-0.740	0.67
	ae neutrino+ematch		0.049		
Large scale space	Expansion KE	cosmology	10.103		
Large scale space	Expansion PE	cosmology	10.151		
	Total M+KE		959.8683	211.529	959.8683

Purpose #1 X,Y,Z dimensions.

The top of the proton model is responsible for placing us in a three-dimensional universe. Our viewing position is at the information/energy separation point diagrammed below. We consist of particles that define three dimensions (dimensions are information, not energy). This point is probability 1 and zero net energy where our mind can perceive the energy difference.
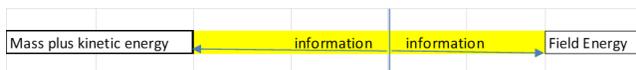
Purpose #2 Create atoms.

The purpose of the weak field energy (-20.3 MeV) is to allow protons and electrons to fuse, creating atoms with sophisticated electronic orbits. Part of the 10.15 MeV energy inside the proton is released as fusion energy.

Purpose #3 life processes and brain networks.

The electron and the electromagnetic field are in the middle of the diagram. This part of the proton is responsible for life processes at the level of cells and neurons.

Purpose #4 Large scale space around us.

The bottom part of the proton is the kinetic energy and potential energy that the proton itself possesses. Each proton is duplicated a huge number of times and possesses energy that expands the universe and creates structure associated with planets, stars, and galaxies.

The following processes occur sequentially.
1. In the beginning particles are duplicated exp(180) times.
2. As expansion occurs gravitational kinetic energy is converted to potential energy.
3. Particles fall into each other's gravitational field and create galaxies and stars.

4. As stars form, protons fall into each other's strong residual fields and release energy. Atoms with complicated electronic structures form and a supernova eventually scatter carbon, silicon, nitrogen, oxygen, etc. that form planets.

5. Chemistry becomes complex and stable carbon atoms lead to life supporting amino acids.

Details of purpose #3 Life processes.

OBSERVATION AND THE ELECTRON

The title of this document is "A view from within mind in Mind." What does it feel like to be viewing nature from a central information perspective? Color vision [10] is an excellent example of how our brain perceives energy. Color is information. Different wavelengths of light are assigned colors by the brain. The colored images we observe are assigned meanings at the information level of nature. The information/energy interface is the electromagnetic field that is associated with the protons and electrons in our brain. Changes in the electromagnetic field energy are associated with absorption and emission of light. This occurs as the electron orbits change by small amounts. The probability 1 and zero net energy constraints in Appendix 3 show what happens as kinetic energy is changed by E=2.02e-5*exp(N), where N is 1,2,3 or 4 times 0.0986. This N series is information. The result is a series of peak wavelengths related to color vision. Electron orbits are slightly changed by light absorption and create a probability ratio called Pf/PF in the graph below. Probability ratios are information to our mind. The equation [21] is from a famous physicist, R. Feynman. This allows us to mathematically simulate color vision with our computer. The peak responses and off-peak responses are shown below compared with color vision data [1] on the human eye.

Stiles and Burch vs Fundamental
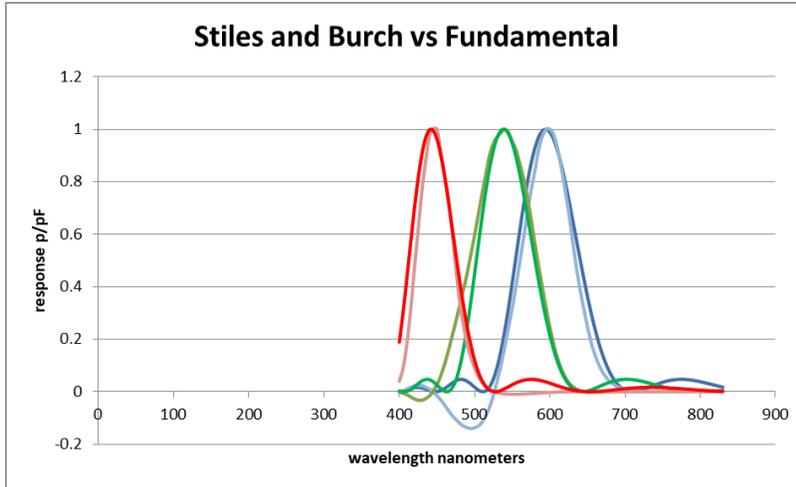
Adding probability neatly represents white light when three colors are combined.

White Light Calc
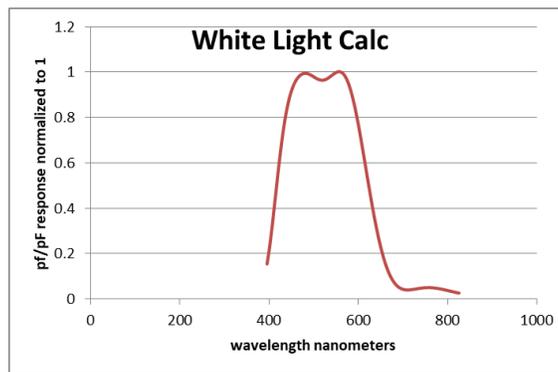
The mental experience of color vision is proof of a link between perception and energy. This is important because it shows that energy changes cause specific meaningful experiences inside the brain.

Color perception is the pf/pF information created when molecules in the eye absorb light.

$pf/pF = (\sin((f-F)t/2))^2/((f-F)t/2))^2$ Where f=frequency and t=time interval.

The absorption equation can also be written in terms of distance (D=C t), instead of time. With MC=f-F=C (1/wl-1/WL) and t/2=2D/C=1/(1/dwl-1/wl) where dwl is the width of the response curve, wl is the incoming wavelength and WL is the peak wavelength. The same equation in terms of D and M follows with (f-F) t/2= M*C/C *(2D) = 2DM. (C, the speed of light, cancels).

$pf/pF = (SIN(2DM))^2/((2DM)^2$ with M=(1/wl-1/WL)

Example calculations for red light at wavelength (wl) 400 nanometers (nanometers are meters with decimal place moved 9 places to the left):
M=1/400-1/594.3=8.17e5 meters^-1 and D= 1e-9/ (1/55.8-1/594.3)=5.73e-6 meters (573 nanometers) when the peak wavelength (WL) for red light is 594.3 nanometers and the width of the curve (dwl) is 55.81 nanometers.

Example color calculation for pf/pF				
55.81158 dwl				
594.3342 WL				
	pf/pF=(SIN(2*D*M))^2/(2D*M)^2			
	D=1e-9/(1/(WL-dwl)-1/WL)=5.73e-6			
	M=1e9*(1/wl-1/WL)			
wl	M	D	2*D*M	pf/pF
400	817444.9	5.73E-06	9.376	2.75E-05
405	786580.7	5.73E-06	9.022	1.89E-03

The function above peaks at unity when the wavelength approaches 594. Our eyes are tuned to respond to light. The N value series 0, 0.0986, 0.197, *0.296*, 0.394 (1, 2, 3, and 4 times 0.0986) is important. N=3*0.0986 is exactly N for the electromagnetic field, 2.72e-5 MeV. N=0.0986=ln(3/e) where e is the natural number 2.718.

| Series	Energy	P=e0/E	Meaning	Color
N	MeV	e0=2.02e-5		(nm)
0.000	2.02472E-05	1	$\longrightarrow$	652.05
0.099	2.23456E-05	0.906094	$\longrightarrow$	590.82
0.197	2.46614E-05	0.821006	$\longrightarrow$	535.34
0.296	2.72173E-05	0.743909	$\longrightarrow$	485.07
0.394	3.0038E-05	0.674051	$\longrightarrow$	439.52

We knew that everything was information based on separations and energy ratios, but we did not know that the brain uses N=0.0986. This number is part of each proton and neutrons information code, i.e., 15.333+0.0985= 15.432. Discovery of the series N=1,2,3 or 4*0.0986 is important to perception.

Your mental experience of color vision is proof of a link between the Feynman probability Pf/PF and perception. This is important because it shows that quantum mechanical computations are associated with specific meaningful experiences inside the brain. We found N values in the proton model, but we did not know that color vision is a similar system, using the fundamental N=0.0986 to modify and store wavelength. This N is a component of the neutron and vision (i.e., they use the same system). Specifically, P=0.906=1/exp(0.0986)) and 0.906^n are sequential wavelength modifiers. The basic wavelength width 61.2 nm is associated with e0=2.02e-5 MeV. The Feynman equation's link to vision is a huge clue regarding nature.

Information from the eye's rhodopsin molecules is transmitted to the brain via coded pulses that fire sequentially along nerves. Our brain's position in 3-dimensions creates the experience of living in a color filled space. The white light calculation above proves that the information is a network addition.

Information networks produce our reality.
Each proton is a network that connects to other protons and neutrons. The entire perceptual system is like the color vision example above. The brain adds many information components and perceives a composite result associated with P=1.

p=1

N linear components
P=p*N
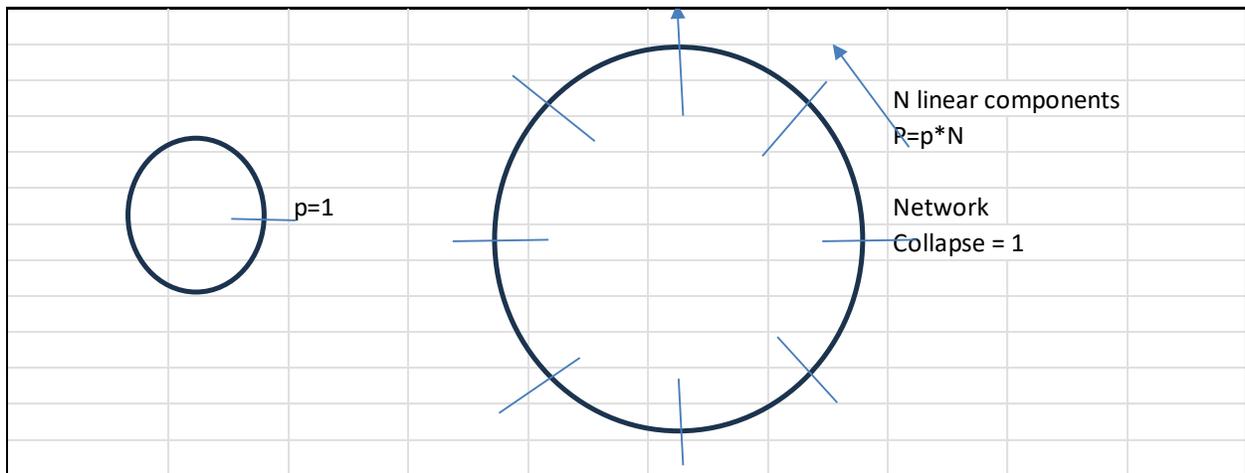
Network
Collapse = 1

Arrays of molecules serve as proton/neutron networks. Life begins when neutron and proton information become a functioning "body/mind" network. The criterium for network acceptance is that they survive to pass on the body/mind network to the next generation. Memory and communication in the network are key. The network can be one cell, systems of cells or specialized cells that sense and use information to survive. The network becomes complex because it develops survival strategies in a challenging environment. The perceptual experience of the evolving brain/mind is an information rich network that is repeatedly updated as time moves forward.

Nature found ways of using information to create complex structures. Supporting structures and functional information networks are key. Memory of previous generations, chance additions and replication supported evolution. An adult human has approximately 1.1e29 protons. Individual protons on their own have a low probability of becoming a functional human body and mind. The replication steps can be simplified to 1) about 1e15 DNA memory protons from the previous generation (see topic 4 below) specify the X Y Z position of the 1e15 cells 2) body cells develop according to DNA information for that location 3) cell mitosis and replacement occurs to develop and support the organism 4) specialized brain cells develop to create diversity, 4) replication of the entire process if successful.

The cortex creates the internal image based on firing of its neurons. The visual cortex network might look like an X, Y, Z matrix consisting of neurons placed there by DNA.
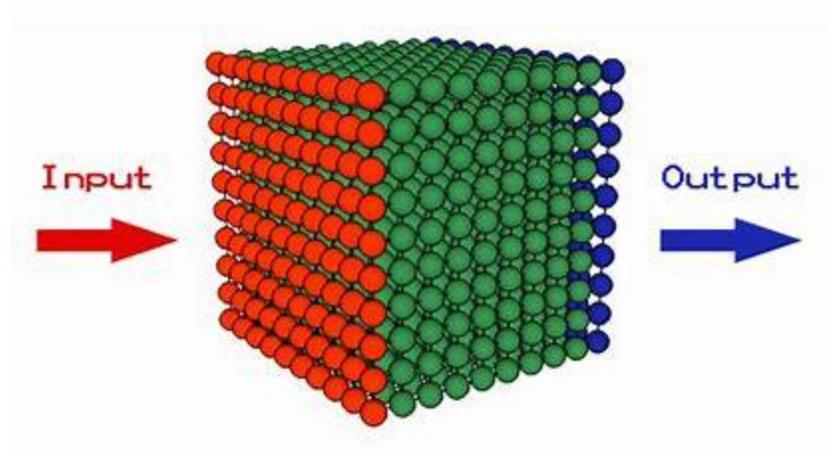
Vision gives the developing organism a competitive advantage. And input from a brain that can compare images and call on experience to warn the organism of danger provides further advantage. This requires memory. The visual cortex matrix may be recording time ordered sets of Pf/PF matches (represented by 1's and 0's below) like the color vision example above.

1---1---0---1---0 for X

0---0---1---0---1 for Y.

0---1---1---1---0 for Z.

If needed, images can signal electrochemical signals for action. A great deal of our consciousness deals with images and image interpretation associated with avoiding danger.

IMAGES

Nature is amazing. Flowers and babies develop before our eyes. When a flatworm is cut in half, it generates two flatworms. Where is the frog image stored [15] when nature decides that a tadpole must now form a frog? Nature's process is almost perfect, and we say, "well it's their DNA." But exactly how does DNA perform this incredible task without an image of what it is producing? Reference 17 reported an attempt to find "mysterious missing" images associated with plants and animals (described in this document as memory protons). Memory of previous generation cell positions would help understand where cellular protein structures are placed.

Decoding DNA

What do ATG&C codes mean? According to literature, codes close to genes are promoters and switches that control gene expression. But there must be information that operates the system.

According to this proposal, information is one level down inside the ATG&C molecules. Why would nature not use information that underlies the proton mass model? The information is inside DNA atoms and DNA is in every cell.

STORING AND REPRODUCING CELL LOCATIONS.

Details of Purpose #1 X,Y and Z.

Reconciliation of Standard Model and neutron/proton model.
The neutron/proton models are consistent with the Standard Model of particle physics [10] [9] [Appendix 4] described by F. Wilczek. The e (electron) and v (neutrino) control the configuration of the quarks.

Parity is handedness, a combination of the charge's direction and motion in the circle. In the neutron model time is a variable. Its direction could also be clockwise or counterclockwise. Physicists use a concept called CPT invariance (Charge, Parity and Time add to a constant). Charge is field energy but as a property it is positive or negative one. Parity is dependent on the perspective of the observer, and the diagram above can be viewed looking down or looking up. This switches L and R like looking in a mirror. Perspective cannot change a field, and this means that orientation is itself a property. Our perspective of a circle changes to a line if the diagram is observed from the edge and time direction cannot be discerned. The circle represents a sinusoidal field.

There are three values inside the proton model like this and DNA stores 3-dimensional images. Think about the possibility that there are memory protons that can store and recall images with dimensions, directions, and planes.
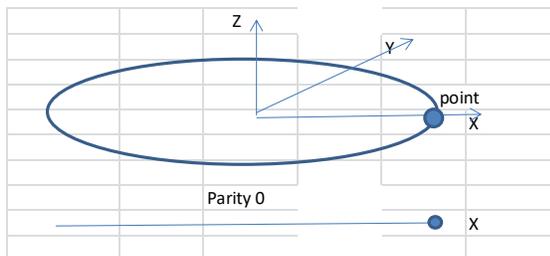
PROPERTIES
_____

X, Y, Z

REVERSE X,Y,Z

PLANES XY, YZ AND XZ

AROUND CIRCLE LEFT AND RIGHT ---TIME

HANDEDNESS (PARITY)

CHARGE UP or DOWN

SPIN

Hox clusters.
DNA contains hox genes that represent features of the body. Features of the body like the backbone appear in linear order along the gene and are expressed as the body develops. It is clear that DNA contains enough information to re-produce the body, including where to place specific

cells. Successful bodies of plants and animals evolve and end up with specific cells in specific locations. The living organism must somehow record this information for future generations.

Proton				
N values for mass	E=e0*exp(N)	N values for fields	E=e0*exp(N)	
12.432	5.076	10.432	0.687	X
15.432	101.947	17.432	753.291	
12.432	5.076	10.432	0.687	Y
13.432	13.797	15.432	101.947	
12.432	5.076	10.432	0.687	Z
13.432	13.797	15.432	101.947	
W components	E=e0*exp(N)	W field	E=e0*exp(N)	
-10.432		-10.432		
10.408	0.671	10.507	0.740	2.801
10.136	0.511	10.333	0.622	
0.296	2.72E-05			
90.0000		90.000		

The diagram above is an excerpt from the proton model showing normal values 15.431, 13.431, etc. It was proposed that our viewpoint is at the information/energy interface associated with X,Y and Z. I suspect that there is a specific location in the center of the body that serves as a reference point.

Mass plus kinetic energy	information	information	Field Energy
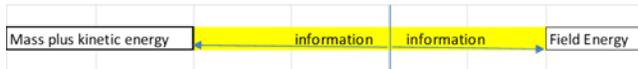
There are about 1e15 protons in DNA and about 1e15 cells that require placement to re-create the body and plant anatomy. Body images could be stored in DNA by living organisms and reproduced in offspring if N is programmable. I call protons with this flexibility DNA memory protons. Once located, memory protons contain the details that produce the proper cell structure for that location.

Analogy with cosmological cells.

Cosmology cells (distinct from plant and animal cells) are the space surrounding each nucleon. The size of the universe is (Nprotons)*cell radius for X, Y and Z . In the cosmology model cell radius is a function of the nucleon kinetic energy. The gravitational field energy (3*0.687+0.740=2.8011 MeV) defines space and time. Fundamental space radius =1.97e-13/2.8011=7.045e-14 meters and fundamental time circle = 2*pi*7.045e-14/2.998e8= 1.48e-21 seconds. Cosmology cells start with 10.15 MeV and as the cell expands against gravity it exchanges kinetic energy for potential energy, expanding from 7.045e-14 to 1.09 meter presently.

The distance relationship for body cells and cosmology cells could be the same, i.e., exp(N)*cell radius for each of the three dimensions. Cells have a diameter of approximately 2e-5 meters.

Memory protons and stored positions X, Y and Z.

The proton model kinetic energy value N= 12.431 could store distance 1.84 meters [16][17] if N is changed to 11.431 below.

	N	E=e0*exp(N)	N	E=e0*exp(N)	
change in N	1	5.5E-05			
kinetic energy	11.43195	1.867223	Field1	10.43195	0.686913
mass	15.43195	101.9469	Field2	17.43195	753.2911
Difference KE		650.1639			
		753.9781			753.978
			cell radius	Distance in proton memory	
		exp(N)	meters	meters	
kinetic energy	11.43195	92221.26	2.00E-05	1.84	

Compare the original dimension with the new value. Rather than 5.076 MeV for the quark kinetic energy component it has changed to 1.867 MeV and its N codes for a stored human height =exp(11.432)*2e-5= 1.84 meters. This does not change the mass of the proton. The formula for E difference (E3+E4-E1-E2) ensures that mass in this quad is 753.978 MeV. It also remains a zero-energy system because the equal and opposite field energy is 753.978 MeV.

This proposal would allow the DNA protons in one generation to store N values and make them available to position cells for the next generation. N values for cell placement in the human body are in the range N=6 to 11.

Creation and perception

The models above describe the creation of many neutrons that decay to protons, etc. from zero energy and probability one through separations. Forward time by several billion years and gravitation has created galaxies of stars and planets. Protons and neutrons have fused into atoms and atoms are now bonded into chemicals. Electrons orbit the atoms. There are now places where life can exist.

Reality to us is what our brain perceives. This is a bootstrap problem because the brain we are using had to evolve. A proton information level memory/retrieval system helps resolve this conflict. Early cells absorbed light for energy and information but there was no brain at that time. Molecules formed that could store information leading to DNA replication. Specialized networks evolved into the visual cortex and brain. But the system requires a body interface built on evolving images with bio-electric control to thrive and reproduce. The Standard Model coordinate system and proposed memory protons helps understand how DNA performs its magic and makes it easier to understand how biology becomes functional and creative at several levels.

Our brain constructs reality with information from limited senses like sight, sound, touch, taste, and smell. Probability is involved because reality is compared to everything else, we have or could experience. Our brain is a network. Networks are one of the few places in nature that create information. When your eyes receive a signal, your brain uses network layers that involve probabilities to identify the person in your view. The search allows alternatives to be considered. Networks assign and recall meanings which underlie our ability to remember, think, and

anticipate the future. The learned meanings build on one another and we develop contextual models that interpret observations. We are creative. The more unlikely or the harder the new concept is, the more information is created. One definition of intelligence is seeing differences.
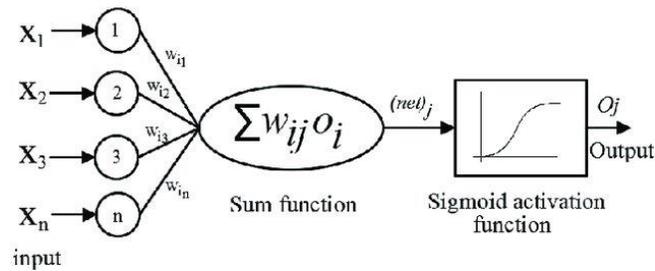
(a)
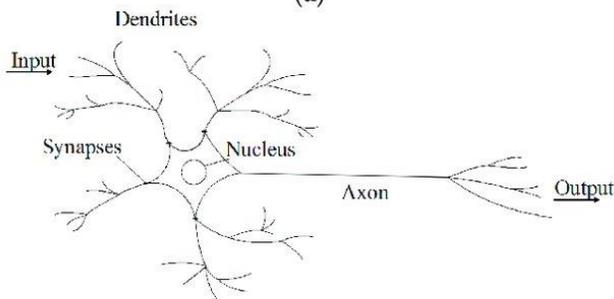
(b)

There can be several layers of connections and nodes. Artificial intelligence (AI) neural analogs show addition of input at nodes, followed by a sigmoid function that assigns weight to the result. This is consistent with the color vision model above except the sigmoid function is a full probability function. The sensor (retina) is outside the influence of AI because we depend on color vision and our other senses to accurately represent light. But the interpretation of the image can be partially understood with an AI analog called graphs that can interpret images consisting of many pixels. AI is a useful concept, but computers are very weak compared to our brains.

Cognition in the waking state involves integration and processing of meaningful signals that support survival. Local storage is attributed to a huge number of connections. But the neurons might process pulse like signals in a network like the 1's and 0's above with a brain that extends to our information-based mind.

Search software.

Searching our brain is like a Google search. We access information with search software. Meaningful memories and experiences are stored by networks. Thoughts control a goal directed search through memory. If there is a vague recollection, match probabilities are low. But with memory work, your network assembles enough information to clarify and assign meaning. Animals like deer often have more muscular control at birth than humans. Their ability to walk is "genetic." It is reasonable to believe that some networks are pre-programmed. This is used by biological systems at several levels. We may not even be aware of search software accessing and controlling pre-programmed cellular processes.

Summary

We know that we are "late comers" and that our concepts of nature are limited. This paper is based on data that shows an information correlation with energy. It supports the concept that the universe is information-based. Based on a model of nucleons[13][12], I suspect that creation involved separations from probability 1 and zero energy by an intelligent operation. There is enough information in exp(180) protons to create our energy space and time universe.

Life began shortly after structures formed that could support information networks. Our brain uses senses to gain information about energy reality. Simulation of color vision proves that our senses and brain use some aspects of quantum mechanics. Remarkably the separation of colors uses the same information value (N=0.0986) that appears in proton model N values. Our brains evolved neural networks that can create and parse information [2][5][8]. The concept of mind in Mind suggests that we may be an intended product of creation (not a new thought and reminiscent of religious texts) [11][19] that participates in ongoing creation.

WHAT HAPPENS NEXT?

The concept of mind in Mind is that both exist on the information side of nature that has two levels, mind, and energy.
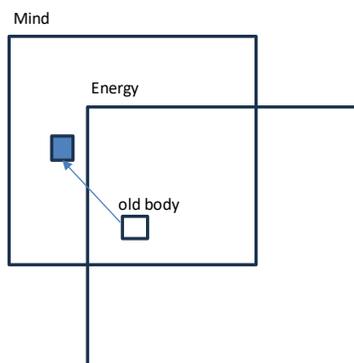
The boxes above suggest that our information may continue to exist as mind in Mind, but the energy level may be temporary for us. The information level may be preferable because it could be unlimited and timeless. Our body was a useful tool as it evolved and learned to survive. It passed its image to the next generation's DNA, but its utility regarding on-going evolution will be lost. We can ask whether there is any on-going utility of mind in Mind information. We were challenged to survive, thrive and understand the world around us. A process that increases information is rare and valuable. We do not know the future, but diversity of thought could be valuable for on-going creation.

DELUSION

Without a full view of nature, it is easy to be deluded in our thinking. Our brain appears to be an exclusive network. But the concept of mind in Mind means that our information is a subset of Mind. We are not aware of the relationship, and our delusion enhances evolutionary pressure and creates diversity of thought.

TRANSITIONING FROM DELUSION TO ENLIGHTENMENT.

Relationships were discovered that help us understand that nature operates at two levels. This is a productive creation strategy. We can hope that our participation has ongoing value. On-going creation, evolution, and diversity of thought may not be the only way to define purpose. There is intrinsic utility and enjoyment in existence itself. Enlightenment may occur if mind merges with information level Mind where we can enjoy the freedoms associated with the information side.

Is there anything else? Knowing that the creator once created a separate energy level of nature from zero, we can trust it is again possible. Sir James Jeans said, that "the universe begins to look more like a great thought than a great machine." James Allen said, "Mind is the master power that molds and makes." We can believe that mind in Mind is fundamental and act accordingly. This is central to many traditional religious beliefs. One way to view religion is the act of seeking fundamental truths and one way to view the purpose of creation is ongoing creation. We can enjoy and be in awe of nature like the religions revere personalities and core concepts.

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APPENDIX 1 ALTERNATIVE NEUTRON AND PROTON MODEL DIAGRAMS.

The left-hand side of each of the diagrams below is E for mass plus kinetic energy and the right-hand side of each of the diagram is field energy E. The diagrams are models of a proton and neutron. The Schrodinger equation and these specific E values are built into nature in a way that produces the proton and neutron masses, although the overall energy for each is zero.

		1=exp(itE/H)*exp(-itE/H)				1=exp(itE/H)*exp(-itE/H)		
		E	E			E	E	
		Mass plus	Strong Field Energy			Mass plus	Strong Field Energy	
		Kinetic Energy	Gravitational Field Energy			Kinetic Energy	Gravitational Field Energy	
		MeV	MeV			MeV	MeV	
	Down Qua	4.36	-753.29 Down Strong Field	Down Quark		4.36	-753.29 Down Strong Field	
	Kinetic E	739.470	-0.687 Grav Field component	Kinetic E		739.470	-0.687 Grav Field component	
	Up Quark	2.49	-101.95 Up Strong Field	Up Quark		2.49	-101.95 Up Strong Field	
	Kinetic E	89.993	-0.687 Grav Field component	Kinetic E		89.993	-0.687 Grav Field component	
	Up Quark	2.49	-101.95 Up Strong Field	Up Quark		2.49	-101.95 Up Strong Field	
	Kinetic E	89.993	-0.687 Grav Field component	Kinetic E		89.993	-0.687 Grav Field component	
	E-E match	0.000		E-E match		0.000		
	neutrino k	-0.671						
	Fusion KE	10.151	E*Wfusion=10.151*(1-exp(-2/2))	Fusion KE		10.151		
	E/M field	-2.722E-05		ke		0.622	-0.622 field	
data	ae neutrin	-2.025E-05	-0.740 Grav field component	data			-0.740 Grav Field component	
938.272013	Proton M	938.272013	-2.801		939.565346	939.565346 Neutron mass (MeV)	-2.80114	
outside	electron	0.511	Grav Field Total	t neutrino		0.740	Grav Field Total	
proton	Kinetic E	0.111	-0.622 field	Expansion P		10.151		
	v neutrino	0.671		Expansion K		10.151		
	t neutrino	0.740		Fusion release			outside	
	Expansion	10.151		Total M+KE		960.608 Total Field	-960.608 neutron	
	Expansion	10.151						
	Fusion release							
	Total M+KE	960.608 sum m+ke	-960.608 -2.801					

The diagram on the right is the neutron that decays to a proton, electron, and anti-electron neutrino on the left. The masses (in red) are exact models within several significant digits. The total energy is 960.608 MeV because these tables represent these nucleons embedded in space and time. Neutrons have potential energy, expansion kinetic energy and neutrinos outside their measured mass. As atomic fusion occurs, additional energy moves outside (the arrows). Protons (upon decay) eject the electron, 0.11 MeV of kinetic energy and an anti-electron neutrino. Space

time is defined by the gravitational field energy (2.801 MeV (0.687*3+ 0.740) in the RHS of each of diagrams (in red). This field energy also defines gravity.

Appendix 2 Cosmology

Cosmology cells are defined by equating a large surface area with many small surface areas. This allows cellular cosmology to obey the rule "there can be no gravitational preferred position for mass" because all mass is on the equivalent of a large sphere. The number of cells in large R (representing the universe) is exp(180).

Area=4*pi*R^2
Area=4*pi*r^2*exp(180)
A/A=1=R^2/(r^2*exp(180))
R^2=r^2*exp(180)
r=R/exp(90)   surface area substitution
M=m*exp(180) mass substitution

For gravitation and large space, we consider velocity V, radius R and mass M as the variables (capital letters for large space and lower-case r, v, and m for cellular space) that determine the geodesic (the radius with balanced inertial and gravitational force). The mass substitution is M=m*exp(180) and the surface area substitution is R=r*exp(90) for G large space= G cellular space.

At any time during expansion		
Large space		**Cellular Space**
		With substitutions:
		R=r*exp(90) and M=m*exp(180)
R*V^2/M=	G=G	r*exp(90)*V^2/(m*exp(180))
R*V^2/M=	G=G	(r*v^2/m)/exp(90)

When measurements are made at the large scale to measure G, the above derivation indicates that we must multiply cellular scale values (r*v^2/m) by 1/exp(90) for equivalent G. Geometric and mass relationships give the cell "cosmological properties". Velocity V=V for both surfaces. Velocity V is the orbital velocity of a proton around the central small mass. A cell maintains nature's gravitational constant (G) as cells expand the universe.

The Newtonian gravitational constant G originates in the calculation table below [13]. Values are from the neutron/proton model (Appendix 1). The gravitational constant is determined by a neutron (1.675e-27 Kg) with kinetic energy 10.15 MeV (velocity 4.3e7 m/sec) orbiting at radius 7.045e-14 m defined by gravitational field energy 2.801 MeV. The inertial force f=mV^2/r*1/exp(90) = 3.7e-38 Nt. This force agrees with literature reviewed in reference 9. The two-dimensional gravitational orbit (called a cell) is shown below.

KE=10.151 MeV
r=7.04e-14 meters
m=1.67e-27 Kg
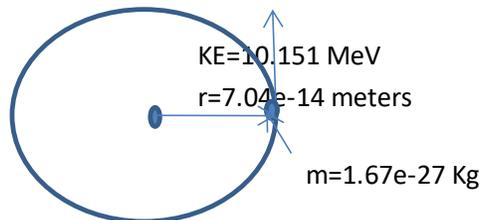
Calculating the gravitational constant G from the proton model

The defining relationship for the gravitational constant G uses potential energy value 20.3 MeV from the models above. (Expansion of the universe starts with 10.15 of potential energy and 10.15 of kinetic energy but in the fully expanded condition each proton contains 20.3 MeV of gravitational potential energy.) An equivalent defining relationship for G is included in Appendix 3. It is shown that G is simply potential energy 20.3 MeV*radius 7.045e-14 m. It depends on the small factor 1/exp(90) that comes from relationships in Appendix 3 called cellular cosmology, the conversion constant 1.6e-13 Nt-m/MeV and the mass of two attracting protons (1.675e-27 kg). Cellular cosmology is based on area equivalence r=R/exp(90) as described in Appendix 3 and exp(180) protons [12].

G=10.15124*2*7.045e-14*1.602e-13/EXP(90)/1.675e-27^2		
6.69E-11	Grav Const Nt m^2/Kg^2	

Cells contain protons and they allow us to understand the large universe with principles established at the small scale. This equation can also be written without the small factor 1/exp(90) and a central mass of exp(180)*1.67e-27=2.49e51 kg attracting a proton.

G=20.3*1.6e-13*8.59e25/(2.49e51*1.67e-27)

G=6.69e-11 Nt m^2/kg^2

The large circle has radius 7.045e-14*exp(90) =8.59e25 meters. Gravity is determined by the large scale and cellular cosmology is the small-scale equivalent. This provides an understanding of gravity and a bridge from the quantum scale.

Large scale space and time
Again, Et/H=1 converts to R= (1.97e-13 MeV-m)/E.

R=1.93e-13/(2.801/exp(90)) =8.59e25 meters defines the range of the gravitational field. The range is high because energy in the equation is low; only 2.801/exp(90) MeV. The range is consistent with the gravitational field being shared. Shared energy indicates a network.

Small scale space and time
The value Et/H=1 is the point where conjugates multiply to 1 on a quantum circle according to the Schrodinger equation. It is the only real point.

t= 2*pi*R/C (the time for a wave to travel around the quantum circle at velocity C)

E (2*pi*R/C)/H=1 (substitute time into Et/H)

R=HC/(2*pi)/E (solve for R the radius of quantum circle)

Evaluate the constant HC/(2pi) = 1.97e-13 MeV-meters is hC, where h=H/(2pi) is Planck's reduced constant (6.58e-22 MeV-sec).

The gravitational field energy 2.801 MeV from the neutron mass model (diagrams above and Appendix 1) is the source of space and time.

Identify the radius and time for the gravitational orbit with 2.801 MeV
Fundamental radius=hC/E=1.97e-13/2.801=7.04e-14 meters
Fundamental time= 7.04e-14*2*pi()/3e8=1.47e-21 seconds

The radius of a quantum circle with this field energy is 7.04e-14 meters. The time around the circle at velocity C=1.47e-21 seconds. These values are fundamental to space and time. I believe time advances in increments of 1.47e-21 seconds.

COSMOLOGY EXPANSION CURVE

One aspect of cosmology is an expansion curve [12] (radius vs time for our universe). The universe is filled with "cosmological cells" described by information in the proton model, which in turn is described by the Schrodinger equation. Proton model information produces the expansion curve for the universe. The curve below is called the zero net energy expansion curve. The initial number of neutrons (that decay to protons, electrons, and neutrinos) is N=exp(180) with exp(60) cosmology cells in each of three dimensions. A cosmology cell is the volume containing a proton orbit with a specific initial kinetic energy. The. The cells expand as they exchange kinetic energy for gravitational potential energy. The current radius =exp(60)*1.09 meters cell diameter=1.25e26 meters radius. This expansion process is on-going at 13.8 billion years.
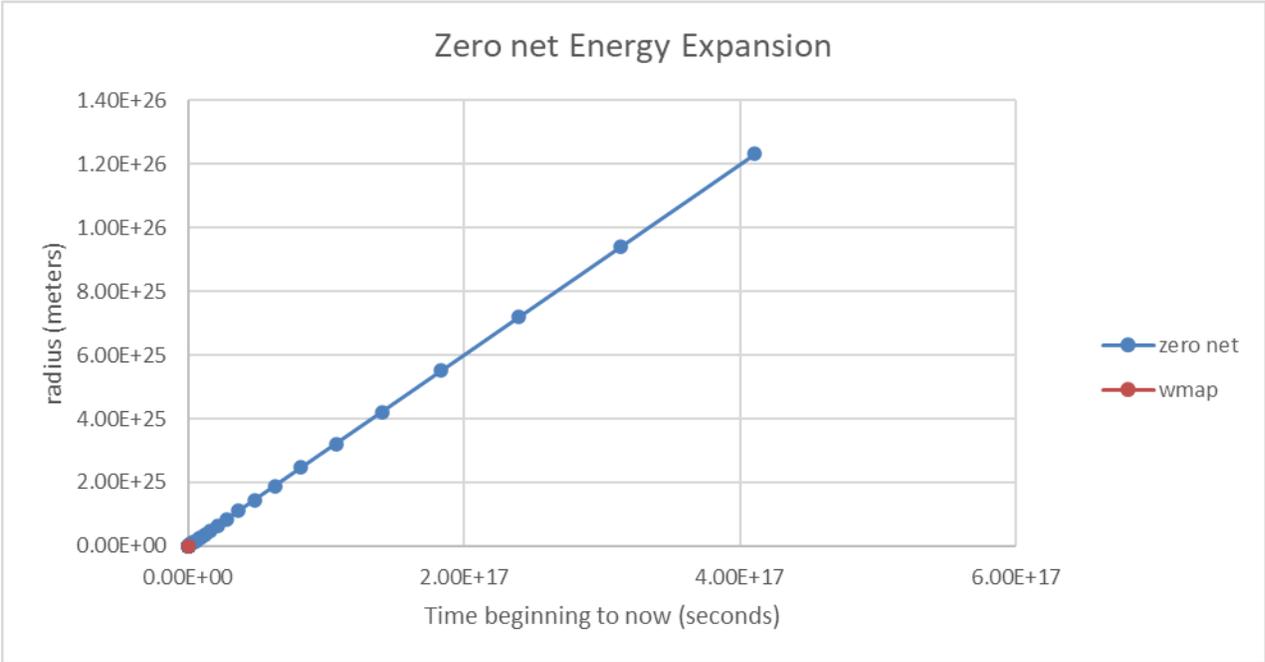
In one view of expansion, everything on the surface is the same age because time points toward the center of the sphere and the surface of the sphere is moving at velocity C. The sphere is "hollow." Models like this are accepted by the scientific community but there is an equivalent way to view nature that agrees with observations. The way we observe nature is particles that can move in three dimensions and build physical structures like plants and animals. This is consistent

with a "filled sphere" cosmology model. Fundamentals of small-scale nature are the same as large-scale structures. In this model, protons (particles with electrons around them) are on the surface of small spheres. They have energy (temperature) that causes the proton to orbit a spherical volume called a cosmological cell. The proton model defines the cell.

Two perspectives and instantaneous networks

Space (R) is determined by gravitational fields that travel at light-speed C= 3e8 m/sec in the quantum relationship Et/H=E/H*(2pi R/C) =1. Wave functions collapse is probability P=exp(it/H)*exp(-iEt/H)=1. They travel at C and from their perspective the waves collapse in zero time and P=1 is stationary since waves are in opposite directions. The collapse point is in a timeless distance less domain. All P=1 points coincide, meaning they are not in our space time. Recalling that P in Schrodinger's equation is information. It makes sense that they might exist in an information space time analog of our space time. There are two perspectives of the collapse point that intersect. Perspective 1: information fills space and perspective 2: energy ratios and particles fill space. From our below C perspective, we see a large universe with time, space, and many protons. A proton is like a sophisticated pixel in a display. Based on energy/information sharing it appears that these pixels/particles are networked outside our space and time. This would be an information network.

APPENDIX 3: COLOR VISION ENERGY CHANGES

Changes in electromagnetic field energy with base 27.2e-5 MeV is associated with absorption and emission of light. This occurs as the electron orbits change by quantum amounts. Color vision [18] is an excellent example of the Schrodinger equation in action. The E=0 and P=1 constraints below show what happens as kinetic energy is changed by 2.02e-5*exp(N), where N is 1,2,3 or 4 times 0.0986. The result is a series of peak wavelengths related to color vision [12]. For example, if 3*0.099 changes to 2*0.099 the E2 change (inside the E= 0 constraint) is the wavelength for green light (485 millimicrons).

Energy zero	E1+	(E3+E4-E1-E2)+	E2	-E3-E4	
Energy zero		5.11E-01	-5.11E-01	2.46614E-05	-3.53E-05	-0

P=1 green	1/exp(10.13)*1/exp(0.197)/(1/exp(10.33)*1/exp(0))	

			-0.295836866	4	3	3.00E-05	2.72E-05	2.82E-06	439.52	scotopic
		5.110E-01	1.51E-05	3	2	2.72E-05	2.47E-05	2.56E-06	485.07	green
2	2.02e-5*exp(N)	→ 2.466E-05	2.025E-05	2	1	2.47E-05	2.23E-05	2.32E-06	535.34	blue
N=.0986,.197,.296,.394		10.14	10.33	1	0	2.23E-05	2.02E-05	2.10E-06	590.82	red
		0.197	0.00E+00			2.02E-05	1.83E-05	1.90E-06	652.05	

APPENDIX 4: WILCZEK [10] STANDARD MODEL INTERPRETATION AND DIMENSIONS

`	Y	X	Z	e	v		Y=-1/3*(Red+Green+Blue)+1/2*(Y+P)			
				e	v		Y			
1	1				1		0.166667	u	R	2.490
2		1			1		0.166667	u	R	2.490
3			1		1		0.166667	u	R	2.490
4	1					1	0.166667	d	R	4.979
5		1				1	0.166667	d	R	4.979
6			1			1	0.166667	d	R	4.979

`	Y	X	Z	e	v		Y=-1/3*(Red+Green+Blue)+1/2*(Y+P)			
				e	v		Y			
7		1	1				-0.66667	u	L	2.490
8	1		1				-0.66667	u	L	2.490
9	1	1					-0.66667	u	L	2.490

The corresponding proton model entities with the same numbers are rearranged for comparison with the Standard model. *The important point for this study is that e and v are interactions that control the proton and make it useful as a network component.* As indicated in Reference 10, entities 1,2 and 3 are Up quarks and 4,5 and 6 are Down quarks. The proton model provides energy values. Each entity is an energy 0, probability 1 construct. (The mass+ kinetic energy minus the two fields= zero. Each energy has an N value and p=1/exp(N). Overall P= p*p/(p*p) =1). This means they are entities independent of the proton. This becomes important when analyzing mesons and baryons since they are combinations of entities from the models.

		$1=\exp(itE/H)*\exp(-itE/H)$				
		E		E		
		Mass plus		Strong Field Energy		
		Kinetic Energy		Gravitational Field Energy		
		MeV		MeV		
1	Up Quark	2.49		-753.29	Down Strong Field	
	Kinetic E	751.491		-0.687	Grav Field component	
2	Up Quark	2.49		-101.95	Up Strong Field	
	Kinetic E	100.144		-0.687	Grav Field component	
3	Up Quark	2.49		-101.95	Up Strong Field	
	Kinetic E	100.144		-0.687	Grav Field component	
4	Down Qua	4.36		-753.29	Down Strong Field	
	Kinetic E	749.621		-0.687	Grav Field component	
5	Down Qua	4.36		-101.95	Up Strong Field	
	Kinetic E	98.274		-0.687	Grav Field component	
6	Down Qua	4.36		-101.95	Up Strong Field	
	Kinetic E	98.274		-0.687	Grav Field component	

Entities without e or v properties and two fields

These entities define one point on a circle in the x-y, y-z, or x-z planes.

		Mass plus Kinetic Energy		Strong Field Energy Gravitational Field Energy	
		1=exp(itE/H)*exp(-itE/H)			
		E		E	
		MeV		MeV	
7	Up Quark	2.49	X	-101.95	Down Strong Field
	Up Quark		Z	-753.29	Up Strong Field
	Kinetic E	853.435		-0.687	Grav Field component
8	Up Quark	2.49	Y	-101.95	Up Strong Field
	Down Quark		Z	-101.95	Up Strong Field
	Kinetic E	202.088		-0.687	Grav Field component
9	Up Quark	2.49	Y	-101.95	Up Strong Field
	Up Quark		X	-753.29	Down Strong Field
	Kinetic E	853.435		-0.687	Grav Field component

Neutron model comparison with Up quarks and fields.

Entities with e or v properties and two fields

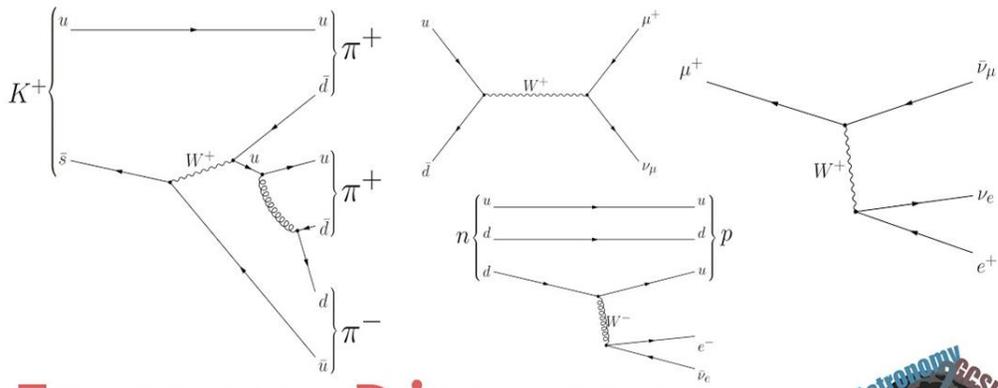These entities define one point on a circle in the x–y, y-z, or x-z planes
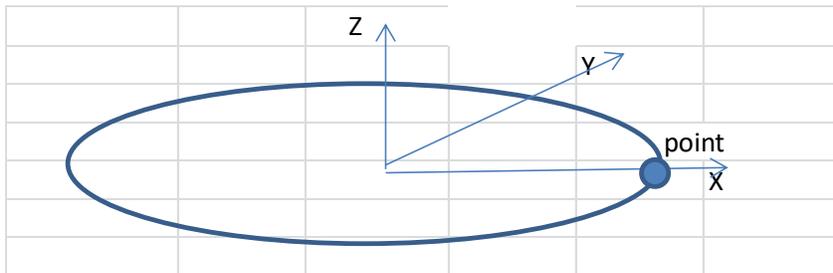
Standard model

	Y	X	Z	e	v	Y			mass
						Y=-1/3*(Red+Green+Blue)+1/2*(Y+P)			
`	Y	X	Z	e	v	Y			mass
10	1		1	1	1	0.333333	d	L	4.979
11	1	1		1	1	0.333333	d	L	4.979
12		1	1	1	1	0.333333	d	L	4.979

$$1=\exp(itE/H)\cdot\exp(-itE/H)$$

		E		E	
		Mass plus Kinetic Energy		Strong Field Energy / Gravitational Field Energy	
10	Up Quark	4.36	Y	-101.95	Up Strong Field
	Down Quark		Z	-101.95	Down Strong Field
	Kinetic E	200.22		-0.687	Grav Field component
11	Down Qua	4.36	Y	-101.95	Down Strong Field
	Up Quark		X	-753.29	Up Strong Field
	Kinetic E	851.57		-0.687	Grav Field component
12	Down Qua	4.36	X	-753.29	Down Strong Field
	Up Quark		Z	-101.95	Up Strong Field
	Kinetic E	851.57		-0.687	Grav Field component

APPENDIX 5 FEYNMAN INTERACTION DIAGRAMS AND THE W/Z, E AND V CONTROL PARTICLES.
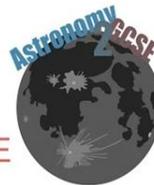
APPENDIX 6 SCHRODINGER'S EQUATION.

The Schrodinger equation described by MIT as unitary evolution [20] indicates that the number 1 has been separated into two expressions that represent waves. The form below is MIT's unitary solution.

Schrodinger equation:

$P = \exp(-i*1)*\exp(i*1) = 1$. The imaginary number separates 1 into two parts, i.e., $-i*i = 1$

Note: exp(power) means the natural number e to a power. Example $\exp(-0.693) = e^{(-0.693)} = 1/2$, where e is the natural number 2.712.

Energy E and time t enter nature through the exponent, $(i*1)$ where $1 = Et/H$. Energy is E, time is t and H is Planck's constant.

https://ocw.mit.edu/courses/chemistry/5-61-physical-chemistry-fall-2007/lecture-notes/lecture7.pdf

Development of the nucleon models is based on P=1. The math below is like Dirac's analysis. It allows the iEt/H energy terms and time terms to be separated.

Constrain Energy to zero

$1 = \exp(itE/H)*\exp(-itE/H)$

take the natural log and divide boths sides by i

$0 = itE/H - itE/H$

	Example:
$0 = t/H*E - t/H*E$	
take the square root. Since Et/H=1, E=1/(t/H)	a=1/b a=.5 b=2
$0 = (E-E)*(t/H - t/H)$	ab-ba 0
$0 = E1 - E1$	(a-a)*(b-b)=0 (0.5-0.5)*(2-2)=0

(The square root also has a $(t/H - t/H) = 0$ solution that contains inverted terms, but the solution is redundant).

What is a probability wave and why does it produce the simple result P=1? Schrodinger's equation exponents are known as complex conjugates or wave functions. Conjugates $\exp(iEt/H)*\exp(-iEt/H) = 1$ with $e0t/H = 1$ can be written $\exp(i/P)*\exp(-i/P) = 1$. The substitution, $E = e0/P$, makes complex conjugates probability waves. The result of the multiplication Probability =1 is also referred to as "collapse of the wave function" [Topic 12.1 Argand diagram]. Sinusoidal waves vary with exp(i theta) =cos theta +i sin theta. Theta is an angle that increases with time. The waves travel in opposite direction on circles that have a vertical imaginary axis and a real horizontal axis. They meet and produce our information-based reality at probability =1.

P=1 "reads the wave" and allows us to assign meaning based on our experience and context. It underlies perception and might be one aspect of consciousness. It is an information-based process and could be like creation.

The proton and neutron have internal structure and control particles that enable life. The diagram below includes the mass plus kinetic information separations for the value N=90. Similar separations result in the column labelled layer 2 fields, also N=90.

Each proton is an information network of quarks, bosons, electrons, and neutrinos. The known control particles are yellow below. Appendix 5 shows several examples of interactions known to physics. The values that they control are shown in grey. The three quarks define directions X,Y and Z. Because we consist of these particles, our reality consists of three-dimensional space.

Split 90/4	W=22.106	W component	Action of W-	N values for mass	E=e0*exp(N)	N values for fields	E=e0*exp(N)		N values for mass	E=e0*exp(N)	N values for fields	E=e0*exp(N)	
22.500	22.530			12.432	5.076	10.432	0.687	X	12.432	5.076	10.432	0.687	X
	-0.1972		0.197	15.432	101.947	17.432	753.291		15.432	101.947	17.432	753.291	
	0.167		5.167 down -.33						down -.33				
22.500	22.530			12.432	5.076	10.432	0.687	Y	12.432	5.076	10.432	0.687	Y
	-0.1972		0.197	13.432	13.797	15.432	101.947		13.432	13.797	15.432	101.947	
	0.167		3.167 up -.33 plus 1 op						up -.33 plus 1				
22.500	22.235	-10.4316		12.432	5.076	10.432	0.687	Z	12.432	5.076	10.432	0.687	Z
	0.0986	10.507	0.197	13.432	13.797	15.432	101.947		13.432	13.797	15.432	101.947	
	0.167	10.333	3.167 up -.33						up -.33 plus 1				
22.500	22.106	-10.4316		Z components	E=e0*exp(N)	Z Field	E=e0*exp(N)		W components	E=e0*exp(N)	W field	E=e0*exp(N)	
	0.3944	10.408		-10.432		-10.432			-10.432		-10.333		
		10.432		10.507	0.740	10.507	0.740		10.408	0.671	10.408	0.671	
			12.092	10.333	0.622	10.333	0.622		10.136	0.511	10.333	0.622	
							2.726			0.296	2.72E-05		
90.000	90.00	22.50		90.000		90.000			90.0000		90.000		
		22.50			1.363		1.363			1.182		1.293	

Electrons (the 0.511 MeV particle near the bottom of the diagram on the right) extend the networks to atoms and networks of molecules.