Article

Life Processes within Mind of Creation

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Abstract

There is a parallel between the information that produces fundamental laws and life processes. In each case we observe, not the information, but the results of quantum mechanical equations: (1) Information → Schrodinger based protons and electrons that define the laws of nature; and (2) Information → Schrodinger/Feynman based evolution of body/vision/brain. Another interesting parallel is that the Information → life process is cyclical because information must be stored and unfolded as the body redevelops. The information stored appears to be fundamental and shared. It is reasonable to believe there was pre-existing information associated with creation. Information creation is a mathematical process related to probability. Probability is a ratio - One thing compared to everything else. It is possible that the Mind of creation holds information, including the information in the processes above. This article studies information storage for three life processes (body, perception, and brain). They occur later by several billion years but it is reasonable to suspect that (our) mind develops within the Mind of creation.

Processes with two levels will be discussed. Information will be called level 1 and the result of an equation (computation) will be called level 2. The life processes require input and learning. For example, vision is based on light input, the body is dependent on DNA evolution and the brain requires feedback to develop networks. An equation developed by Feynman for light absorption yields a probability that depends on matching input wavelengths with stored wavelengths. Wavelength*probability are stored in molecules (level 1) and we perceive the equation output as color vision (level 2). There is evidence that Mind and mind use the same information code. Is our information more enduring than we think? Can nature recreate us with information similar to the way DNA information reconstructs the body? Could a goal of creation be the potential of ongoing creation?

Keywords: Ongoing creation, Feynman absorption, life, information, probability.

Apparent creation strategy

Start with zero energy, probability 1 and creative acts that separate information related to energy into equal and opposite components.

> Note: Shannon [6] defined information as a number N related to probability (p). The equation is (N)= -ln(p) where ln means "the natural logarithm". By this equation there is zero information in probability 1. Information is created when p is separated into p=one thing/everything. Example: if probability=1/2, N= -0.693.

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Level1. Information. It consists of original information and learned/stored information. Information specifies mass, kinetic energy and fields of the neutron (that decays to the proton, electron and anti-electron neutrino).

Level 2. Energy based reality through the Schrodinger and Feynman equations.

Schrodinger equation derivation [5]:

1=exp(-i*1)*exp(i*1). The imaginary number i is separation of -1 into two parts.

1=exp(-i*Et/H)*exp(i*Et/H), where Et/H=1 means Energy*time/Planck's constant.

> This equation is one basic equation for quantum mechanics. The components exp(-i*Et/H) and exp(i*Et/h) are known as complex conjugates or wave functions. The result of the multiplication is Probability =1 but it represents perceived information about the energy components. More of this derivation is included in Part 2 of this document.
>
> 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.

Level 1 probabilities (p=1/exp(N)) define energy E=e0*exp(N). The Schrodinger equation uses exp(i*Et/H) for the mass and kinetic energy components and exp(-i*Et/H) for field energy components. After addition of energy components, these values are multiplied. For example, if the energy components are for the neutron, multiplying the wave functions (by design of the proton system of components) is probability 1. This represents our reality of the neutron at level 2 based on its component energies, replete with space time properties. The mass plus kinetic energy components are positive and the field energy components are equal and opposite.

Step 3 - create the electron and the electromagnetic field by neutron decay.

Step 4 - fuse neutron and protons into atoms that create sophisticated electron orbitals.

Step 5, - The electron orbital kinetic energy change for quantum numbers 2 and 3 is 1.89e-6 MeV. This change obeys zero energy with energy either absorbed or emitted. But the associated wavelength (656 nanometers) is further changed by level 1 probability (p*656), lowering the energy and increasing the wavelength. For our visual system the wavelength probabilities are 0.906^n, where 0.906=1/exp(0.0986) and n increases from 0 through 1, 2 and 3.

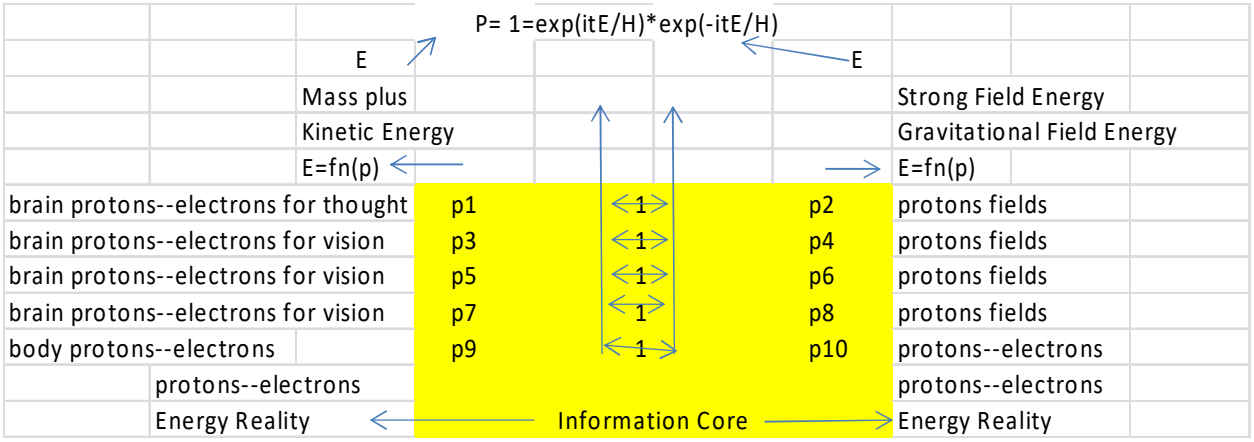
Step 6, - Store level 1 information (probability*wavelength) in molecular bonds. For vision, matches between stored and incoming wavelengths "fire" a level 2 Feynman probability [Appendix 3] we perceive as color vision. The body appears to use the same process to store and evolve through genetic information → body iterations. Neural networks in the brain connect stored wavelengths and external inputs that we perceive as thought. The information is stored as probabilities. The Schrodinger equation (level 2 computation) represents the body/perception/thought system in space and time.

Result - Natural laws are defined at level 1 by Mind. The neutron was apparently created by placing separated energy components, some of which are positive and others that are equal and opposite, into the Schrodinger equation. The neutron and its components establish the laws of nature. Neutron decay then produces the proton - electron combination that is fundamental to

life. Processes we identify with life appear that use information and computation. Additional probability separations evolve with the help of Feynman based feedback and storage. Our brain perceives the results of the equation as color vision. This equation also appears to be involved in how the body evolves and the brain develops thought. Information stored in molecules and neural connections are part of the process but they are components in a body, perception and thought system. Lower case mind develops at information level 1. Our mind, perhaps inside Mind, facilitates ongoing creation.

The role of computation in nature

Reference 11, entitled "How Nature Computes", shows how the proton and electron result (is computed) from the Schrodinger equation [see Appendix 1 note]. After studying the way nature originates and stores information for life processes, it appears that this equation can also compute living systems that incorporate proton and electrons. The unfolding of an embryo or flower indicates that a time based program is running. I find it credible that the program is Schrodinger energy addition and complex conjugate multiplication for a system of molecules. First the concept:



An information "core" stored as probabilities (in yellow) defines the proton and electron. As life develops probabilities are learned and stored in the proton—electron bonds. The associated energy values are components of wave-functions that add upward through a system of proton-electrons that represent the body and brain. The Schrodinger equation (computation) unfolds all of the information into energy based reality with P=1. One way to think about the information core is "DNA" for everything, not just the body.

The Proton model

Component probabilities for the proton and electron are listed in Part 2 of this document. They are called "Fundamental N values". The probability core (level 1) is defined by N= -ln(p). Energy is defined by E=e0*exp(N). The components energies (iEt/h) and (-iEt/h) are multiplied and the Schrodinger equation yields P=1.

				P=1=exp(itE/H)*exp(-itE/H)			
	E				E		
	Mass plus				Strong Field Energy		
	Kinetic Energy (MeV)				Gravitational Field Energy		
	E=2.02e-5*	Diff KE	N	P N	E=2.02e-5*exp(N)		
Down Quark	101.95	646.96	15.43	1 17.43	753.29	Down Strong Field	
Kinetic E	5.08		12.43	10.43	0.69	Grav Field component	
Up Quark	13.80	83.76	13.43	1 15.43	101.95	Up Strong Field	
Kinetic E	5.08		12.43	10.43	0.69	Grav Field component	
Up Quark	13.80	83.76	13.43	1 15.43	101.95	Up Strong Field	
Kinetic E	5.08		12.43	10.43	0.69	Grav Field component	
neutrino ke	-0.671						
borrow		-30.45	-10.33	-0.62			
Strong residual KE		10.151	0				
ae neutrino	-2.02E-05		0	1 10.507	0.740	Grav Field component	
E/M field	-2.72E-05						
Proton M	938.27201						
E/M field	2.72E-05		0.296				
electron	0.511		10.136				
Kinetic E	0.111						
v neutrino	0.671		10.408				
t neutrino	0.740		0				
e neutrino	2.025E-05		0				
Fusion release		0			E*Pfusion=10.151*(1-exp(-0/2))		
Expansion KE	outside	10.151					
Expansion PE	Proton	10.151				Grav Field Total	
Total M+KE	959.9855	sum m+ke	90.10	90.10	959.986	2.801	

The model gives the mass and kinetic energy of the proton 938.27201 MeV (in red) accurate to within 2e-8 MeV based on summing the values above it. The fundamental N values totaling 90.0986 are at the bottom of the two columns. There is energy outside the proton, listed on the left hand side under the Proton mass and the total energy 959.985 MeV is at the bottom of the two outside columns (equal and opposite). The energy components of the model underlie the laws of nature [11]. The value 10.15 MeV near the bottom of the diagram is the kinetic energy of the neutron at the big bang. Gravitational attraction associated with 2.801 MeV resists expansion, converting kinetic energy to potential energy (the subject of cosmology [12]).

Energy values for the four interactions in nature originate in the table. If the "Mind of creation" had held different information the laws of nature would be different.

The equal and opposite electromagnetic fields are created from zero by separation when 27.2e-6 MeV is borrowed from the proton. There are other separations and the "borrowed negative values" marked in grey have positive counterparts.

How nature stores information

Fusion energy is released when neutrons and protons combine (in the proton model above energy is taken out of the proton mass and placed outside the proton). An algorithm in the computation chain defines the fusion release. Fusion indicates several important things about nature's computation. It is based on probabilities, the results are added together and energy moves from inside the proton to the outside.

This is shown by the overall fusion release [14]:

Energy release for protons, Ep= 10.15*exp(-2/protons) MeV

Energy release for neutrons, En= 10.15*exp(-2/neutrons) MeV

Etotal= (Ep*Number of protons+ En*Number of neutrons)/(total number of nucleons). (There are smaller effects, one due to charge repulsion in the nucleus that retains energy).

Fusion is a fundamental process of nature that creates atoms and complicated electronic structures. Excerpts from the proton model shows this process with changed values marked in red below.

	E=2.02e-5*	Diff KE	N	P	N	E=2.02e-5*exp(N)		
Strong residual KE		5.21	0					
ae neutrino	-2.02E-05		0	1	10.507	0.740	Grav Field component	
E/M field	-2.72E-05							
Proton M	933.33258							
E/M field	2.72E-05		0.296					
electron	0.511		10.136					
Kinetic E	0.111							
v neutrino	0.671		10.408					
t neutrino	0.740		0					
e neutrino	2.025E-05		0					
Fusion release		3.73				E*Pfusion=10.151*(exp(-2/2))		
Expansion KE	outside	10.151						
Expansion PE	Proton	10.151					Grav Field Total	
Total M+KE	959.9859	sum m+ke	90.10		90.10	959.986	2.801	

Fusion indicates that nature computes with probabilities. But more importantly we learn how nature stores information in a system where probability 1 and energy zero must be maintained. It "remembers" the probabilities that change energy. In this case p=1/exp(-2/protons) and 1/exp(-2/neutrons). Some of the energy moves outside the proton but since the diagram represents the whole system, energy is not lost.

Potential and kinetic energy changes during expansion of the universe

Initially the proton contains 10.15 MeV of expansion kinetic energy and 10.15 MeV of potential energy. But expansion is resisted by the force of gravity. Over time, kinetic energy is converted to potential energy. Reference 12 indicates the current values of KE=2e-12 MeV and PE=20.302 MeV. (Excerpt from the Proton model is shown below).

	E=2.02e-5*	Diff KE	N	P	N	E=2.02e-5*exp(N)		
Proton M	938.27206	MeV				MeV	MeV	
E/M field	2.72E-05		0.296					
electron	0.511		10.136					
Kinetic E	0.111							
v neutrino	0.671		10.408					
t neutrino	0.740		0					
e neutrino	0		0					
Fusion release		0				E*Pfusion=10.151*(1-exp(-2/2))		
Expansion KE	outside	2.00E-12						
Expansion PE	Proton	20.302					Grav Field Total	
Total M+KE	959.9859	sum m+ke	90.10		90.10	959.986	2.801	

Again, nothing is lost but the current KE plus energy release from stars tells us something about the temperature of the universe (2.73K degrees but read reference 12 for details).

Electromagnetic bonds store information

The electromagnetic force is fundamental for life processes. There are many bonds of importance in perception, memory and molecules. Again, using the proton model, we see where the electromagnetic field originates. Electromagnetic energy separations play a key role for our visual system and the brain.

E/M field		-2.72E-05
Proton M		938.27201
E/M field		2.72E-05
electron		0.511

The energy values in the Proton model above the line labelled Proton mass must add to 938.27201 MeV (abbreviated table above). The calculated mass match requires taking 27.2e-6 MeV out of the proton mass and giving it to the electron. This creates the electromagnetic field energy.

When the electron falls into the proton's field energy, it gains kinetic energy and loses potential energy. The kinetic energy gained is 27.2e-6/2=13.6e-6 MeV balanced by potential energy. Subsequently, the electron can fall further described by electron orbitals.

N	Binding Ener	Quantum no	Quantum no	Delta Energy	Width	WL Color	D meters	
		2	3		nm	nm	D=1e-9/(1/(WL-Width)-1/WL)	
0.296	1.36E-05	3.40E-06	1.51E-06	1.89E-06	61.24	656.05	6.37E-06	

Recall that the quantum number for the orbit reduces the kinetic energy in the orbit by 1.36e-5/Q^2, were Q can be quantum numbers 2 or 3. The difference between the two reduced kinetic energy values above (3.4e-6 -1.51e-6) = 1.89e-6 MeV.

But there is an important difference in this energy change. The value marked dKE= 1.89e-6 MeV is an electromagnetic wave. The bonds between protons and electrons lose energy by emitting electromagnetic energy. The wavelength associated with this energy is 656 nanometers. After studying color vision it is evident that further changes in this wavelength are caused by

stored probabilities (for color green p=0.906 and 0.906*656=594 nm). The block below (yellow is the information core) shows the differential change in the bond energy as potential energy. The emitted light is shown outside the proton—electron as differential kinetic energy (dKE or light).

N	E=2.02e-5*exp(N)		Diff KE	N	p=EXP(N)	1=p/p	p=1/EXP(N	N	E=2.02e-5*exp(N)	
Vision stor	dPE	-2.08E-06		-0.0986	0.906	Pf/PF=594/594				
Proton M	Red	938.27				1=.906/.906			-938.27	Proton fields
Vision input							0.906	0.0986	2.08E-06	dKE input

Energy remains zero but the potential energy decreases and kinetic energy decreases. Nature stores probabilities that change energy in the bond, in this case p=0.906.

Perception and the electron

Nature continues to compute our reality but at the electromagnetic level rather than the neutron/proton level. The column labelled WL Color in the table below is the wavelength associated with delta energy 1.86e-6 MeV for the quantum shift (656 nanometers=0.00124/E). A series of peak wavelengths related to color vision is produced by multiplying 656 nanometers by 0.906^n, where n= 0, 1, 2 or 3).

The Feynman equation values of interest are (see Appendix 3):

D=1e-9/(1/(WLC-Width)-1/WLC)

Width of the color peak is associated with differential energies.

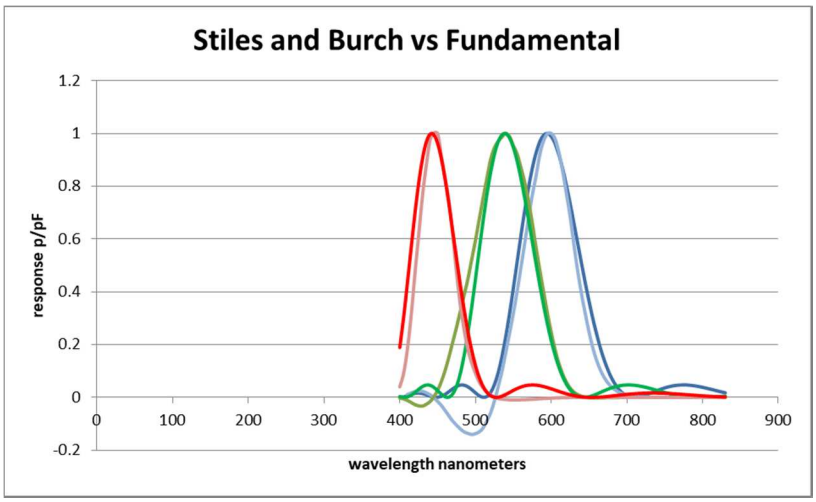
For example Width wavelength = 0.00124 MeV-nanometers/2.02e-5= 61.23 nm.

M=1e9*(1/wl-1/WLC) (1/meters) Where, wl is the input wavelength in nanometers

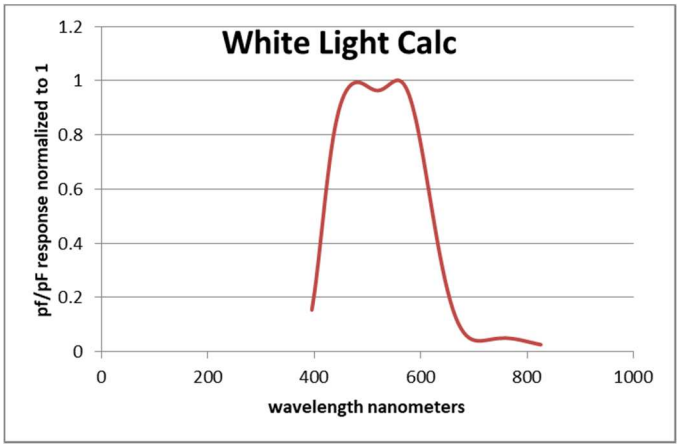
Each line of the probability series p*656 multiplies D*M. If the input wavelength listed on the right side of the diagram below matches WL Color, Pf/PF=sin(2DM)^2/(2DM)=1. If it does not match Pf/PF will be a lower value. Just like the proton calculations, the components are added together to produce a system result. In the chart below, the meaningful result is perception of white light. If the individual spectrums are incomplete, the result can be other hues.

					Pf/PF=sin(2DM)^2/(DM)^2			
				D		M		
n	P=0.906^n	Width	WL Color	D (meters)		M=1e9*(1/wl-1/WLC) (1/meters)		
0	1.00	61.23	655.93	6.37E-06	1.00E+00	-2.16E+03	655	scotopic input (low light)
1	0.91	55.48	594.34	5.77E-06	1.00E+00	-9.67E+02	594	green input
2	0.82	50.27	538.54	5.23E-06	1.00E+00	-1.85E+03	538	blue input
3	0.74	45.55	487.97	4.739E-06	1.00E+00	-4.08E+03	487	red input
				Sum (Pf/PF)/	1.00E+00			
					White Light at peaks			

This allows us to mathematically simulate color vision with our computer. The peak responses and off peak responses is shown below compared with color vision data [8] on the human eye.



Probabilities neatly represent white light when three colors are added and normalized to unity. The fourth color is scotopic (black and white vision). This value is shown in the calculation table as Sum=peak/4.

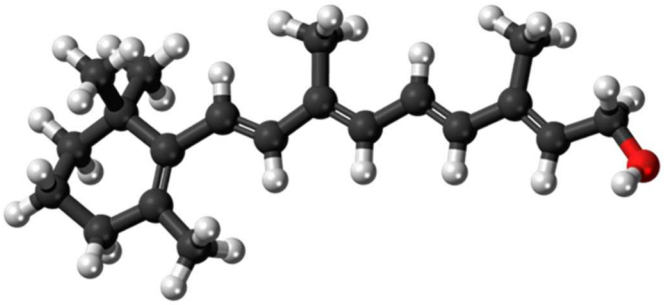


Your mental experience of color vision is proof of a link between the Feynman probability Pf/PF and perception. This is important because it shows that quantum mechanical computations are associated with specific meaningful experiences inside the brain. We found probabilities that define energy at the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

Molecules are information components

Each proton in the atoms attracts an electron and creates orbitals. This in turn creates a valence and rules for how atoms interact. This creates molecules.

Evolution has developed eyes many times based on a series of stored wavelengths that "sense" light through absorption described by the Feynman equation. Retinol [1] and Rhodopsin molecules in the retina are part of a visual cycle. These molecules are suited for electron based sensors because they contain conjugated bonds with progressively lower energy levels (progressively increased wavelengths along the molecule are stored information). Retinol has the following structure (downloaded from Wiki). The conjugated bonds along the chain are C==C—C.



This supports the concept that bonds in some molecules facilitate perception based on the Feynman based absorption equation. Probabilities produce reality at the atomic level (the Proton model) but molecules can store probability (p*656 nm) modified wavelengths associated with perception.

Our visual system storage is diagramed below as part of the information core. The wavelengths associated with dPE are ready to be compared with incoming energy. When they match, the Feynman probability become Pf/Pf=1.

N	E=2.02e-5*exp(N)		Diff KE	N	p=EXP(N)	1=p/p	p=1/EXP(N	N	E=2.02e-5*exp(N)	
Vision stor	dPE	-2.08E-06		-0.0986	0.906	Pf/PF=594/594				
Proton M	Red	938.27				1=.906/.906			-938.27	Proton fields
Vision input							0.906	0.0986	2.08E-06	dKE input
Vision stor	dKE	-2.30E-06		-0.197	0.821	Pf/PF=538/538				
Proton M	Blue	938.27				1=0.821/0.821			-938.27	Proton fields
Vision inpu	dPE						0.821	0.197	2.30E-06	dKE input
Vision stor	dKE	-2.54E-06		-0.296	0.744	Pf/PF=488/488				
Proton M	Green	938.27				1=0.744/0.744			-938.27	Proton fields
Vision inpu	dPE						0.744	0.296	2.54E-06	dKE input

Each color is (dPE+dKE)= 0. The probabilities, for example p/p=1= 0.906/0.906, also meet the Schrodinger P=1 criteria. The rhodopsin molecule contains conjugated bonds. One molecule has more than enough bonds to store 3 colors. Blue and green are also diagramed above with different (p*WL). This is good evidence that molecules are information systems.

It is reasonable that the brain uses the same system. It also learns and stores probabilities (p) through input matches.

The body is a system of molecules

Consider how the body treats amino acid molecules. They are information to the body. DNA is an information code consisting of molecules abbreviated GTC and A. Based on this, we should consider molecules level 1 information systems. We know based on color vision that electromagnetic bonds store probabilities (related to wavelengths) that fire the Feynman Pf/PF probability when a match occurs. We do not perceive the DNA information directly but it appears to be system for learning and using combinations of probabilities based on its bonds.

The body

There is an analogy that helps understand the body. The analogy is a card section at a football game. As you take a seat in the card section, you are given a complete set of cards. But your seat has a unique role. You have to select the card designated by your seat. When signaled you hold up your card. From across the stadium an image appears that is a result of each seat instruction. Sometimes card sections have timed signals and a different card is held up, changing the image.

The body is more sophisticated than the card section. The seats are assigned progressively as two original cell merge and then divide carrying duplicates of the complete set of DNA "cards" into new cells. At this point this is level 1 information system.

Cells are extremely complex systems. Even unicellular organisms contain very long strands of DNA. Consider cell division as probability acting on the whole system. The probabilities associated with progressive cell division are: P=1/2*1/2*1/2, etc. The number of cells in the body is approximately 3e13. Each cell produced must itself divide 45 times (2^45=3e13) but each cell divides locally in three dimensions.

Nature knows how to place cells along straight lines. Look at the long straight legs of a daddy long leg. Morphogenetic fields have been theorized that would direct construction of the body. Perhaps, but my grandson's Lego blocks suggest a simpler solution to accurately placing cells. Lego blocks start with one block and each subsequent block fits according to instructions. Most Lego blocks are three sided. If protons in the cell contain X, Y and Z spins (gyroscopes) they could place cells in three exact dimensions even though they don't have smooth sides.

Hox clusters

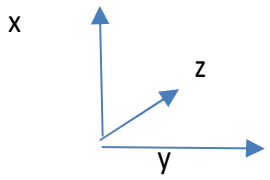
Hox clusters of genes go back to the beginning of life [2]. They have diverged slightly and been duplicated to finally represent the physical core of the human body. There are four hox clusters of genes that occur in five chromosomes. In simple organisms the Hox genes code for proteins. In turn, variable factors in the proteins bind to a specific segment of DNA. The amino acids expressed by DNA occur along a line that becomes the body of a fly or vertebra in humans. The concept is called co-linearity and the order of the genes in the Hox cluster is exactly the order of the amino acids found in the vertebra of the embryo. It is clear that Hox clusters send information to DNA by binding to the molecule. I would expect the Hox genes to contain the branches and Fibonacci based lengths that separate the branches of the body into proportions. But the body only survives and replicates if it competes successfully in its environment. The details of its structure vary with time through the process of evolution. We may not know exactly how its structure develops but we can observe the process. Life began shortly after the

earth cooled and it took billions of years to develop successful structures. The real system is a perishable body, preserved information and its environment. Only successful systems survive.

An X, Y and Z coordinate system

How Nature Computes [11] studied the relationship between the proton model discussed above and the Standard Model of quantum physics. Dr. Wilzek [10] calls variations in Appendix 4 "entities". They are combinations of quarks and their fields. Many are puzzled why nature displays these entities. What are quarks are for? I believe the standard model entities, among other things, are used to aid cell placement.

Entities with one dimensions and e or v properties



Standard model [1]

				e	v	Y	
1	1			1		0.166667	2.49
2		1		1.00		0.166667	**4.36**
3			1	1		0.166667	2.49

The diagram below is an excerpt from the proton model related to the Standard Model.

	E=2.02e-5*	Diff KE	N	P	N	E=2.02e-5*exp(N)	
Down Quark	101.95	646.96	15.43	1	17.43	753.29	Down Strong Field
Kinetic E	5.08		12.43		10.43	0.69	Grav Field component
Up Quark	13.80	83.76	13.43	1	15.43	101.95	Up Strong Field
Kinetic E	5.08		12.43		10.43	0.69	Grav Field component
Up Quark	13.80	83.76	13.43	1	15.43	101.95	Up Strong Field
Kinetic E	5.08		12.43		10.43	0.69	Grav Field component

"How Nature Computes" relates the proton model to properties associated with the Standard Model. It proposes that Proton model entities (only protons contain the e, v property) represent X, Y and Z. Properties of particles are listed below.

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

Proton entities in the Standard Model have properties that can provide the needed coordinate system. Some proton properties of interest are: Spin, handedness (parity), fields that attract or repel, particles that move around two dimensional circles left or right and three dimensional surfaces. Spin could provide a very useful tool for designating (x, y and z). Likewise, handedness (parity) could be a powerful tool for creating bi-lateral parts of the anatomy. Consider how useful a radius instruction would be for creating circular structures like spider legs, nerves or tubes.

Quantum mechanics takes separations very seriously since they create entangled properties. In this proposal every time cell division occurs, spins are correlated and align with the previous coordinate system. If the protons in the cell contain X spins, the cells are placed in a line.

Quarks and electrons have charge

The number N=0.0986 is associated with charge (and information). The electromagnetic field is E=e0*exp(3*0.0986)=2.02e-6*exp(0.296)=27.2e-6 MeV. The quarks have -1/3 charge or 2/3 charge. When cell division occurs it is well known that the cells become polarized. Fractional charge could connect the X,Y and Z alignment spins with the electromagnetic fields that push the cells apart.

Enfolded systems

The excerpts below from Wiki aid our understanding of complex systems:

Implicate order and **explicate order** are ontological concepts for quantum theory coined by theoretical physicist David Bohm during the early 1980s. They are used to describe two different frameworks for understanding the same phenomenon or aspect of reality. In particular, the concepts were developed in order to explain the bizarre behavior of subatomic particles which quantum physics struggles to explain.

In Bohm's *Wholeness and the Implicate Order*, he used these notions to describe how the appearance of such phenomena might appear differently, or might be characterized by, varying principal factors, depending on contexts such as scales.[1] The implicate (also referred to as the "enfolded") order is seen as a deeper and more fundamental order of reality. In contrast, the explicate or "unfolded" order include the abstractions that humans normally perceive. As he wrote,

> In the enfolded [or implicate] order, space and time are no longer the dominant factors determining the relationships of dependence or independence of different elements. Rather, an entirely different sort of basic connection of elements is possible, from which our ordinary notions of space and time, along with those of separately existent material particles, are abstracted as forms derived from the deeper order. These ordinary notions in fact appear in what is called the "explicate" or "unfolded" order, which is a special and distinguished form contained within the general totality of all the implicate orders (Bohm 1980, p. xv).

DNA is an enfolded system

The body develops from a single cell (combination of two cells). The concept of enfoldment indicates that the whole body is represented in the DNA. As cells divide, the replicated DNA "unfolds" to represent the next cell, etc. for the whole body. It unfolds from "Wholeness and Implicate Order" in Bohm's words. DNA is in every cell but only very specific segments are expressed. The processes of unfolding depends on "stored" instructions that specify when, which and where to express the associated proteins.

> What does "stored" mean? DNA is passed down from generation to generation. Previous copies of it have produced billions of bodies in the past. This is an evolutionary process. "Expressed" for the unfolded body and "stored" for enfolded DNA are different representations of the same thing (level 1 and level 2).

If each cell division contains a new instruction for the next cell, the correlated spin coordinate systems could build small and enlarge via cell division. There does not have to be explicit long range instructions for a large body. Since the body has been build billions of time in the past with relatively minor variations there is no doubt that a specific set of instructions exists. When cell division occurs, a new instruction is read (from the Hox gene bonds inside DNA). The instruction includes what to express and the orientation based on proton spins. The cell then is precisely placed by the instruction. Each location within the body is manufacturing and folding proteins according to specific DNA instruction. On timed signals, stem cells are manufactured and then differentiated into muscle cells, etc. At first a baby image appears, followed by childhood, etc. as adjacent cell division enlarges the image proportionally.

Exactly how is the information stored? An information core will be described that, when added with a Schrodinger computation, represents the body in time and space. The concept below is that a 4 letter codons represents a specific set of probabilities, each of which is stored by proton--electron bonds. Probability defines the energy in Et/H for wave-function components of a body system. The probabilities for the wave-function energies are stored in DNA, as a level 1 structure (not space and time, like Bohm says). The "explicate or unfolded order" is a level 2 "body in space and time".

Each molecule (AGCor T) consists of many proton-electron bonds. The bonds store probability that define energy wave-function components of the molecules. They are represented below as a learning system. Combinations of bonds in the molecules that work (match) have been selected evolutionary. Evolution is the "learning" mode…kind of cruel but probabilities that work are passed on.

						Pf/PF=sin(2DM)^2/(DM)^2		
				nm	D		M	wl input nm
	D	P=0.906^D	Width	WL peak	D (meters)		M=1e9*(1/wl-1/WLC) (1/meters)	
	0	1.00	61.23	655.93	6.37E-06	1.41E-08	-9.98E+08	1
Molecule A →	4	0.674	61.23	6993.6	7.92E-04	1.00E+00	-2.04E+01	6992.6
	4	0.674	61.23	6993.6	7.92E-04	5.66E-16	-1.00E+09	1
Molecule G →	5	0.611	61.23	7718.4	9.65E-04	1.00E+00	-1.68E+01	7717.4
	5	0.611	61.23	7718.4	9.65E-04	5.53E-13	-1.00E+09	1
Molecule C →	6	0.553	61.23	8518.3	1.18E-03	1.00E+00	-1.38E+01	8517.3
	6	0.553	61.23	8518.3	1.18E-03	7.18E-13	-1.00E+09	1
Molecule T →	7	0.501	61.23	9401.1	1.43E-03	1.00E+00	-1.13E+01	9400.1

Bonds in the molecules A, G, C and T could be used in combinations (the line below) to store information for each codon. Other combinations could represent different codons.

		E=2.02e-5*exp(N)		N	p=EXP(N)	1=p/p	p=1/EXP(N	N	E=2.02e-5*exp(N)	
DNA store	dPE	-2.80E-06		-0.394	0.674					
Proton M	A	938.27				1=0.674/0.674			-938.27	Proton fields
DNA input							0.674	0.394	2.80E-06	dKE
DNA store	dKE	-3.09E-06		-0.493	0.611					
Proton M	G	938.27				1=0.611/0.611			-938.27	Proton fields
DNA input	dPE						0.611	0.493	3.09E-06	dKE
DNA store	dKE	-3.41E-06		-0.592	0.553					
Proton M	C	938.27				1=0.553/0.533			-938.27	Proton fields
DNA input	dPE						0.553	0.592	3.41E-06	dKE
DNA store	dKE	-3.77E-06		-0.690	0.501					
Proton M	T	938.27				1=0.501/0.501			-938.27	Proton fields
DNA input	dPE						0.501	0.690	3.77E-06	dKE

The protons—electron examples above (there would be billions) with their stored probabilities are part of overall wave-function additions (discussed below). The proton defines time (see Part 2) and as time progresses the "when" of gene expression occurs by starting at the beginning and repeating. The "what" is determined by selecting a particular DNA codon set (gene) out of the DNA molecule (p=one combination/all). The "where" associated with gene expression is "next to the last cell in either the spin x, y or z direction". As cell division occurs, there could be many "programs" expressing cells at the same time because each new cell can also divide.

Development of the brain

We know a partial answer to the question "how does the brain form?" Cells with connection potential are duplicated and placed in different areas of the brain. Neural growth, neurotransmitters and repetitive use develop and strengthen networks.

When signals are received by a brain, it is proposed that wavelengths can be stored or retrieved by using probabilities labeled W in the diagram below. Stored wavelengths and neural networks represent learning over time with many potential meanings. When new signals are received they are compared with stored wavelengths. Matches fire the Feynman function (Pf/PF) and create meaningful perception. Our brain perceives Pf/PF additions just like it perceives white light from equal amounts of three colors.

A word in the English language means something because it is compared to remembered words of the same language. Over time, the baby/child/adult differentiates and stores additional wavelengths and increases its neural network.

In this example, the baby has learned 3 English words. Each is stored at a specific wavelength match (labelled 1 in red). Combinations connected by neurons (the arrows) store wavelengths that mean "one word combination/ English language". When new input (the rightmost column) is received, stored wavelength combinations fire Pf/PF components that add and create meaning. In this example, the baby perceives the meaning of the three words. Perhaps initially the baby comes close to the word and a low Pf/PF response occurs but with feedback the Pf/PF increases and a network is strengthened.

Over time experience produces a huge number of stored (p) wavelength combinations. Wavelength based signals are received or produced internally (it could represent a stored model of reality) for comparison with stored wavelengths. Neural networks produce (Pf/PF) matches between stored wavelengths and incoming wavelengths. Perception occurs if we are aware. (This last condition is meant to suggest there are levels of mind including automatic, subconscious and awareness). Reference 9 explains a system of probabilities that may be involved. It is known that neural networks have feedback loops that adjust probabilities based on expectations (similar to fuzzy logic). Perception could be fuzzy because the Feynman equation can respond with Pf/PF values less than 1 based on the match. Integration of senses and brain expectations create our reality. There is also information gain (probability separation) associated with the path the action potential takes. If the path taken is improbable, the information (N) is increased. Many possible pathways are stored and improved but their function is to provide temporary information in our consciousness.

						Pf/PF=sin(2DM)^2/(DM)^2		
	Nerve							
	Connection			nm	D		M	
	W	P=0.906^W	Width	WL to peak	D (meters)		M=1e9*(1/wl-1/WLC) (1/meters)	
	0	1.00	61.23	655.93	6.37E-06	1.41E-08	-9.98E+08	1.00E+00
→	1	9.06E-01	61.23	5202.6	4.37E-04	1.00E+00	-3.70E+01	5.20E+03
	2	8.21E-01	61.23	5741.8	5.33E-04	9.00E-13	-1.00E+09	1.00E+00
	3	7.44E-01	61.23	6336.8	6.49E-04	6.20E-13	-1.00E+09	1.00E+00
	4	6.74E-01	61.23	6993.6	7.92E-04	5.66E-16	-1.00E+09	1.00E+00
	5	6.11E-01	61.23	7718.4	9.65E-04	5.53E-13	-1.00E+09	1.00E+00
	6	5.53E-01	61.23	8518.3	1.18E-03	7.18E-13	-1.00E+09	1.00E+00
	7	5.01E-01	61.23	9401.1	1.43E-03	4.21E-14	-1.00E+09	1.00E+00
→	8	4.54E-01	61.23	10375.5	1.75E-03	1.00E+00	-9.29E+00	1.04E+04
	9	4.12E-01	61.23	11450.7	2.13E-03	1.91E-13	-1.00E+09	1.00E+00
	10	3.73E-01	61.23	12637.5	2.60E-03	1.03E-13	-1.00E+09	1.00E+00
	11	3.38E-01	61.23	13947.2	3.16E-03	4.97E-14	-1.00E+09	1.00E+00
	12	3.06E-01	61.23	15392.7	3.85E-03	6.18E-15	-1.00E+09	1.00E+00
→	13	2.77E-01	61.23	16988.0	4.70E-03	1.00E+00	-3.47E+00	1.70E+04

The only way we gather information about reality is through our senses; allowing the brain to store and manipulate information. But again a computation is involved. Input from the senses or from other areas of the brain fire the Pf/PF function. Our brain computes reality based on a developing information model. (A weak analogy would be a computer using information to drive a computer screen.) With input from the senses the brain learns the Pf/PF=1 matches and

stores the wavelengths as probability. The energy differences associated with Et/h in the wave-function are shown below as a function of the stored information core probabilities (0.306 for example). Overall, these probabilities are components of the Schrodinger addition process (again this is one proton—electron example of billions).

N	E=2.02e-5*exp(N)		Diff KE	N	p=EXP(N)	1=p/p	p=1/EXP(N	N	E=2.02e-5*exp(N)	
Brain store	dKE	-1.16E-06		-1.2E+00	0.306	Pf/PF=1071/1071				
Proton M		938.27				1=0.306/.306			-938.27	Proton fields
brain input	dPE						0.306	1.183	1.16E-06	dKE input

Overall wave-function addition

The subsystems discussed above are combined below into a system that represents the body in space and time.

The system shows the complete Proton model with the electron in the lower box. The N values for the proton are the fundamental N values in the text above entitled "Creation level 1 Fundamental N values". The upper portion of the diagram is abbreviated by showing only "proton—electron" and energy changes with their associated information core. They are "for example" and would consist of additions from approximately 5e28 protons.

The box above the proton box shows DNA probabilities for three dimensions. Above that are the three colors (there are about 4e24 protons in the rods and cones). For vision, the wavelength in nanometers= energy/(0.00123 MeV/nm). We know these are added because we experience color vision, not the separated colors. The top box shows one possible brain wavelength (p) out of billions of combinations.

P=1=exp(itE/H)*exp(-itE/H)

		E							E	
		Mass plus							Strong Field Energy	
		Kinetic Energy (MeV)							Gravitational Field Energy	
N	E=2.02e-5*exp(N)		Diff KE	N	p=EXP(N)	1=p/p	p=1/EXP(N	N	E=2.02e-5*exp(N)	
Brain store	dKE	-1.16E-06		-1.2E+00	0.306	Pf/PF=1071/1071				
Proton M		938.27				1=0.306/.306			-938.27	Proton fields
brain input	dPE						0.306	1.183	1.16E-06	dKE input
Vision stor	dPE	-2.08E-06		-0.0986	0.906	Pf/PF=594/594				
Proton M	Red	938.27				1=.906/.906			-938.27	Proton fields
Vision input							0.906	0.0986	2.08E-06	dKE input
Vision stor	dKE	-2.30E-06		-0.197	0.821	Pf/PF=538/538				
Proton M	Blue	938.27				1=0.821/0.821			-938.27	Proton fields
Vision inpu	dPE						0.821	0.197	2.30E-06	dKE input
Vision stor	dKE	-2.54E-06		-0.296	0.744	Pf/PF=488/488				
Proton M	Green	938.27				1=0.744/0.744			-938.27	Proton fields
Vision inpu	dPE						0.744	0.296	2.54E-06	dKE input
DNA store	dPE	-2.80E-06		-0.394	0.674					
Proton M		938.27				1=0.674/0.674			-938.27	Proton fields
DNA input							0.674	0.394	2.80E-06	dKE
DNA store	dKE	-3.09E-06		-0.493	0.611					
Proton M		938.2720382				1=0.611/0.611			-938.27	Proton fields
DNA input	dPE						0.611	0.493	3.09E-06	dKE
DNA store	dKE	-3.41E-06		-0.592	0.553					
Proton M		938.27				1=0.553/0.533			-938.27	Proton fields
DNA input	dPE						0.553	0.592	3.41E-06	dKE
DNA store	dKE	-3.77E-06		-0.690	0.501					
Proton M		938.27				1=0.501/0.501			-938.27	Proton fields
DNA input	dPE						0.501	0.690	3.77E-06	dKE
Down Quark		101.95	646.96	15.43	1.99E-07	1	2.69E-08	17.43	753.29	Down Strong Field
Kinetic E		5.08		12.43	3.99E-06		2.95E-05	10.43	0.69	Grav Field component
Up Quark		13.80	83.76	13.43	1.47E-06	1	1.99E-07	15.43	101.95	Up Strong Field
Kinetic E		5.08		12.43	3.99E-06		2.95E-05	10.43	0.69	Grav Field component
Up Quark		13.80	83.76	13.43	1.47E-06	1	1.99E-07	15.43	101.95	Up Strong Field
Kinetic E		5.08		12.43	3.99E-06		2.95E-05	10.43	0.69	Grav Field component
		10.151								
neutrino ke		-0.671								Strong residual KE
borrow			-0.62	-10.33	3.25E-05					
ae neutrino		-2.02472E-05		0.00E+00		1	2.73E-05	10.507	0.740	Grav Field component
E/M field		-2.72E-05	-30.4538103							
Proton M		938.27206								
E/M field	outside	2.72E-05		0.296	7.44E-01					
electron	proton	0.511		10.14	3.96E-05					
Kinetic E		0.111								
v neutrino		0.671		10.41	3.02E-05					
t neutrino		0.740								
e neutrino		2.02472E-05								
Expansion KE		10.151								
Expansion PE		10.151								Grav Field Total
Total M+KE		959.9859	sum m+ke	90.10	7.42E-40		7.42E-40	90.10	959.986	-2.801

Overall the systems of protons with kinetic energy, electrons and the fields represent reality in time and space (level 2). The life processes that depend on evolution, light input or learning also use Pf/PF= 1. The proton contains the gravitational field and the gravitational field is the source of time and space [Part 2, topic entitled "Time and Space].

Level 2 should not be considered an illusion. It is an important part of nature. But understand the life system. It is a "red tooth and claw" system and the reality of the body is perishable. Only if it is successful and if it passes its genetic information to an offspring is the information retained for ongoing evolution. The lesson is: information is more enduring than the body because it can rebuild a better body and brain.

Brain vs mind

What distinguishes the mind from the brain? Above, three life systems were discussed that involved the same process. But the brain is part of the body and its functionality is based on energy based processes. Brain information (level 1) processes depend on proton--electron storage but the proton--electron was apparently created by the Mind of creation. The creation and storage location is the same and it appears that Mind and mind are parallel.

Mind and mind

The abstract contains this diagram.

Information → Schrodinger based neutrons that define the laws of nature

Information→ Schrodinger/Feynman based evolution of body/vision/brain

The repetitive use of information unit N=0.0986 is evidence that the information level probabilities are stored with the same code. This value is part of the information that existed in the beginning. Information for our vision system is stored by probabilities based on p= 0.906=1/ exp(N)=1/exp(0.0986). It is not coincidence that our vision system uses exactly N=0.0986 in the energy series E=1.89e-6 MeV/0.906^n, where n=0, 1, 2, 3, 4, etc. (Wavelength 656 nm is multiplied by 0.906^n). This means our mind uses N= 0.0986, one of the fundamental N values inputs for the neutron computation. The brain had to learn and store probabilities that modify energy components in the Feynman absorption equation to create memory and conscious thought. If nature can recreate a body from information, there is no reason that it cannot recreate your brain with high level thought. In fact, many animals have behavioral instincts built in from birth. This is proof that brain function can be recreated from information.

Ongoing creation

We now understand that there is no energy without separations. It appears that the Mind of creation held original information and used information separation and fundamental N values to create physical nature. The life processes discussed use the same "separate and compute" system. These appear to be steps in development of mind in Mind. Ask the question: Where do information separations exist? I believe the answer to this is that they exist in Mind. Perhaps it can also hold information developed by our mind and allow us to participate in ongoing creation. [13]. Memory is stored information (level 1) in the center of the wave-function diagram above. Physical nature is represented by equations (computed) and we should prefer not to become too enamored with level 2. Instead we should be very fond off level 1 because it can re-create level 2. This is important because it gives us hope. Hope that you are part of a Mind that allows mind to participate in ongoing creation.

Details of the Proton model

Creation level 1

The original creation process appears to have been a probability separation process operating at the information level. Probability is one possibility compared to all possibilities and contains information. According to the Shannon [6] definition of information (information= neg(natural log P). With P=1, information is zero. Nature is mathematical and the original separation is a numerical process. The process below separates 1 into probabilities following the nomenclature below:

	M+KE		Fields	
N=-ln(p)	p	p/p	p	N=-ln(p)
0	1	1	1	0
separation		←	→	separation
90	8.194E-40	1	8.19401E-40	90
22.500	1.6919E-10	1	1.6919E-10	22.500
22.500	1.6919E-10	1	1.6919E-10	22.500
22.500	1.6919E-10	1	1.6919E-10	22.500
22.500	1.6919E-10	1	1.6919E-10	22.500
Susequently separate each 22.5 into 11.33+11.167				
11.333	1.1967E-05	1	1.19673E-05	11.333
11.167	1.4138E-05	1	1.41377E-05	11.167
The diagram below continues the process.				

The above process continues with further separations and rearrangement.

	Add across →					
				Fundamental N m+Ke		
Split 90/4	Split 22.5	Rearrange	Add charge to mass		Fundamental N	
		12.167	Make Ke 3 Dimensional		Fields	
	11.167	4.167	0.0986	15.43195	17.432	Quad1
22.500	11.333		1.0986	12.432	10.432	
	11.167	2.167	0.0986	13.432	15.432	Quad2
22.500	11.333		1.0986	12.432	10.432	
	11.167	2.167	0.0986	13.432	15.432	Quad3
22.500	11.333		1.0986	12.432	10.432	
				-10.333	-10.333	Quad 4
0.0986	0.0986		0.075	10.507	10.507	
22.500	10.333			10.333	10.333	Quad 5
	12.167			0	0	
90.099	90.099			90.099	90.099	Sum

Separation and addition of components culminates in the two columns on the right entitled "Fundamental N values" that we can identify as parts of the neutron fields and mass. The N value 0.0986= ln(3/e) is associated with fields and is a basic information unit. These probabilities depend on "reverse" engineering the neutron and correlating fundamental data explained in Appendix 1.

Probability=1/exp(N) is written below in tabular form. Information = negative natural log(p1*p2*p3, etc.) = 90.1 is written at the bottom of each fundamental N column. With these probabilities, the components become parts of the N=90.0986 information system.

	N	P=1/exp(N)	N	P=1/exp(N)
Quad 1	15.43	1.99E-07	17.43	2.69E-08
	12.43	3.99E-06	10.43	2.95E-05
Quad 2	13.43	1.47E-06	15.43	1.99E-07
	12.43	3.99E-06	10.43	2.95E-05
Quad 3	13.43	1.47E-06	15.43	1.99E-07
	12.43	3.99E-06	10.43	2.95E-05
Quad 4	10.41	3.02E-05	-10.33	3.07E+04
	-10.33	3.07E+04	10.41	3.02E-05
Quad 4'	10.33	3.25E-05	10.33	3.25E-05
	0.00	1.00E+00	0.00	1.00E+00
	P1*P2*etc	8.19E-40		8.19E-40
	ln (Ptotal)	90.00		90.00

The next level involves placing the probabilities in the Schrodinger equation to produce the neutron and proton. Again, this is a Mind level 1 process.

Probability 1=e0/exp(N). This probability is an energy ratio and leads to the equation E=eo*exp(N). The probability is 1/exp(N) and e0=1 in natural units or 2.02e-5 in MeV units, evaluated from the electron N from the table in Appendix 1.

Energy zero= 0= E1-E1. Energy is created by a separation but there are two types of energy. Appendix 1 explains how energy separations from zero and probability 1 represent the neutron and proton. Probability 1 represents the other initial condition, zero information. Everything must be produced by separations. The components of the neutron and its fields encode the laws of nature. For a (future) mind, it will mean that there will be particles separated in distance, each with kinetic energy for expansion of the universe.

Creation level 2: Compute energy reality for the fundamental particles

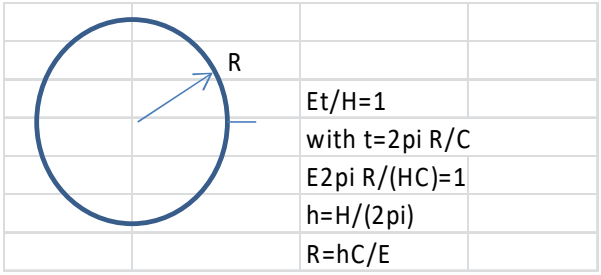
Create (derive) the Schrodinger equation with the following steps:

1=exp(-i*1)*exp(i*1). The imaginary number i is separation of 1 into two parts.

1=exp(-i*Et/H)*exp(i*Et/H), where Et/H=1 means Energy*time/Planck's constant.

Note about the Schrodinger equation:

Many physicists use the Dirac equations to represent the forces of nature because it is relativistic. Reference 11 shows that the Schrodinger is also relativistic with the restrictions probability 1 and energy 0. The Schrodinger equation is simpler and helps us understand nature. It is also important to note the basis of Et/H=1 in the exponents of the Schrodinger equation (iEt/H) and (–iEt/H). E is 1/t and H is a conversion constant called the Planck constant. Any energy can be represented with a wave-function of this type but with the restriction that Et/H=1 and the further restriction that E and –E have been separated, the Schrodinger probability will always be represented by 1. This can be represented on a circle:



This derives the basic equation that relates the radius of a quantum circle to energy using the reduced Planck constant h. But with equal and opposite energy, time traveling around the circle goes both directions and will meet at Et/H. This is called wave-function collapse. The fact that Energy=hv, where v=1/t drives the whole system.

Energy E and time t can be separated using the Dirac approach:

The logarithm of the Schrodinger equation has equal and opposite energy pairs

The anti-log of the energy pairs is exp(iEt/H)*exp(-iEt.H)

The above expression multiplies to P=1 with the following restrictions.

Energy zero (E-E=0) but each energy has a probability with p/p=1.

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

Energy pairs can be separated from time pairs as follows:

take the natural log and divide boths sides by i

0=itE/H-itE/H

0=Et/H-Et/H

0=(E-E)*(t/H-t/H) with E=1/(t/H)

0=(E-E)

Each E above is the sum of components, some of which are positive and others equal are calculated with the equation E=e0*exp(N).

When the Schrodinger equation is solved it yields Probability=1. Consider this the left hand side (LHS) of Schrodinger's equation. The right hand side (RHS) contains complex conjugates that represent waves moving through time cycles. Sinusoidal wave varies with exp(i theta)=cos theta +i sin theta as theta increases. They are circles with a vertical imaginary axis and a real horizontal axis. Results are restricted to the unitary point where the wave function collapses on a

quantum circle with Et/H=1. With the right amount of mass, kinetic energy and field energy circular orbits are formed with real axis. Velocity is a vector (x,y&z) and represents axis or circles related to entities in the Standard model.

Results are restricted to the unitary point where the wave function collapses on a quantum circle with Et/H=1. The Schrodinger equation components are automatically added and the neutron is presented at level 2 within space and time. Probability= 1 (LHS) but it contains a great deal of information about the component level.

The diagram below shows the concept: Introduce probabilities, add components and multiply exp(-i* Et/H)*exp(i*Et/H).

Specific energy values in the neutron and proton computations below are responsible for the laws of nature. The four forces (interactions) are strong, strong residual, electromagnetic and electromagnetic. Gravity is weak because the field energy (-2.801 MeV) above is shared among all particles according to a concept called cellular cosmology. This concept determines the gravitational constant and unites the four forces.

When the neutron decays to a proton, electron and anti-electron neutrino the proton mass is calculated in the computation below (exactly 938.272013 MeV). The computation below shows the changes involved in decay of the neutron to a proton, electron and anti-electron neutrino. The value 0.11 MeV is the energy required to fuse protons. The quads (sets of four values below) obey probability 1 and energy zero. Each quad has its own quark wave functions. The quads define the mass, kinetic energy and field energies for the quarks and a gravitational energy component.

The work below derives Schrodinger based orbits that obey energy zero. This means there will be positive and negative energy terms created through separation. This E=0 constraint and related P=1 constraint are further defined. There are sets of four probabilities of interest that contain exponential functions 1/exp(N). The logarithmic values N are explained in the text "Creation level 1".

Evaluating E

Evaluating E in the RHS requires consideration of overall probability, not just the probability of particles. Initially there was a probability for many neutrons to make up the universe. Specifically, P= 1= probability of each neutron* number of neutrons= 1/exp(N)*exp(N).

1=1/1=exp(180)/(exp(90)*exp(90)) where exp means the natural number e to the power 90, where 90 is a base 10 number (count your fingers).

What this means is that nature will have exp(180) neutrons [12], each with probability 1/exp(180). But this probability is further separated into: probability of fields=1/exp(N) *probability of (mass+ kinetic energy)=1/exp(N) where N=90.

The probability of each neutron is 1/exp(N). The neutron itself is made of improbable components like quarks. Appendix 1 contains sets of logarithmic values called N values for probabilities of the neutron components (called fundamental N values). The same set of N values gives the energy of its components. We can evaluate the probability of particles that

makes up the neutron if energy is itself a probability, i.e. p=e0/E=1/exp(N), where e0 is a small constant.

Information theory probabilities

C. Shannon [12] used S= -ln P to represent information and thermodynamics incorporates similar concepts except it is the statistics of many particles. The author's N identifies particles such as an electron and components of the electric field and E= e0*exp(N). In this system, dimensionless energy ratio e0/E=P probability. Since wavelength is proportional to 1/E=1/hv (h is Heisenberg's constant and v is frequency), the probability and a dimensionless wavelength are equivalent.

$$P=e0/E=(h\ v0)/(h\ v)=v0/v=wl/wlo.$$

$$p=e0/E=1/\exp(N), \text{ i.e. } E=e0/p.$$

$$\text{With } p=1/\exp(N),\ E=e0*\exp(N).$$

E1-E1+E2-E2+E3-E3+E4-E4=0
Identify E as E=e0*exp(N), using the same N values as the LHS.

0=eo*exp(13.431)-eo*exp(13.431)+e0*exp(12.431)-e0*exp(12.431)+e0*exp(15.431)-e0*exp(15.431)+eo*exp(10.431)-e0*exp(10.431)

Mass plus kinetic energy will be defined as positive separated from equal and opposite negative field energy. E1 is the only mass term, E3 and E4 are field energy and the remainder is kinetic energy.

E1+(E3+E4-E1-E2)+E2-E3-E4=0 (rearrange)
E1 is mass, (E1+E4-E1-E2)+E2 is kinetic energy.
E3 and E4 are equal and opposite field energies
mass1 + kinetic energy- field energy3-field energy4=0

The four N values discussed in the section entitled "Evaluating E" and their associated energy is called a quad. It is defined as the E values E=e0*exp(N) in a box to the right of each N value. The key to distinguishing mass (E1) from kinetic energy (E2) and two fields is shown below. The positions are not interchangeable.

Mass	Field 3
Kinetic Energy	Field 4 (G)

		mev			mev		
		E=e0*exp(N)			E=e0*exp(N)		
N1	13.43	13.8	E1 mass	N3	15.43	101.95	E3 field
N2	12.43	5.1	E2 ke	N4	10.43	0.69	E4 field

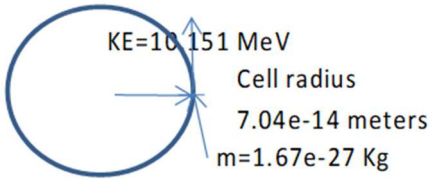
E1=2.02e-5*exp(13.43)=13.79, E2=2.02e-5*exp(12.43)=5.08, E3=2.02e-5*exp(15.43)= -101.95, E4=2.02e-5*exp(10.43)= -0.69 (all in MeV).

Separation of energy from zero

Overall E1+(E3+E4-E1-E2)+E2- (E3-E4) =0= (E1-E1)+(E2-E2)+(E3-E3)+(E4-E4) obeys the energy zero restriction. I call these diagrams energy zero, probability 1 constructs. They contain energy components of a quark. With the Fundamental N probabilities discussed in text topic "Creation level 1", the neutron model is produced discussed in the text topic "Creation level 2".

Time and space

When the Schrodinger equation is solved for the neutron it yields probability=1. But the gravitational energy component (2.801 MeV) defines time and space. This places the neutron in space and time on the collapse point Et/H=1. In the diagram below space is defined by R=hC/E=1.89e-13/2.801=7.04e-14 meters. (hC units are MeV-meters) Time is measured in repeats of the time around the circle at velocity C.



As time continues, gravity and expansion shape and cool the universe. This provides a place where chemistry can develop life and complete the cycle of mind in Mind.

Conclusion

Uniform processes are identified that describe energy with a system of probabilities. Examples systems presented were: The neutron and its components, protons with different quark properties, electromagnetic components leading to vision and finally thought. Each process has level 1 information components that enfold nature. Our physical world becomes reality through the Schrodinger equation for fundamental particles. The Feynman absorption equation in life systems helps us perceive and modify probabilities through feedback and input.

Mind exists and creates information based processes that produce mind. To the author this appears intentional although no-one can know Mind or its ways. Is ongoing creation the goal of creation? Mind undoubtedly has creative potential but it could go deeper. Perhaps mind is within Mind; a concept arrived at through faith or inspiration many times throughout history.

References

1. Retinoic Acid Synthesis and Signaling during Early Organogenesis, Gregg Duester.
2. Hox Clusters, Wikipedia
3. Barbee, Gene H., *Schrodinger and Creation*, Prespacetime Journal, January 2019, Volume 10, Issue 1, https://prespacetime.com/
4. Feynman, R.P., Leighton, R.B., Sands, M., https://en.wikipedia.org/wiki/The_Feynman_Lectures_on_Physics, *Addison-Wesley*, 1965.
5. https://ocw.mit.edu/courses/nuclear-engineering/22-02-introduction-to-applied-nuclear-physics-spring-2012/lecture-notes/MIT22_02S12_lec_ch6.pdf
6. https://onlinelibrary.wiley.com/doi/abs/10.1002/j.1538-7305.1948.tb01338.x Shannon, Claude. *A Mathematical Theory of Communication*, 1948.
7. Barbee, Gene H., *Life from Information*, http://vixra.org/pdf/1311.0124v1,
8. http://www.cvrl.org/stilesburch10_ind.htm
9. Brockman, John, *This Explains Everything*, 2013. Article by Stanislaw Dehaene, the Universal Algorithm for Human Decision Making.
10. https://www.penguinrandomhouse.com/books/312435/a-beautiful-question-by-frank-wilczek/9780143109365/
11. Barbee, Gene H., *How Nature Computes*, Academia.edu, March 2019. Also, Prespacetime Journal, Vol 10, No 3 (2019).
12. Barbee, Gene H., *Zero Dark Matter and Zero Dark Energy*, https://www.academia.edu , http://www.vixra.org/pdf/1805.0449v2 , December 2018.
13. Barbee, Gene H., *Mind in Mind: Ongoing Creation*, Scientific GOD Journal, September 2019, Volume 10, Issue 5. Also, https://www.academia.edu ,
14. Barbee, Gene H., *A Simple Model of Atomic Binding Energy*, http://www.vixra.org/pdg/1307.0102 , revised Feb 2014. Reference spreadsheet atom.xls.
15. Barbee, Gene H., *Nature and Information*, http://www.vixra.org/pdf/1611.0302v1.pdf, December 2016. http://prespacetime.com/index.php/pst/issue/view/91

Appendix 1. Energy data comparison

From the viewpoint of the (future) specific energy mind, the equation 1=e0/exp(N) can be written as:

E=eo*exp(N) and we can identify the energy through observations:

unifying concepts.xls cell aw48			Proposed	IS Hughes	
		Particle Data	Energy	Bergstrom	
		Group energy	E=eo*exp(N	Randall	
Identifier	Ni or N	(Mev)	(Mev)	energy	
	(E=e0*exp(N))		e0=2.02e-5	(Mev)	
1/3 of E/M E	0.0986				
e neutrino ke	0.197	2.00E-06	2.47E-05	3.00E-06	
E/M Field E	0.296	0.0000272	2.72E-05		
	(3*.0986=.296)				
ELECTRON	10.136	0.51099891	0.511		
mu neutrino	10.408	0.19	0.671	less than 0.25	
Graviton*		1.75E-26	2.732		
Up Quark M	11.432	2.4896	1.867	1.5 to 4.5	1.86+.622=2.482
E Operator	12.432		5.076		
Down Quark M	13.432	4.3568	3.734	5 to 8.5	3.73+0.622=4.36
Strange Quark I	15.432	102	101.947	80 to 155	
Charmed Field	17.432	1275	753.29	1000 to1400	
Bottom	19.432	4180	5566.11	4220	
Quark?	21.432		41128.30	40000	
W+,w- boson	22.106	80399	80668.71	81000	
Z	22.228	91188	91154.0	91182	
HIGGS	22.575	125300	128992.1	105000	

Reference 11 explained that the mass plus kinetic energy of the quarks is the same as the proton model in the text. But data indicates that the Up quark mass is 4*0.622=2.49 MeV instead of 13.797 MeV with mass plus kinetic energy held constant,

m	ke	m+ke
13.797	88.83673	102.6337
2.49	100.144	102.6337

P^2C^2+(MC^2)=E^2 is maintained. Also, the probability 1 and energy 0 constraints are maintained. The transition to a lower mass quark is allowed.

Appendix 2. Fusion calculations

The weighted average is darkened in the table below. All energy is quoted in MeV (million electron volts).

Details of fusion algorithms imbedded in the proton computation. Again the general form is E*P.

Lithium7 has 4 neutrons and 3 protons and the calculation above gives a total binding energy of 5.751 MeV. This is close to the NIST and Particle Data Group value of 5.644 MeV but the difference is significant and there are two additions needed. Energy retention develops because like charges of the protons repel each other but are compressed inside the atoms. This energy subtracts from the energy release. The other effect is small effect related to the atom's isotopes. Details are in reference 8.

				(p*10.15*EXP(-2/p)+(n*10.15*EXP(-2/n))/(p+n)				
protons	(10.15*EXP(-2/protons))			(weighted average)				
p		neutrons	(10.15*EXP(-2/neutrons))					
1	1.374	n		1.374				
2	3.734	2	3.734	3.734				
3	5.211	4	6.156	5.751	5.751=(3*5.211+4*6.156)/7			
4	6.156	5	6.804	6.516				
5	6.804	6	7.273	7.060				
6	7.273	7	7.627	7.464				
7	7.627	8	7.905	7.775				
8	7.905	9	8.127	8.023				
9	8.127	10	8.310	8.224				
10	8.310	11	8.463	8.390				
110	9.967	272	10.076	10.044				

Appendix 3. The Feynman equation written with wavelengths

The equation of interest for light absorption is a wave function for a system that has an internal freedom that varies back and forth between two frequency (f) values.

Psi=mu e0/h (1-exp i (f-F) t/ (f-F))

The equations above are from a famous physicist named R. Feynman. The solution to this quantum mechanical equation is found in The Feynman Lectures on Physics, Volume III page 9-13 [2]. The basic equation for a probability pf is divided by pF to form a ratio normalized to make the peak response equal to one at the peak frequency, F. This equation will be called the absorption equation.

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 (2MD)) ^2/ ((2MD) ^2

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

As wavelength increases to the peak, the quantity (1/wl-1/WL) becomes zero for an instant and probability builds to one. On both sides of WL, the absorption equation gives the response of the eye to that color. The ratio pf/pF peaks at one through the sin^2 function.

Appendix 4. Review of the Standard Model

Frank Wilczek summarizes quantum chromodynamics in reference 1. Sixteen variations of six entities are central to what he calls the Core Theory. One objective of this paper is to compare these 16 entities with what the author calls the Neutron model (and its decay into a proton, electron and anti-neutrino). Wilczek's book title "A Beautiful Question" refers to the underlying beauty of symmetry. He indicates that discovery of the Higgs particle in 2012 reinforced and perhaps confirmed that the "Higgs fluid is a space-filling active entity that appears in the equations of the Core Theory". The Red, Green and Blue entities below from Plates VV and WW are called gluons and considered to be quantum entities of the strong field. They have properties related to the electron and neutrino (yellow and blue). The reference orders the 16 entities by the value Y (Hypercharge) with the formula given. Each gluon has charge -1/3 and the electron and neutrino have charge (1/2).

						Y=-1/3*(Red+Green+Blue)+1/2*(Y+P)		
				e	v	Y	mass	
1	1			1		0.166667	u	R
2		1		1		0.166667	u	R
3			1	1		0.166667	u	R
4	1				1.00	0.166667	d	R
5		1			1.00	0.166667	d	R
6			1		1.00	0.166667	d	R
7		1	1			-0.66667	u	L
8	1		1			-0.66667	u	L
9	1	1				-0.66667	u	L
10	1		1	1	1	0.333333	d	L
11	1	1		1	1	0.333333	d	L
12		1	1	1	1	0.333333	d	L
13	1	1	1	1		-0.5	v	L
14	1	1	1		1	-0.5	e	L
15				1	1	1	v	L
16				0	0	0	e	R

The six entities are as follows in Plates TT, UU of reference 1

The W boson is often diagrammed as the link between particles as they change into related particles. The following plates from the reference categorize the particles vertically as changes related to the weak force and the W boson. The particles are categorized horizontally in plate TT by the strong force. The small case u and d associate the first four entities with up and down quarks. The last two entities are labelled as e and v (e for electron and v for neutrino). The Higgs is considered the entity that gives substance to the other 5. The Core Theory also gives the Left (L), right (R) data.


A
L
u
one-sixth
d
B
R
two thirds
u
C
R
d
minus one sixth
D
L
v
minus one-half
Six
e
fundamental
E
R and -1
entities
R
e
F
R and 0
(olus two repeats)
R
v
weak
H0
H
strong
Higgs Fluid