The Ionic Growing Sun, Earth, and Moon

A Mass and Entropy Theory for an Accelerating Expanding Universe

BY: EUGENE A. ELLIS

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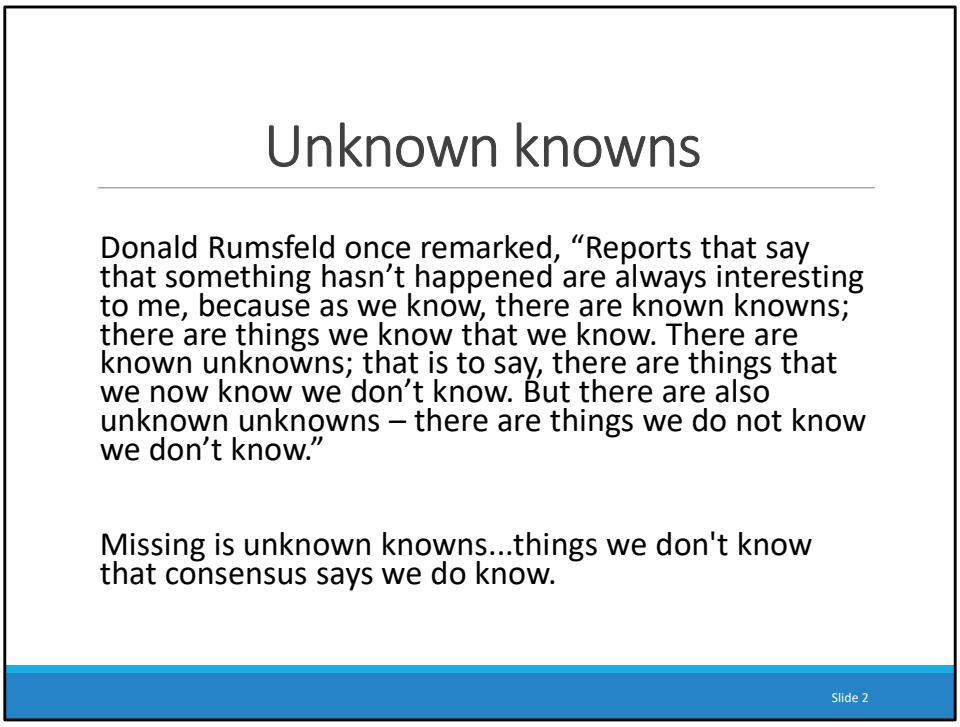
Slide 1

In the universe, all matter that matters consists of elemental atoms. The intrinsic energy of each elemental atom decays as it ages, some of which is stored as potential energy by converting to additional mass within the existing element and the rest to an entropy that heats the elemental mass. The abundance elements that form each celestial body grow and heat that body in situ. Growing elements (atoms) expands volumes and orbits per Newton's inverse square law. The "mechanism" for growing matter is sourced in $E = mc^2$.

Entropy is heat or energy change per degree Kelvin temperature.

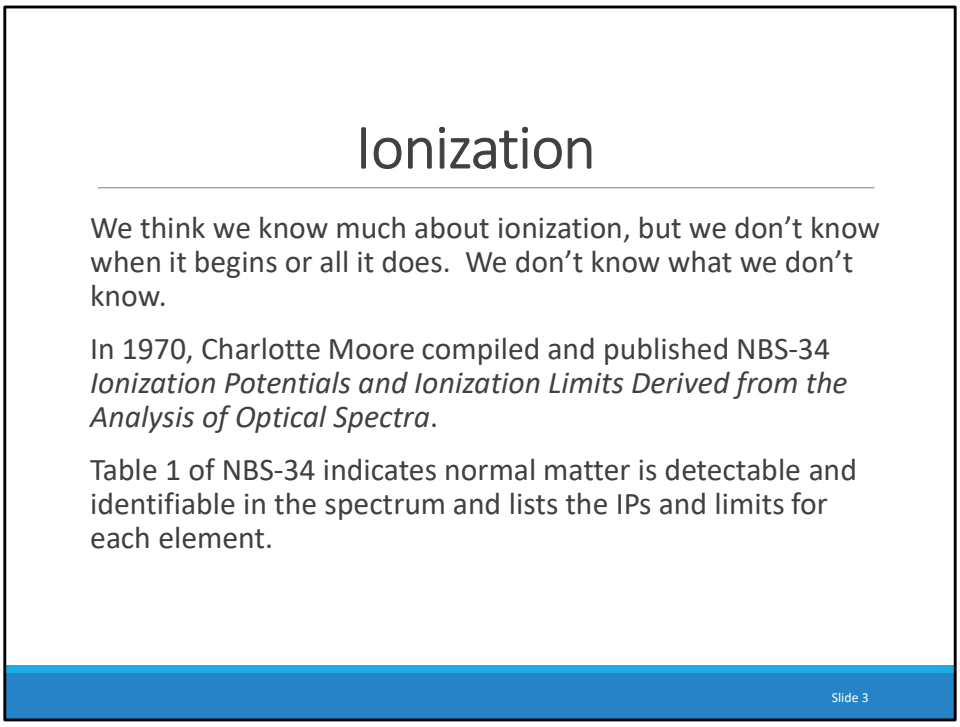


Consensus says matter is unchanging…. atoms cannot change size.

Consensus says the ocean floor is subducting…less dense matter is piercing more dense matter to recycle in the mantle of a constant radius earth.

In the universe, all matter consists of elemental atoms. We can "see" most elements, but not their atoms. All elements are different from one another as are their atoms.

The word “atom” is generic and means uncutable or undividable; it does not mean unchangeable.



The link to NBS-34 is here:
https://digital.library.unt.edu/ark:/67531/metadc100707/m1/1

The first 30 elements from Charlotte Moore's Table 1 is next.

NBS-34 Table 1, pages 2 and 3 -Ionization Potentials and Limits (in eV) (First 30 Elements only)

Z	Element	Spectrum																				Z	%Heating	%Growing
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI			
1	H	13.598																					1	0.00%	100.00%
2	He	24.587	54.416																				2	45.18%	54.82%
3	Li	5.392	75.638	122.451																			3	57.37%	42.63%
4	Be	9.322	18.211	153.893	217.713																		4	62.32%	37.68%
5	B	8.298	25.154	37.93	259.368	340.217																	5	65.09%	34.91%
6	C	11.26	24.383	47.887	64.492	392.077	489.981																6	66.86%	33.14%
7	N	14.534	29.601	47.448	77.472	97.888	522.057	667.029															7	63.59%	36.41%
8	O	13.618	35.116	54.934	77.412	113.896	138.116	739.315	871.387														8	68.99%	31.01%
9	F	17.422	34.97	62.707	87.138	114.24	157.161	185.182	953.886	1103.09													9	69.69%	30.31%
10	Ne	21.564	40.962	63.45	97.11	126.21	157.93	207.27	239.09	1195.8	1362.16												10	71.82%	28.18%
11	Na	5.139	47.286	71.64	98.91	138.39	172.15	208.47	264.18	299.87	1465.09	1648.66											11	73.23%	26.77%
12	Mg	7.646	15.035	80.143	109.24	141.26	186.5	224.94	265.9	327.95	367.53	1761.8	1962.61										12	74.36%	25.64%
13	Al	5.986	18.828	28.447	119.99	153.71	190.47	241.43	284.59	330.21	398.57	442.07	2085.98	2304.08									13	75.32%	24.68%
14	Si	8.151	16.345	33.492	45.141	166.77	205.05	246.52	303.17	351.1	401.43	476.06	523.5	2437.68	2673.11								14	76.16%	23.84%
15	P	10.486	19.725	30.18	51.37	65.023	220.43	263.22	309.41	371.73	424.5	479.57	560.41	611.85	2816.94	3069.76							15	76.90%	23.10%
16	S	13.36	23.33	34.83	47.3	72.68	89.049	280.93	328.23	379.1	447.09	504.78	564.65	651.63	707.14	3223.84	3494.1						16	77.52%	22.48%
17	Cl	12.967	23.81	39.61	53.46	67.8	97.03	114.193	348.28	400.05	455.62	529.26	591.97	656.69	749.74	809.39	3658.43	3946.19					17	78.13%	21.87%
18	Ar	15.759	27.629	40.74	59.81	75.02	91.007	124.319	143.456	422.44	478.68	538.95	618.24	686.09	755.73	854.75	918	4120.78	4426.11				18	79.02%	20.98%
19	K	4.341	31.625	45.72	60.91	82.66	100	117.56	154.86	175.814	503.44	564.13	292.09	714.02	787.13	861.77	968	1034	4610.96	4933.93			19	79.69%	20.31%
20	Ca	6.113	11.871	50.908	67.1	84.41	108.78	127.7	147.24	188.54	211.27	591.25	656.39	726.03	816.61	895.12	947	1087	1157	5129.05	5469.74		20	80.28%	19.72%
21	Se	6.54	12.8	24.76	73.47	91.66	111.1	138	158.7	180.02	225.32	249.832	685.89	755.47	829.79	926							21	52.35%	47.65%
22	Ti	6.82	13.58	27.491	43.266	99.22	119.36	140.8	168.5	193.2	215.91	265.23	291.497	787.33	861.33	940.36							22	58.68%	41.32%
23	V	6.74	14.65	29.31	46.707	65.23	128.12	150.17	173.7	205.8	230.5	255.04	308.25	336.267	895.58	974.02							23	63.88%	36.12%
24	Cr	6.766	16.5	30.96	49.1	69.3	90.56	161.1	184.7	209.3	244.4	270.8	298	355	384.3	1010.64							24	68.95%	31.05%
25	Mn	7.435	15.64	33.667	51.2	72.4	95	119.27	196.46	221.8	243.3	286	314.4	343.6	404	435.3	1136.2						25	68.48%	31.52%
26	Fe	7.87	16.18	30.651	54.8	75	99	125	151.06	235.04	262.1	290.4	330.8	361	392.2	457	489.5	1266.1					26	67.97%	32.03%
27	Co	7.86	17.06	33.5	51.3	79.5	102	129	157	186.13	276	305	336	379	411	444	512	546.8	1403				27	67.43%	32.57%
28	Ni	7.635	18.168	34.17	54.9	75.5	108	133	162	193	224.5	321.2	352	384	430	464	499	571	607.2	1547			28	67.49%	32.51%
29	Cu	7.726	20.292	36.83	55.2	49.9	103	139	166	199	232	266	368.8	401	435	484	520	557	633	671	1698		29	67.28%	32.72%
30	Zn	9.394	17.964	39.722	59.4	82.6	108	134	174	203	238	274	310.8	491.7	454	490	542	579	619	698	738	1856	30	71.16%	28.84%

Slide 4

Ionization Potentials (IPs) are energy levels in electron volts when an element has the potential to join other elements. (Chemical).

Much can be gleaned from this table of ionization potentials.

First and foremost… energy is contained within each element as an inherent property with matter defined as a unit of energetic elemental mass

The first time an element ionizes, it becomes normal matter and its intrinsic energy begins to decay (age). Exceeding the highest IP level listed (blank spaces) indicates such element is undetectable and existed as **dark matter** from the time of its inception. The initial ionization of an element (the time of largest IP is when (undetectable) dark matter becomes normal matter (spectra-detectable) for that element. Presently, all the elements have ionized; hence, there is no remaining dark matter when considering all matter in the universe consists of elemental atoms. Once an element becomes normal matter, it can only revert to dark matter when its intrinsic energy is exhausted.

Reading the chart from left to right = present to past. From right to left = past to present.

Notice the small incremental jumps between the IPs that suddenly becomes a large jump (highlighted). This anomaly pattern signifies a major change.

[ADDED JUNE 2022] Even though time passes differently in different places, this ionization process, as well as the percentages listed, is the same at all places.

TIME TABLE 1R

TIME (in MY) of the Ionization Potentials (energy levels) listed in Table 1R

Element	Spectrum																				Z	Heating	Growing
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI			
H	21.6915																					1	0.00	21.69
He	39.2212	86.8044																				2	39.22	47.58
Li	8.60132	120.658	195.334																			3	112.06	83.28
Be	14.8705	29.0502	245.49	347.296																		4	216.44	130.86
B	13.237	40.1257	60.5059	413.744	542.714																	5	353.24	189.48
C	17.962	38.8958	76.3893	102.878	625.441	781.618																6	522.56	259.05
N	23.1846	47.2195	75.689	123.583	156.151	832.785	1064.04															7	676.63	387.41
O	21.7234	56.017	87.6307	123.488	181.687	220.323	1179.36	1390.04														8	959.03	431.00
F	27.7916	55.7841	100.03	139.003	182.236	250.703	295.402	1521.64	1759.65													9	1226.24	533.41
Ne	34.3989	65.3426	101.215	154.91	201.33	251.93	330.637	381.396	1907.54	2172.92												10	1560.54	612.39
Na	8.19773	75.4306	114.28	157.781	220.76	274.614	332.551	421.42	478.353	2337.11	2629.94											11	1925.99	703.95
Mg	12.1969	23.9838	127.844	174.26	225.338	297.505	358.824	424.164	523.146	586.284	2810.43	3130.76										12	2328.00	802.76
Al	9.54887	30.0344	45.3787	191.408	245.198	303.838	385.129	453.978	526.751	635.799	705.19	3327.56	3675.47									13	2768.40	907.07
Si	13.0025	26.0735	53.4264	72.0089	266.032	327.096	393.249	483.617	560.075	640.361	759.411	835.087	3888.58	4264.14								14	3247.52	1016.63
P	16.7273	31.4653	48.1431	81.9454	103.725	351.63	419.889	493.571	592.984	677.162	765.01	893.966	976.023	4493.59	4896.88							15	3765.47	1131.41
S	21.3119	37.216	55.5608	75.453	115.939	142.051	448.14	523.592	604.74	713.198	805.225	900.73	1039.48	1128.03	5142.66	5573.79						16	4320.72	1253.06
Cl	20.685	37.9817	63.1859	85.2794	108.155	154.782	182.161	555.576	638.16	726.805	844.276	944.311	1047.55	1195.99	1291.14	5835.92	6294.97					17	4918.20	1376.77
Ar	25.1388	44.0738	64.9884	95.4089	119.672	145.174	198.314	228.841	673.876	763.59	859.733	986.216	1094.45	1205.54	1363.5	1464.39	6573.47	7060.54				18	5579.25	1481.29
K	6.92476	50.4482	72.9325	97.1636	131.859	159.52	187.532	247.033	280.458	803.087	899.9	465.942	1139	1255.63	1374.7	1544.15	1649.44	7355.4	7870.61			19	6272.11	1598.50
Ca	9.75146	18.9366	81.2084	107.038	134.651	173.526	203.707	234.877	300.759	337.018	943.162	1047.07	1158.16	1302.66	1427.9	1510.65	1733.98	1845.65	8181.85	8725.33		20	7004.62	1720.70
Se	10.4326	20.4186	39.4972	117.199	146.216	177.227	220.138	253.158	287.168	359.43	398.532	1094.13	1205.13	1323.68	1477.16							21	773.30	703.85
Ti	10.8793	21.6628	43.8536	69.0179	158.276	190.403	224.604	268.791	308.193	344.42	423.095	464.996	1255.95	1373.99	1500.06							22	880.21	619.85
V	10.7516	23.3697	46.7553	74.507	104.055	204.377	239.551	277.086	328.292	367.694	406.84	491.72	536.413	1428.63	1553.76							23	992.54	561.22
Cr	10.7931	26.3208	49.3874	78.3243	110.547	144.461	256.987	294.633	333.875	389.867	431.98	475.37	566.296	613.035	1612.17							24	1111.66	500.51
Mn	11.8603	24.9489	53.7056	81.6742	115.492	151.544	190.26	313.393	353.815	388.112	456.227	501.531	548.111	644.461	694.391	1812.47						25	1241.21	571.26
Fe	12.5542	25.8103	48.8945	87.417	119.64	157.925	199.4	240.971	374.936	418.102	463.246	527.692	575.867	625.637	729.006	780.85	2019.68					26	1372.80	646.89
Co	12.5383	27.2141	53.4392	81.8338	126.818	162.71	205.781	250.446	296.915	440.275	486.536	535.987	604.581	655.627	708.269	816.742	872.255	2238.07				27	1509.17	728.89
Ni	12.1794	28.9816	54.508	87.5765	120.438	172.282	212.162	258.422	307.874	358.122	512.378	561.51	612.557	685.936	740.173	796.005	910.859	968.605	2467.77			28	1665.60	802.17
Cu	12.3245	32.3698	58.7512	88.055	79.6005	164.306	221.733	264.803	317.445	370.086	424.323	588.31	639.675	693.912	772.077	829.504	888.526	1009.76	1070.38	2708.65		29	1822.30	886.35
Zn	14.9853	28.6562	63.3645	94.7549	131.764	172.282	213.757	277.565	323.826	379.658	437.085	495.788	784.36	724.221	781.648	864.598	923.621	987.429	1113.45	1177.26	2960.69	30	2106.71	853.98

The energy decay rate (1ev/1.5952MY) is calculated from the Atomic Mass and the amounts of the 8 elements that comprise 98.8% of Earth's mass. Within each element, the decaying energy is converting to additional mass or to heat (entropy) when in the shaded areas of the chart.

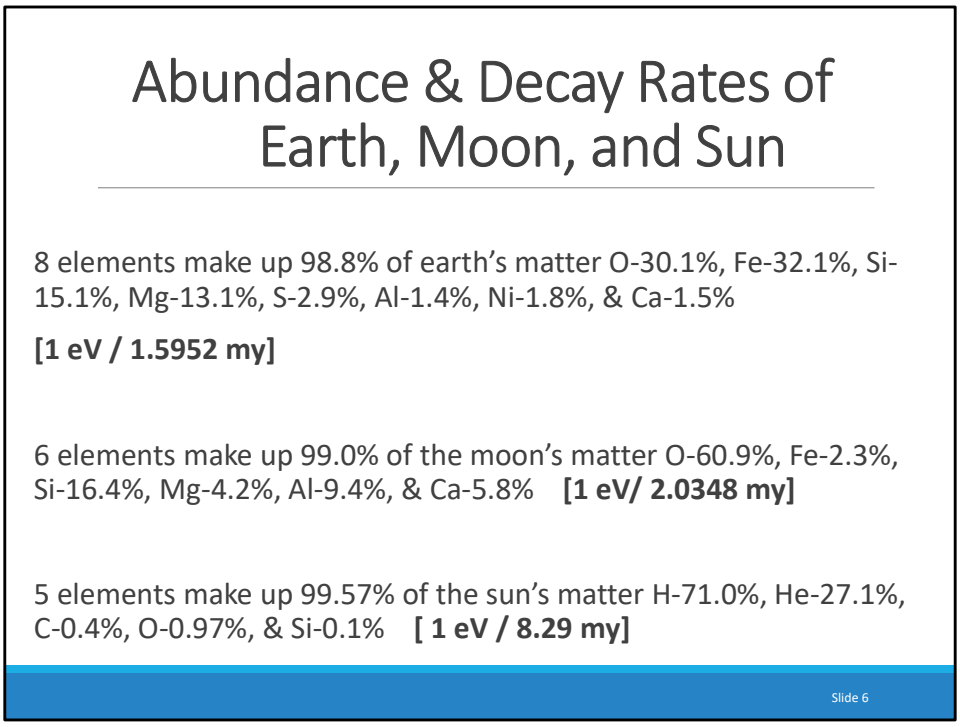
Slide 5

The Ionization Potentials provide the data for finding an energy **rate of decay (**of celestial bodies) by utilizing the atomic mass, the quantity percentages of the mixture, and an exponential doubling equation $y^x = 2$. This method was discussed at the CNPS 2016 conference in College Park, MD and can be found on the first two pages of the Ionic Growing Earth (8-element supplement) paper on my website- https://ionic-expanding-earth.weebly.com/

On earth, one electron volt decays every ~1.5952 million years**.** Multiplying each IP by the rate of decay will determine the time of occurrence as shown on this Time Table. For example, calcium was the first element to ionize ~8800 mya, oxygen initially ionized ~1400 mya, and hydrogen was the last ~22 mya.

[Added July 2021] The initial ionization of calcium brought the first photon of normal elemental matter into the universe ~8.8 billion years ago. This means older elemental matter is undetectable by spectral analysis and existed as dark matter.

[Added June 2022] The last 2 columns are the amounts found on earth. The time of the IP Limit is the age of each element. The ages at the different places are different.

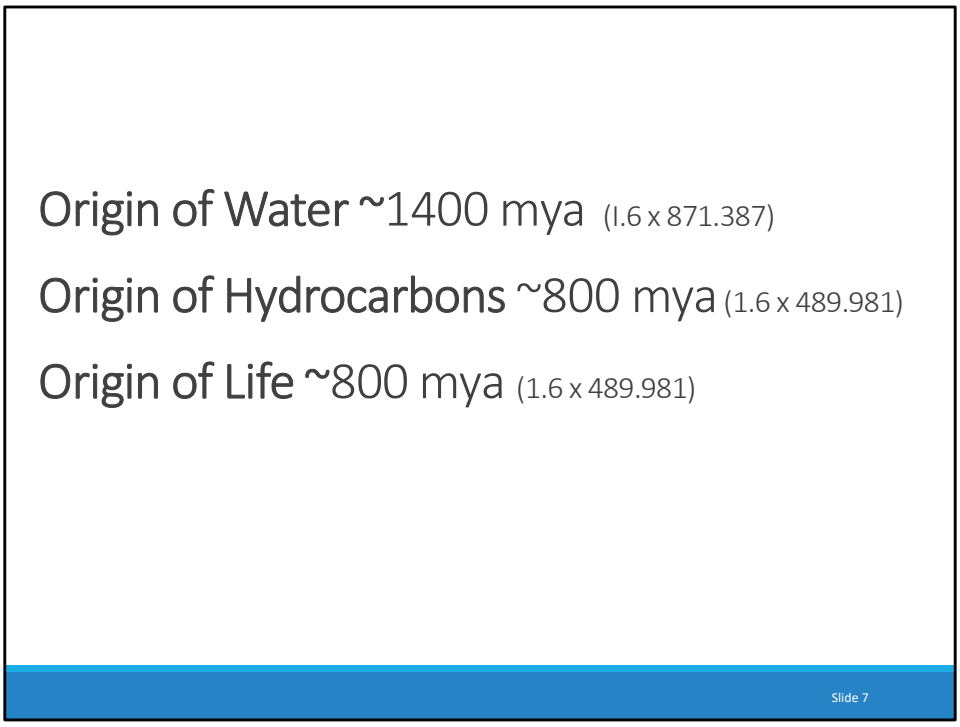


[Added July 2021] [Edited] The decay rate is also an ageing rate that can be clocked in the spectrum. For instance, the age of the universe divided by earth's ageing rate (13.6 E 9 / 1.6 E 6) yields 8500 eV which falls within the x-ray range as does the 4.5 billion year earth age (2800 eV) or even an age of 2 billion years (1250 eV). No life could exist or survive in an x-ray or gamma ray environment. 200 million years ago, when the dinosaurs lived, the ambient energy level was 125 eV (200 E 6 / 1.6 E 6) in the ultraviolet sector which means the dinosaurs could have had ultraviolet vision. One could then speculate the dinosaur's demise ~65 million years ago to the spectra transition from ultraviolet to visible light (65 E 6 / 1.6 E 6 = 40.63 eV). The dinosaurs were blinded by the light. However, the sun's ageing rate (1 eV / 8.29 MY) indicates the ambient ultraviolet earth was receiving infrared emissions from the sun well before the existence of dinosaurs (250 Ma -65 Ma)

Nevertheless, the pertinent "Big Bang" question is..."Why is the related gamma age of the spectrum older than the beginning of the universe in the x-ray range?"

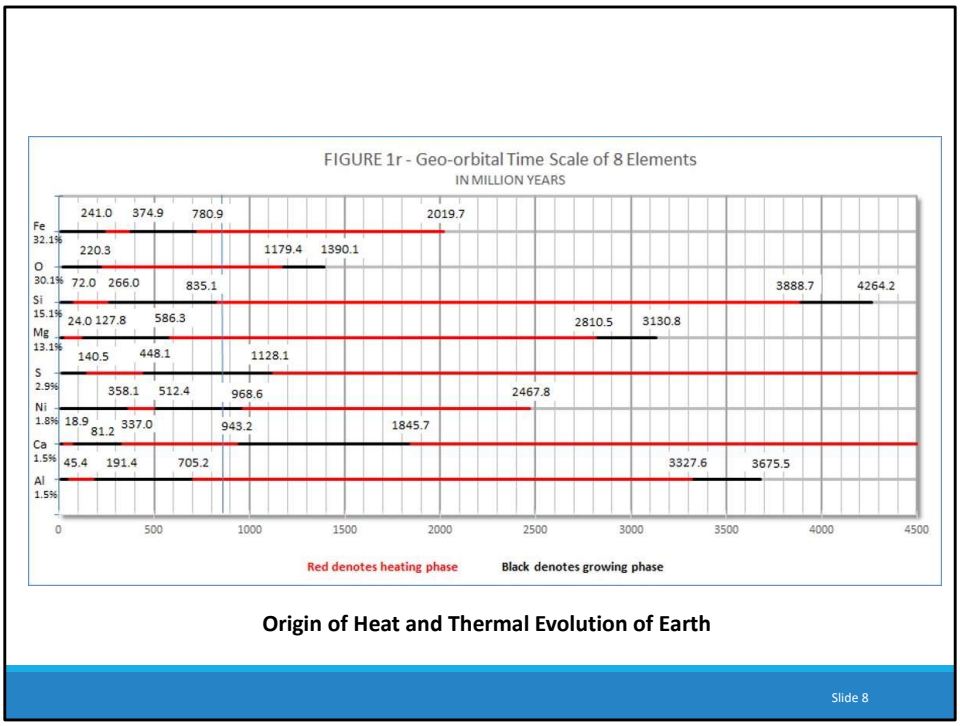
Perhaps the universe is much older than thought with Nature using gamma ray energy to enable filling the space of an early universe with dark hydrogen via Pair Production. It follows that H + H produced He, H + H + H or He + H produced Li, He + He produced Be, etc., etc., etc.

It should be noted that hydrogen remained dark until it initially ionized ~22 mya.



Knowing when oxygen and carbon first ionizes indicates when water, hydrocarbons, and life began on Earth. Water arrived ~1400 mya to cool a molten crust, gradually in layers from the top down. All life (including bacterial) could not exist until carbon, the last of the 4 Basic Building Blocks (C, H, O, & N) initially ionized.

(Added-Mar. 2022). Finding the rate of decay (which is dependent upon the percentages of the abundance elements present on a celestial body) allows knowing the time *when* the elemental atoms of such celestial body ionize and *when* they are growing and *when* they are not.



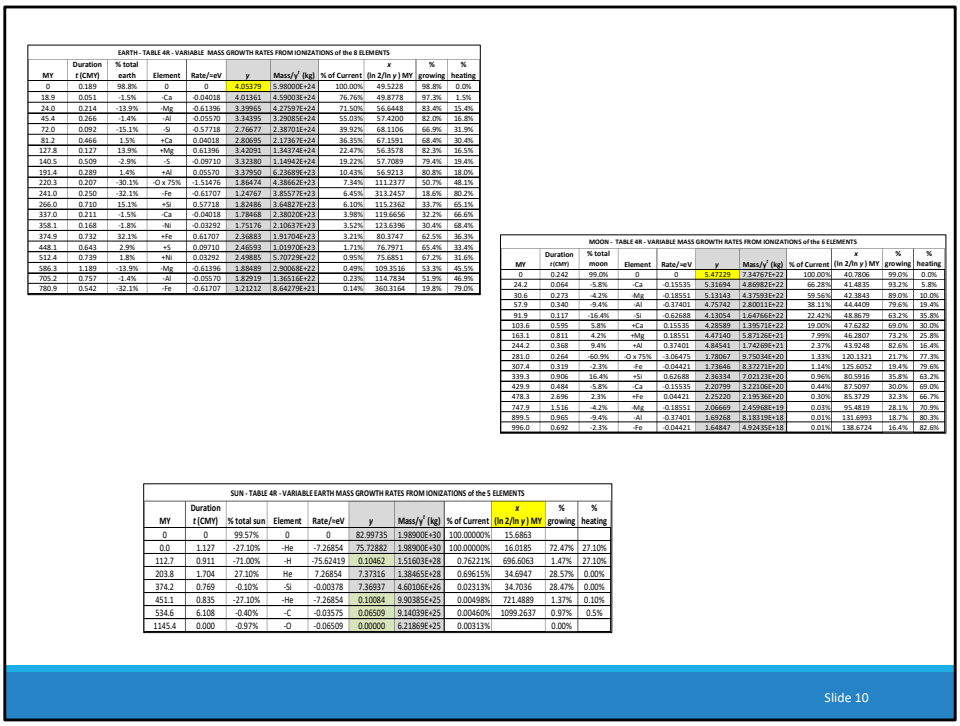
Plotting the IP time of occurrence of the 8 abundance elements with the anomaly time in red reveals the **Origin of the Heat** that was necessary to melt the 32.1% iron that gravitated to the core of a smaller Earth (~800 km. radius). More than half the elements intrinsic energy converts to heating rather than growing. The numbers on the chart are the effective Ionization Potential phase changing times (in million years) indicating the planet was predominately heating until ~850 mya. The IP Limit of oxygen (871.387 eV) indicates water initially formed ~1400 mya.

The same eight elements that started the Earth, heated the Earth for the first **3 to 3.5 billion years** of its existence. This changes everything we think we know older than 700 or 800 million years.

These charts indicate the preponderance of growth on the earth, moon and sun occurred within the last billion years. Each chart essentially connects the respective time to the spectrum via the energy of the electron volt.

(Added-Mar. 2022). Albert Einstein indicated that time passes differently in different places depending on how those places are moving with respect to one another.

The earth, moon and sun, each with a different ageing rate (Slide 6), affirms that time passes differently in different places. The movement with respect to one another, however, emanates from the abundance elements within each body growing at certain times. Growth rates change when separating the non-growing times to obtain the resulting growing mass as each body ages (Slides 10 & 11). Graphing the growing mass of the earth, moon and sun (Slides 12 &13) provides the sizes at past times for the different places while Newton's gravity law imparts the distance between them.



EARTH - TABLE 4R - VARIABLE MASS GROWTH RATES FROM IONIZATIONS of the 8 ELEMENTS

MY	Duration t (CMY)	% total earth	Element	Rate/=eV	y	Mass/y^2 (kg)	% of Current	x (ln 2/ln y) MY	% growing	% heating
0	0.189	98.8%	0	0	4.05379	5.98000E+24	100.00%	49.5228	98.8%	0.0%
18.9	0.051	-1.5%	-Ca	-0.04018	4.01361	4.59003E+24	76.76%	49.8778	97.3%	1.5%
24.0	0.214	-13.9%	-Mg	-0.61396	3.39965	4.27597E+24	71.50%	56.6448	83.4%	15.4%
45.4	0.266	-1.4%	-Al	-0.05570	3.34395	3.29085E+24	55.03%	57.4200	82.0%	16.8%
72.0	0.092	-15.1%	-Si	-0.57718	2.76677	2.38701E+24	39.92%	68.1106	66.9%	31.9%
81.2	0.466	1.5%	+Ca	0.04018	2.80695	2.17367E+24	36.35%	67.1591	68.4%	30.4%
127.8	0.127	13.9%	+Mg	0.61396	3.42091	1.34374E+24	22.47%	56.3578	82.3%	16.5%
140.5	0.509	-2.9%	-S	-0.09710	3.32380	1.14942E+24	19.22%	57.7089	79.4%	19.4%
191.4	0.289	1.4%	+Al	0.05570	3.37950	6.23689E+23	10.43%	56.9213	80.8%	18.0%
220.3	0.207	-30.1%	-O x 75%	-1.51476	1.86474	4.38662E+23	7.34%	111.2377	50.7%	48.1%
241.0	0.250	-32.1%	-Fe	-0.61707	1.24767	3.85577E+23	6.45%	313.2457	18.6%	80.2%
266.0	0.710	15.1%	+Si	0.57718	1.82486	3.64827E+23	6.10%	115.2362	33.7%	65.1%
337.0	0.211	-1.5%	-Ca	-0.04018	1.78468	2.38020E+23	3.98%	119.6656	32.2%	66.6%
358.1	0.168	-1.8%	-Ni	-0.03292	1.75176	2.10637E+23	3.52%	123.6396	30.4%	68.4%
374.9	0.732	32.1%	+Fe	0.61707	2.36883	1.91704E+23	3.21%	80.3747	62.5%	36.3%
448.1	0.643	2.9%	+S	0.09710	2.46593	1.01970E+23	1.71%	76.7971	65.4%	33.4%
512.4	0.739	1.8%	+Ni	0.03292	2.49885	5.70729E+22	0.95%	75.6851	67.2%	31.6%
586.3	1.189	-13.9%	-Mg	-0.61396	1.88489	2.90068E+22	0.49%	109.3516	53.3%	45.5%
705.2	0.757	-1.4%	-Al	-0.05570	1.82919	1.36516E+22	0.23%	114.7834	51.9%	46.9%
780.9	0.542	-32.1%	-Fe	-0.61707	1.21212	8.64279E+21	0.14%	360.3164	19.8%	79.0%

MOON - TABLE 4R - VARIABLE MASS GROWTH RATES FROM IONIZATIONS of the 6 ELEMENTS

MY	Duration t (CMY)	% total moon	Element	Rate/=eV	y	Mass/y^2 (kg)	% of Current	x (ln 2/ln y) MY	% growing	% heating
0	0.242	99.0%	0	0	5.47229	7.34767E+22	100.00%	40.7806	99.0%	0.0%
24.2	0.064	-5.8%	-Ca	-0.15535	5.31694	4.86982E+22	66.28%	41.4835	93.2%	5.8%
30.6	0.273	-4.2%	-Mg	-0.18551	5.13143	4.37593E+22	59.56%	42.3843	89.0%	10.0%
57.9	0.340	-9.4%	-Al	-0.37401	4.75742	2.80011E+22	38.11%	44.4409	79.6%	19.4%
91.9	0.117	-16.4%	-Si	-0.62688	4.13054	1.64766E+22	22.42%	48.8679	63.2%	35.8%
103.6	0.595	5.8%	+Ca	0.15535	4.28589	1.39571E+22	19.00%	47.6282	69.0%	30.0%
163.1	0.811	4.2%	+Mg	0.18551	4.47140	5.87126E+21	7.99%	46.2807	73.2%	25.8%
244.2	0.368	9.4%	+Al	0.37401	4.84541	1.74269E+21	2.37%	43.9248	82.6%	16.4%
281.0	0.264	-60.9%	-O x 75%	-3.06475	1.78067	9.75034E+20	1.33%	120.1321	21.7%	77.3%
307.4	0.319	-2.3%	-Fe	-0.04421	1.73646	8.37271E+20	1.14%	125.6052	19.4%	79.6%
339.3	0.906	16.4%	+Si	0.62688	2.36334	7.02123E+20	0.96%	80.5916	35.8%	63.2%
429.9	0.484	-5.8%	-Ca	-0.15535	2.20799	3.22106E+20	0.44%	87.5097	30.0%	69.0%
478.3	2.696	2.3%	+Fe	0.04421	2.25220	2.19536E+20	0.30%	85.3729	32.3%	66.7%
747.9	1.516	-4.2%	-Mg	-0.18551	2.06669	2.45968E+19	0.03%	95.4839	28.1%	70.9%
899.5	0.965	-9.4%	-Al	-0.37401	1.69268	8.18319E+18	0.01%	131.6993	18.7%	80.3%
996.0	0.692	-2.3%	-Fe	-0.04421	1.64847	4.92435E+18	0.01%	138.6724	16.4%	82.6%

SUN - TABLE 4R - VARIABLE EARTH MASS GROWTH RATES FROM IONIZATIONS of the 5 ELEMENTS

MY	Duration t (CMY)	% total sun	Element	Rate/=eV	y	Mass/y^2 (kg)	% of Current	x (ln 2/ln y) MY	% growing	% heating
0	0	99.57%	0	0	82.99735	1.98900E+30	100.00000%	15.6863		
0.0	1.127	-27.10%	-He	-7.26854	75.72882	1.98900E+30	100.00000%	16.0185	72.47%	27.10%
112.7	0.911	-71.00%	-H	-75.62419	0.10462	1.51603E+28	0.76221%	696.6063	1.47%	27.10%
203.8	1.704	27.10%	He	7.26854	7.37316	1.38465E+28	0.69615%	34.6947	28.57%	0.00%
374.2	0.769	-0.10%	-Si	-0.00378	7.36937	4.60106E+26	0.02313%	34.7036	28.47%	0.00%
451.1	0.835	-27.10%	-He	-7.26854	0.10084	9.90385E+25	0.00498%	721.4889	1.37%	0.10%
534.6	6.108	-0.40%	-C	-0.03575	0.06509	9.14039E+25	0.00460%	1099.2637	0.97%	0.5%
1145.4	0.000	-0.97%	-O	-0.06509	0.00000	6.21869E+25	0.00313%		0.00%	

Slide 10

These are the calculation tables of the Earth, Moon, and Sun that basically deducts the heating phases to obtain the resulting growing mass.

The x column, ln 2/ ln y, is the mass doubling time for the years listed in column 1. The doubling rate changes every time an element changes from growing to heating or vice-versa. The Earth's current mass doubling rate is every 49.5 million years while the moon's rate is 40.7 million years. The sun is doubling its large mass every 16 million years or three times faster than the Earth while the smaller moon is growing faster than the Earth.

EARTH TABLE 5R -MASS FROM TABLE 4R WITH ~100 YEAR LAGGING RADIUS

				(49.5228 MY)			(49.5229 MY)						
MY	X	Element	Rate/eV	Rate of Growth	Mass (kg)	Current Mass	Rate of Growth	Radius (km)	Current Radius	Density (g/cc)	Current Density	Gravity (m/sec^2)	Current Gravity
0	0.189	0	0	**4.05379**	5.98E+24	100.00%	**4.05378**	6378.96	100.00%	5.5000	100.00%	9.80	100.00%
18.9	0.051	-Ca	-0.04018	4.01361	4.59003E+24	76.76%	4.01360	5840.56	91.56%	5.5000	100.00%	8.97	91.56%
24.0	0.214	-Mg	-0.61396	3.39965	4.27597E+24	71.50%	3.39964	5704.20	89.42%	5.5000	100.00%	8.77	89.42%
45.4	0.266	-Al	-0.05570	3.34395	3.29085E+24	55.03%	3.34394	5227.40	81.95%	5.5000	100.00%	8.03	81.95%
72.0	0.092	-Si	-0.57718	2.76677	2.38701E+24	39.92%	2.76675	4696.79	73.63%	5.5000	100.00%	7.22	73.63%
81.2	0.466	+Ca	0.04018	2.80695	2.17367E+24	36.35%	2.80693	4552.47	71.37%	5.5000	100.00%	7.00	71.37%
127.8	0.127	+Mg	0.61396	3.42091	1.34374E+24	22.47%	3.42089	3878.13	60.80%	5.5000	100.00%	5.96	60.80%
140.5	0.509	-S	-0.09710	3.32380	1.14942E+24	19.22%	3.32379	3681.38	57.71%	5.5000	100.00%	5.66	57.71%
191.4	0.289	+Al	0.05570	3.37950	6.23689E+23	10.43%	3.37949	3002.66	47.07%	5.5000	100.00%	4.61	47.07%
220.3	0.207	-O x 75%	-1.51476	1.86474	4.38662E+23	7.34%	1.86473	2670.30	41.86%	5.5000	100.00%	4.10	41.86%
241.0	0.250	-Fe	-0.61707	1.24767	3.85577E+23	6.45%	1.24766	2557.93	40.10%	5.4999	100.00%	3.93	40.10%
266.0	0.710	+Si	0.57718	1.82486	3.64827E+23	6.10%	1.82484	2511.19	39.37%	5.4999	100.00%	3.86	39.37%
337.0	0.211	-Ca	-0.04018	1.78468	2.3802E+23	3.98%	1.78466	2177.99	34.14%	5.4999	100.00%	3.35	34.14%
358.1	0.168	-Ni	-0.03292	1.75176	2.10637E+23	3.52%	1.75174	2091.05	32.78%	5.4999	100.00%	3.21	32.78%
374.9	0.732	+Fe	0.61707	2.36883	1.91704E+23	3.21%	2.36881	2026.42	31.77%	5.4999	100.00%	3.11	31.77%
448.1	0.643	+S	0.09710	2.46593	1.0197E+23	1.71%	2.46592	1641.89	25.74%	5.4999	100.00%	2.52	25.74%
512.4	0.739	+Ni	0.03292	2.49885	5.70729E+22	0.95%	2.49884	1353.10	21.21%	5.4998	100.00%	2.08	21.21%
586.3	1.189	-Mg	-0.61396	1.88489	2.90068E+22	0.49%	1.88488	1079.83	16.93%	5.4998	100.00%	1.66	16.93%
705.2	0.757	-Al	-0.05570	1.82919	1.36516E+22	0.23%	1.82918	839.94	13.17%	5.4998	100.00%	1.29	13.17%
780.9	0.542	-Fe	-0.61707	1.21212	8.64279E+21	0.14%	1.21211	721.23	11.31%	5.4997	100.00%	1.11	11.31%

MOON - TABLE 5R -MASS FROM TABLE 4R WITH ~100 YEAR LAGGING RADIUS

				(40.7812 MY)			(40.7813 MY)						
MY	X	Element	Rate/eV	Rate of Growth	Mass (kg)	Current Mass	Rate of Growth	Radius (km)	Current Radius	Density (g/cc)	Current Density	Gravity (m/sec^2)	Current Gravity
0	0.242	0	0	5.47229	7.34767E+22	100.00%	**5.47227**	1738.22	100.00%	3.3400	100.00%	1.62	100.00%
24.2	0.064	-Ca	-0.15535	5.31694	4.86982E+22	66.28%	5.31692	1515.51	87.19%	3.3400	100.00%	1.41	87.19%
30.6	0.273	-Mg	-0.18551	5.13143	4.37593E+22	59.56%	5.13141	1462.44	84.13%	3.3400	100.00%	1.36	84.13%
57.9	0.340	-Al	-0.37401	4.75742	2.80011E+22	38.11%	4.75740	1260.22	72.50%	3.3400	100.00%	1.18	72.50%
91.9	0.117	-Si	-0.62688	4.13054	1.64766E+22	22.42%	4.13052	1056.03	60.75%	3.3400	100.00%	0.99	60.75%
103.6	0.595	+Ca	0.15535	4.28589	1.39571E+22	19.00%	4.28587	999.20	57.48%	3.3400	100.00%	0.93	57.48%
163.1	0.811	+Mg	0.18551	4.47140	5.87126E+21	7.99%	4.47138	748.69	43.07%	3.3400	100.00%	0.70	43.07%
244.2	0.368	+Al	0.37401	4.84541	1.74269E+21	2.37%	4.84539	499.42	28.73%	3.3400	100.00%	0.47	28.73%
281.0	0.264	-O x 75%	-3.06475	1.78067	9.75034E+20	1.33%	1.78064	411.53	23.68%	3.3400	100.00%	0.38	23.67%
307.4	0.319	-Fe	-0.04421	1.73646	8.37271E+20	1.14%	1.73643	391.15	22.50%	3.3399	100.00%	0.37	22.50%
339.3	0.906	+Si	0.62688	2.36334	7.02123E+20	0.96%	2.36331	368.86	21.22%	3.3399	100.00%	0.34	21.22%
429.9	0.484	-Ca	-0.15535	2.20799	3.22106E+20	0.44%	2.20796	284.48	16.37%	3.3399	100.00%	0.27	16.37%
478.3	2.696	+Fe	0.04421	2.25220	2.19536E+20	0.30%	2.25217	250.36	14.40%	3.3399	100.00%	0.23	14.40%
747.9	1.516	-Mg	-0.18551	2.06669	2.45968E+19	0.03%	2.06666	120.70	6.94%	3.3398	99.99%	0.11	6.94%
899.5	0.965	-Al	-0.37401	1.69268	8.18319E+18	0.01%	1.69265	83.63	4.81%	3.3397	99.99%	0.08	4.81%
996.0	0.692	-Fe	-0.04421	1.64847	4.92435E+18	0.01%	1.64844	70.61	4.06%	3.3397	99.99%	0.07	4.06%

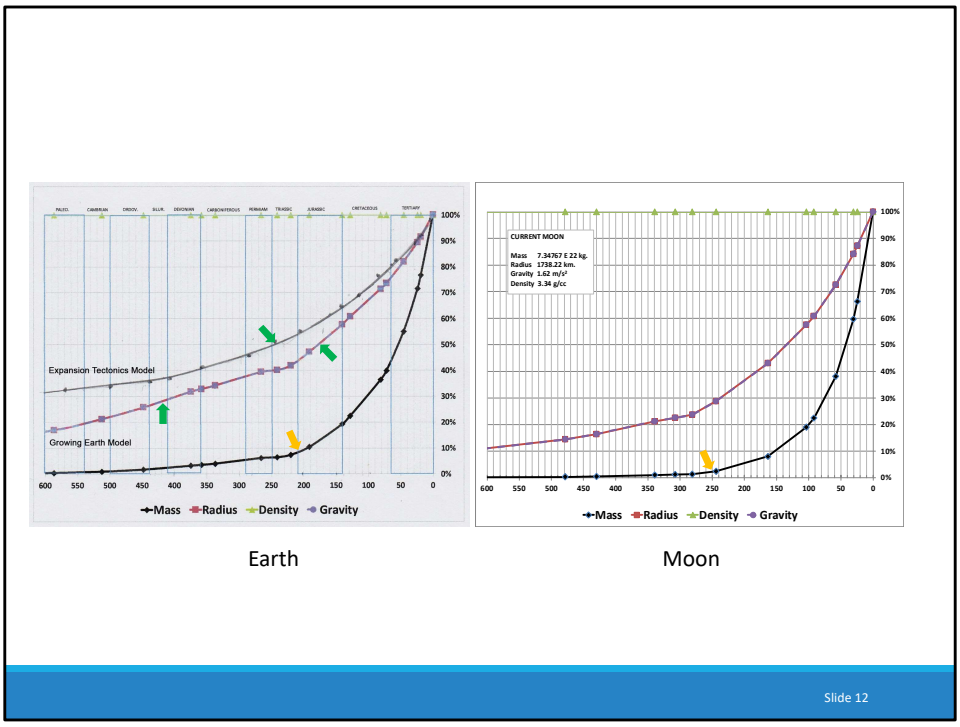
SUN - TABLE 5R - MASS FROM TABLE 4R

MY	X	Element	Rate/eV	Rate of Growth	Mass (kg)	Current Mass	Rate of Growth	Radius (km)	Current Radius	Density (g/cc)	Current Density	Gravity (m/sec^2)	Current Gravity
0	0	0	0	**82.99735**	1.989E+30	100.000%	**82.99501**	695732.06	100.00%	1.4100	100.00%	274.08	100.00%
0	1.127	-He	-7.26853605	75.72882	1.989E+30	100.000%	75.72648	695732.06	100.00%	1.4100	100.00%	274.08	100.00%
112.7	0.911	-H	-75.62419	0.10462	1.51603E+28	0.762%	0.10228	136921.38	19.68%	1.4100	100.00%	53.94	19.68%
203.8	1.704	He	7.26854	7.37316	1.38465E+28	0.696%	7.37082	132931.56	19.11%	1.4072	99.80%	52.26	19.07%
374.2	0.769	-Si	-0.00378	7.36937	4.60106E+26	0.023%	7.36704	42744.39	6.14%	1.4065	99.75%	16.80	6.13%
451.1	0.835	-He	-7.26854	0.10084	9.90385E+25	0.005%	0.09850	25619.05	3.68%	1.4061	99.73%	10.06	3.67%
534.6	6.108	-C	-0.03575	0.06509	9.14039E+25	0.005%	0.06275	24957.84	3.59%	1.4036	99.55%	9.79	3.57%
1145.4	0.000	-O	-0.06509	0.00000	6.21869E+25	0.003%	-0.00234	22049.30	3.17%	1.3849	98.22%	8.53	3.11%

Slide 11

The left half of Table 5R for each is essentially Table 4R. The right half results when the increasing radius (volume) follows the increasing mass by 100 years. The volume increase always lags the mass increase.

The next two slides are graphs of these data.



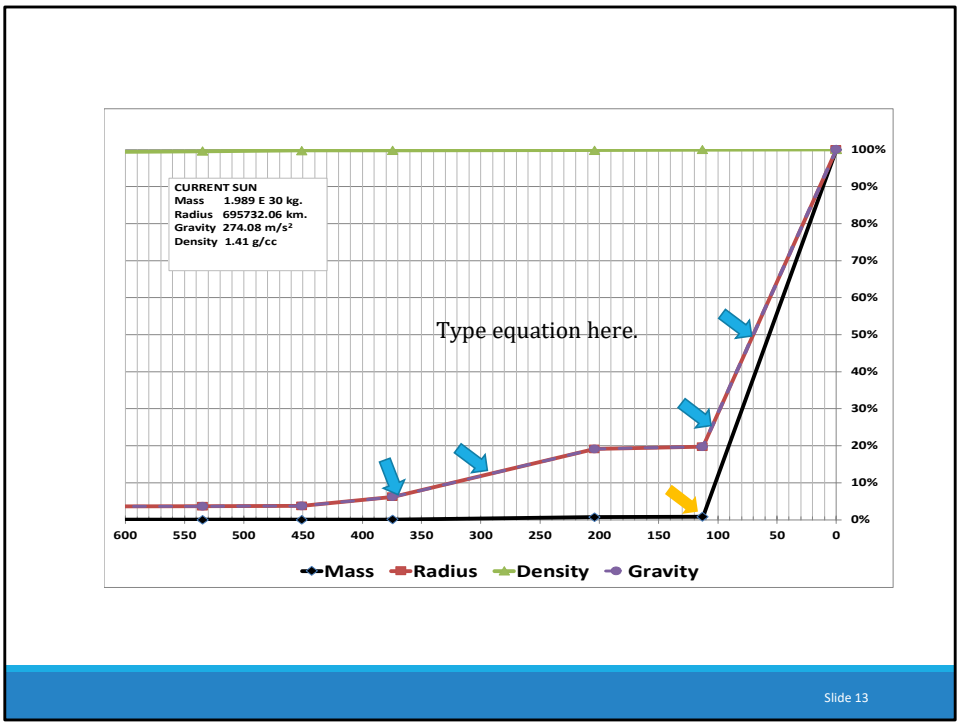
Earth Moon

Some interesting points are surmised when comparing the sizes of Earth from James Maxlow's book Beyond Plate Tectonics with the Ionic Growing Earth data.

When the radii from both are plotted as in the earth chart, it is noted that the differences in size until ~250 mya can generally be attributed to the growing continents since the Expansion Tectonics Model only closes the oceans A halving of the radius or gravity is indicated at 50% (175 mya versus 240 mya).

The differences between 250 mya and 600 mya are likely due to the size of the primordial radius, 1700 km versus 800 km, and the time when exponential expansion effectively began (~4500 mya versus ~800 mya). A second halving of the radius is indicated on the IGE curve at 25% around 470 mya. A second halving is not possible with a 1700 km primordial radius.

The 2011 **Nobel Prize** in Physics was awarded to Saul Perlmutter, Brian Schmidt and Adam Riess "for the discovery of the **accelerating expansion** of the **Universe** through observations of distant supernovae". The yellow arrows indicate when accelerating expansion began on the earth (~200 mya) and the moon (250 mya)



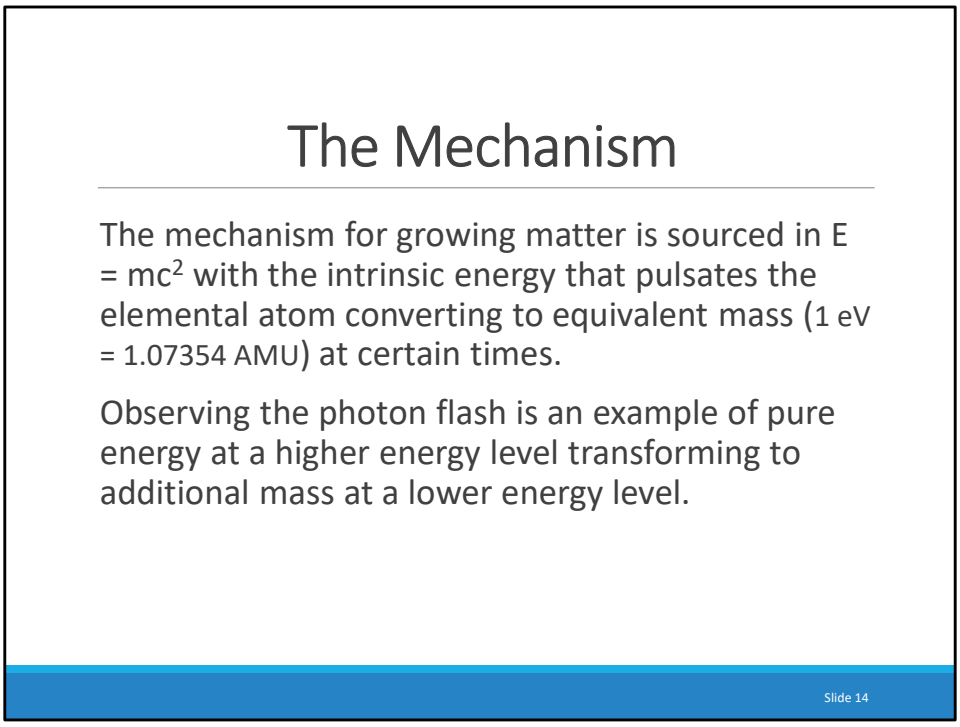
This graph indicates accelerating expansion started on the sun ~110 MYA when the 71% hydrogen initially ionized and began to grow.

During that 110 MY period, the sun's radius (and surface gravity) doubled twice, once at 25% ~105 MYA and again at 50% ~70 MYA. The sun's radius also doubled at 12.5% ~300 MYA and at 6.25% ~370 MY when the 27.1% helium was growing between 203 and 451 MYA. The three minority elements are responsible for all growth between 112 and 203 MYA and prior to 451 MYA.

Doubling the mass three times (2^3) will double the radius once, resulting from an eight fold mass increase. Doubling the mass six times (2^6) will double the radius twice, resulting from a sixty-four fold mass increase. Doubling the mass nine times (2^9) will double the radius a third time, resulting from a 512 fold mass increase. Doubling the mass twelve times (2^{12}) will double the radius a fourth time, resulting from a 4096 fold increase. The above graph indicates the sun's radius doubled four times in less than 450 MY.

The overall mass curves are exponential in nature, but the doubling rates between the points do not change and therefore are linear as shown. The oddity of the sun graph when compared to the moon and Earth graphs is due to the break between the helium growing time and the hydrogen growing time when very little expansion occurs (112.7 to 203.8 MYA). This break punctuates and changes the continuity of a curve that employs the identical exponential doubling technique used for the moon and Earth.

Similar punctuated expansions would occur on stars and other celestial bodies predominately composed of hydrogen and helium.



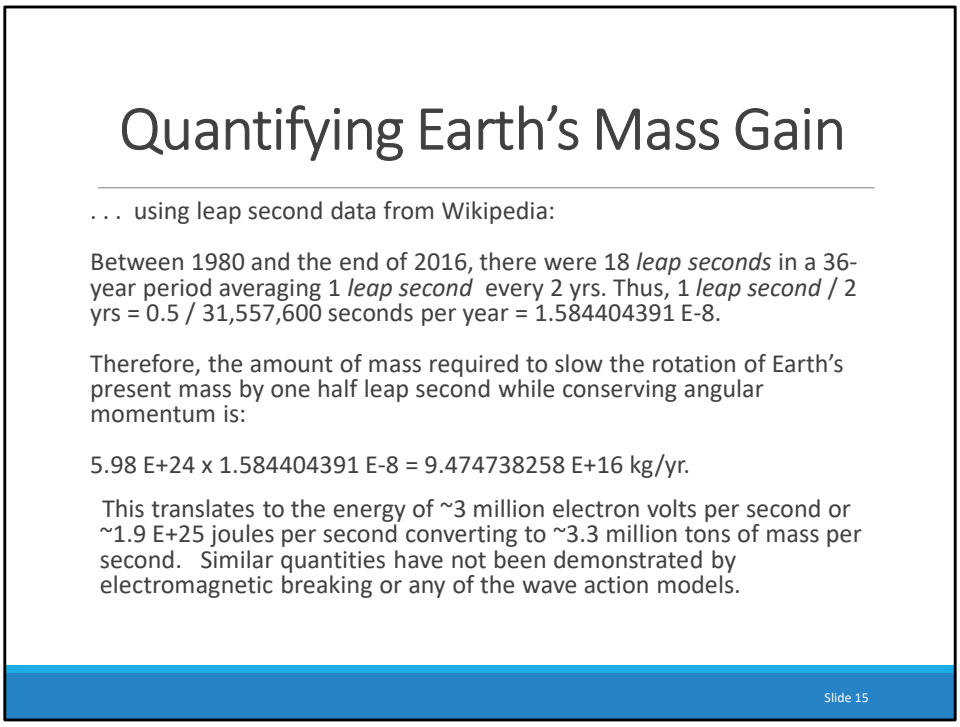
(Revised - Mar. 2022)

Friar Thomas Aquinas (1225-1274 AD) proclaimed....*the essence of matter is unchanging*.

Mass and matter are not synonymous. Matter consists of mass and energy. The Ionization Potentials (IP) and Limits (Table 1, NBS-34) derived for every element at successive stages, reveals mass with intrinsic energy in units of electron volts to power the frequency and wavelength pulsations. The switch triggering the pulsations starts at the time of the IP Limit and toggles to grow the mass at certain IP times and to heat the mass at other IP times. As matter ages, this energy conversion duality presents significant problems in quantifying the mass and energy as the elements periodically grow and change size.

When mass has no energy, matter would be spectra-invisible (a.k.a. dark matter). Presently, every elemental atom is pulsating frequency and wavelength signals, indicating absence of the ~25% dark matter claimed by the Standard Model. Conversions to mass and heat befit the believed ~70 % dark energy.

The Standard Model comports unchanging matter, but not the periodic energy exchanges growing the mass that expands orbits and inflates the universe. (Revised - Mar. 2022)



The leap second indicates a slowing of Earth's rotational velocity (spin).

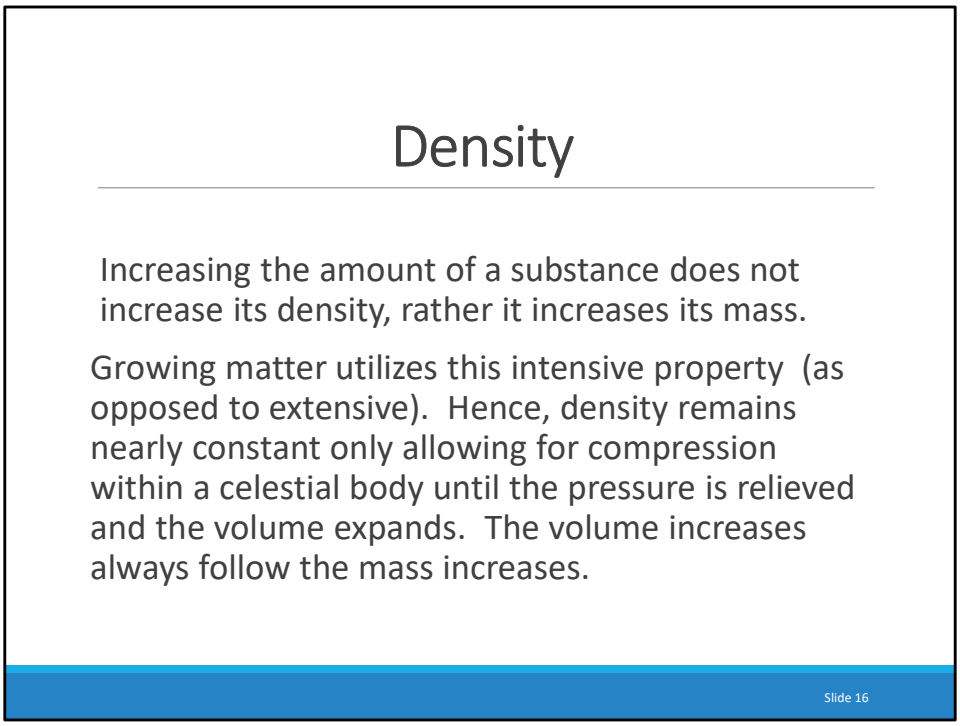
The current mathematical model was derived from LOD (length of day) work by Stephenson and Morrison and is based upon a solar day equaling 86,400 seconds. This model wrongly attributes the slow down to tidal friction and possibly a redistribution of Earth's internal mass, all of which presume a constant mass with some questionable transference of energy and momentum to change orbital motion.

Jack Hohner, on page 15 of his paper: http://dynamicmatter.com/wp-content/uploads/2016/10/DEFICIENCIES-IN-TIDAL-FRICTION-rev1.pdf, calculates 5.68523302 E 16 kg/yr mass increases.

Ciechanowitz and Kozier calculated 2.8 E 16 kg/yr in 1994.

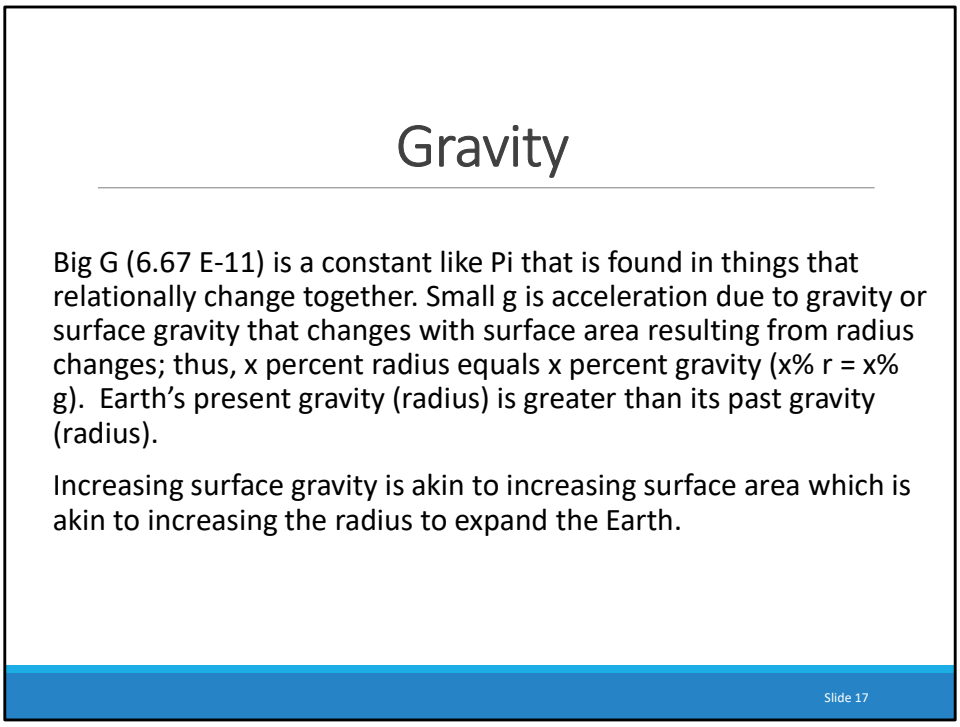
Giancarlo Scalera calculated 1.37 E 16 kg/yr in 2003.

James Maxlow calculated 6.0 E 16 kg/yr in 2003.

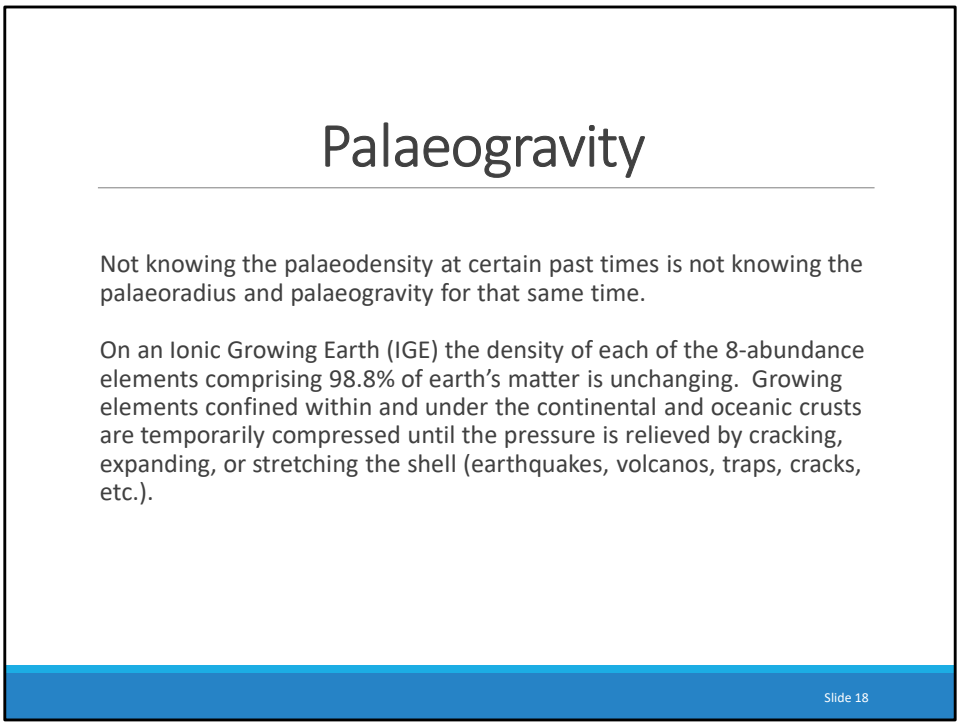


DENSITY- From the time Earth formed into a gravitational ball ~4500 mya, the planet's density remained nearly constant with each of the 8-abundance elements growing at certain times. Iron, for example, does not change its density when doubling in mass nor does the percentage change. The volume of iron automatically increases proportionally with added mass. The original elemental matter merely grows larger while it's mass per unit volume (density) remains constant. Also, growing larger does not change the initial 32.1% iron. It's just a bigger and heavier 32.1%. A radius doubling would delineate 87.5% of the planet as new matter. Importing such new mass or particles with unknown densities would change the original abundance elements as well as their percentages. Growing the primordial abundance elements with unchanging densities eliminates many assumptions and suppositions in that no new matter is created or imported.

A slide presentation indicating how changes in lag time affects density, gravity, and radius curves in relationship to the mass curve can be downloaded here: https://ionic-expanding-earth.weebly.com/lagging-radius-and-palaeodensity.html



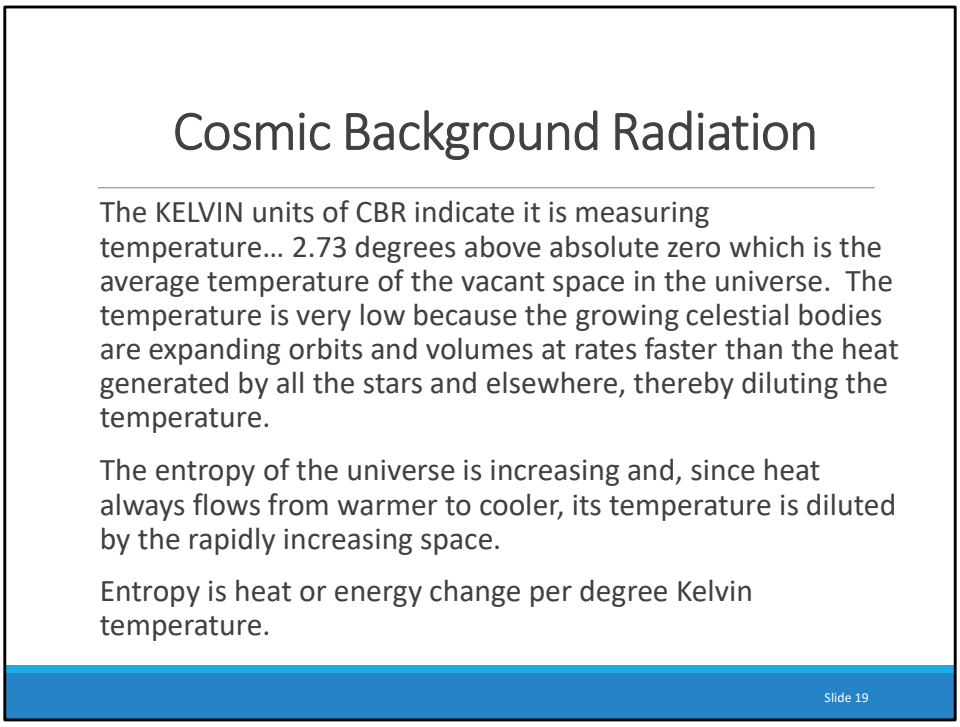
A slide presentation indicating how changes in lag time affects density, gravity, and radius curves in relationship to the mass curve can be downloaded here: https://ionic-expanding-earth.weebly.com/lagging-radius-and-palaeodensity.html



The expansions changing the density of chemical compounds and minerals (the building blocks of rocks) formed naturally by successive stages of elemental ionization within the earth are likewise suppressed by the high temperatures ad pressures encountered in the core and mantle. When the temperatures and pressures are relieved in the upper mantle or crust, these combined elements and minerals structurally expand revealing specific densities.

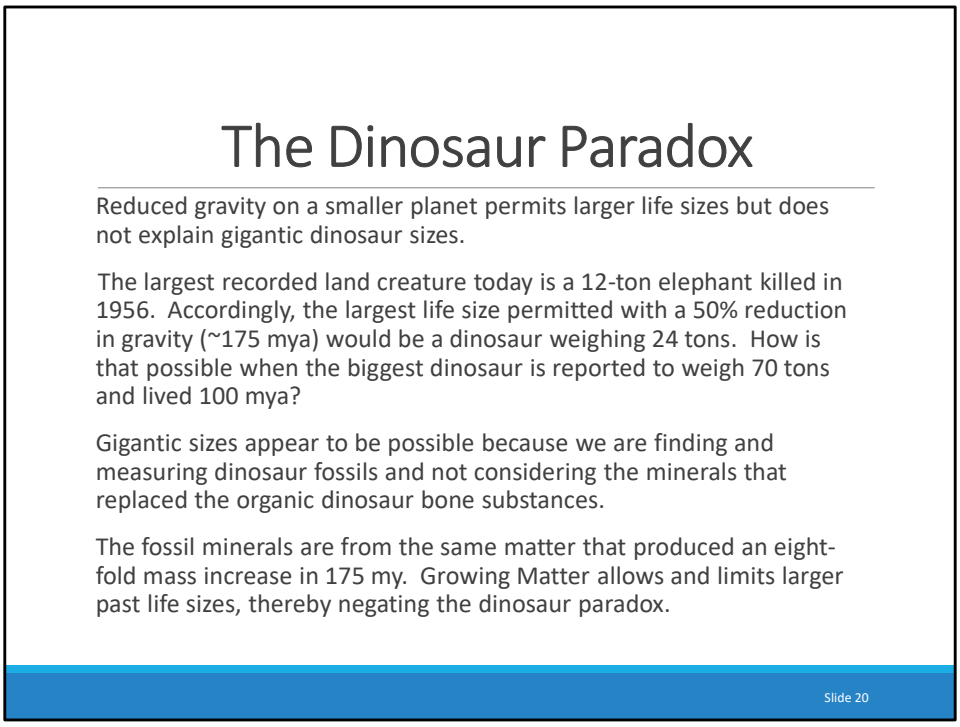
The colors on the Rainbow Map display the sequential placement of density layers where an ocean floor cracks and spreads apart. These shell layers also involve combinational joining of growing elements and minerals displaying molecular volume increases that changes density. A better geological chronology may be obtained when the origin of the heat and pressures within the planet (the cause) becomes known. See https://ionic-expanding-earth.weebly.com/rainbow-map-analysis.html

Except in the crust and upper-most mantle found in the outermost 1% of earth's radius (~64 km), the density of the planet is unchanging. Using the atomic mass of the abundance elements and knowing when each is growing and not growing (see Fig. 1r in the above link) as exemplified by their Ionization Potentials, one can retrodict the radius and surface gravity based upon the growing mass for any geological time determined by radiometric dating or other means when ignoring density. In this manner, density would equal unity (1) and percent gravity equaling percent radius (x% g = x% r) would be at least 99% accurate. Additional accuracy could be obtained using (x) % gravity equaling (x-1) % radius for a slightly larger earth that includes mineral expansions; i.e. 50% g = 49% r. *Inflating the radius has zero effect on gravity.*



Penzias and Wilson discovered microwave radiation (1965) which theoretical physicist attribute to a remnant of the Big Bang. The measurements of cosmic background radiation as combined with Hubble's earlier finding that the galaxies are rushing away, makes a strong case for the Big Bang. However, the discovery of the accelerating expansion of the universe (2011) among other things, nullifies the BB theory.

The heat producing the CBR temperatures appears to be that rarefied (obscure) and highly elastic substance permeating space, sometimes called aether.



Dinosaur fossils were found in French gypsum quarries (calcium sulfide). Belgian coal miners discovered remains that turned into pyrite (iron sulfide or "fools gold") when exposed to moisture. Discoveries in Colorado and Wyoming produced silicified bone (silicon). Magnesium rich fossils were found in Calgary. Growing fossils with corresponding mineral elements mimic the adjacent area of earth's growing crust.

Gravity and the largest land animal found on the planet today…a 12-ton elephant… de-mystifies the dinosaur paradox. The biggest dinosaur possible could not weigh more than 30 tons at 40% gravity (12 t / 0.40 g) or 24 tons at 50% gravity (12 t / 0.50 g) or 20 tons at 60% gravity (12 t / 0.60 g). The only point of contention would be defining the time of the gravity percentage. Since geologist are fairly accurate at ageing dinosaur fossils, the problem shifts to finding the gravity (or radius) at the ages when dinosaurs roamed the planet (~250 mya to 66 mya).

The graph on Slide 12 indicates 40% g at 240 mya, 50% g at 175 mya, and 60% g at 130 mya for the Growing Earth Model and 40% g at 370 mya, 50% g at 240 mya, and 60% g at 170 mya for the Expansion Tectonics Model.

Reduced surface gravity of the past (palaeogravity), within limitations, permits larger life sizes. A gigantic dinosaur weighing 60 tons could paradoxically exist at some Cambrian or pre-Cambrian time (+500 mya) when gravity was 20% of present (60 t x 0.20 g = 12 tons).

Mother of all Extinctions

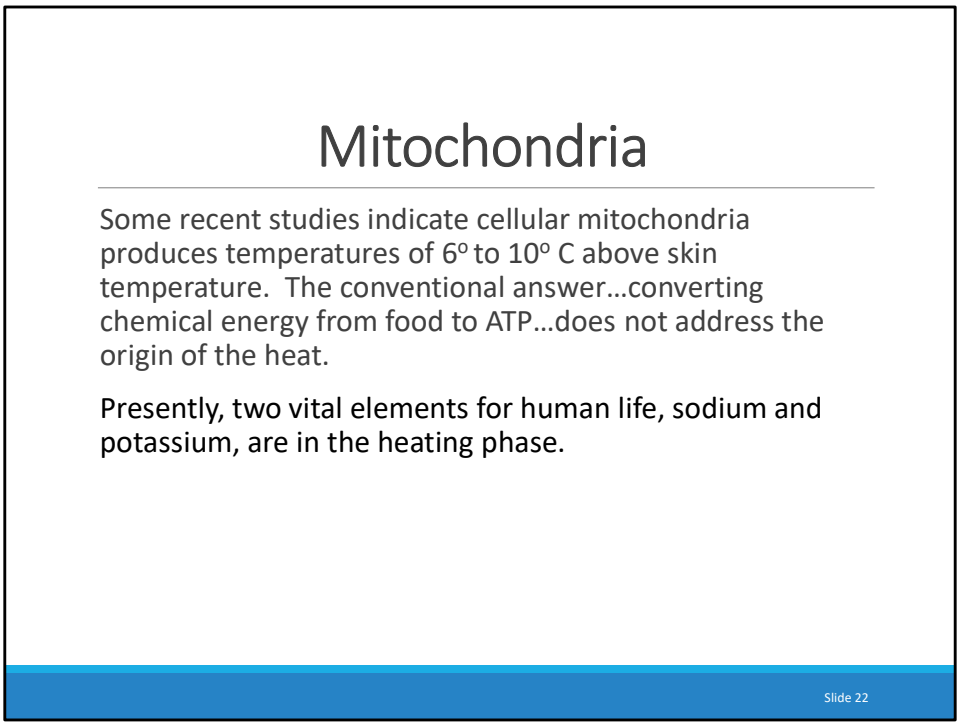
EARTH - TABLE 4R - VARIABLE MASS GROWTH RATES FROM IONIZATIONS of the 8 ELEMENTS

MY	Duration *t* (CMY)	% total earth	Element	Rate/≈eV	*y*	Mass/y^t (kg)	% of Current	*x* (ln 2/ln *y*) MY	% growing	% heating
0	0.189	98.8%	0	0	4.05379	5.98000E+24	100.00%	49.5228	98.8%	0.0%
18.9	0.051	-1.5%	-Ca	-0.04018	4.01361	4.59003E+24	76.76%	49.8778	97.3%	1.5%
24.0	0.214	-13.9%	-Mg	-0.61396	3.39965	4.27597E+24	71.50%	56.6448	83.4%	15.4%
45.4	0.266	-1.4%	-Al	-0.05570	3.34395	3.29085E+24	55.03%	57.4200	82.0%	16.8%
72.0	0.092	-15.1%	-Si	-0.57718	2.76677	2.38701E+24	39.92%	68.1106	66.9%	31.9%
81.2	0.466	1.5%	+Ca	0.04018	2.80695	2.17367E+24	36.35%	67.1591	68.4%	30.4%
127.8	0.127	13.9%	+Mg	0.61396	3.42091	1.34374E+24	22.47%	56.3578	82.3%	16.5%
140.5	0.509	-2.9%	-S	-0.09710	3.32380	1.14942E+24	19.22%	57.7089	79.4%	19.4%
191.4	0.289	1.4%	+Al	0.05570	3.37950	6.23689E+23	10.43%	56.9213	80.8%	18.0%
220.3	0.207	-30.1%	-O x 75%	-1.51476	1.86474	4.38662E+23	7.34%	111.2377	50.7%	48.1%
241.0	0.250	-32.1%	-Fe	-0.61707	1.24767	3.85577E+23	6.45%	313.2457	18.6%	80.2%
266.0	0.710	15.1%	+Si	0.57718	1.82486	3.64827E+23	6.10%	115.2362	33.7%	65.1%
337.0	0.211	-1.5%	-Ca	-0.04018	1.78468	2.38020E+23	3.98%	119.6656	32.2%	66.6%
358.1	0.168	-1.8%	-Ni	-0.03292	1.75176	2.10637E+23	3.52%	123.6396	30.4%	68.4%
374.9	0.732	32.1%	+Fe	0.61707	2.36883	1.91704E+23	3.21%	80.3747	62.5%	36.3%
448.1	0.643	2.9%	+S	0.09710	2.46593	1.01970E+23	1.71%	76.7971	65.4%	33.4%
512.4	0.739	1.8%	+Ni	0.03292	2.49885	5.70729E+22	0.95%	75.6851	67.2%	31.6%
586.3	1.189	-13.9%	-Mg	-0.61396	1.88489	2.90068E+22	0.49%	109.3516	53.3%	45.5%
705.2	0.757	-1.4%	-Al	-0.05570	1.82919	1.36516E+22	0.23%	114.7834	51.9%	46.9%
780.9	0.542	-32.1%	-Fe	-0.61707	1.21212	8.64279E+21	0.14%	360.3164	19.8%	79.0%

Slide 21

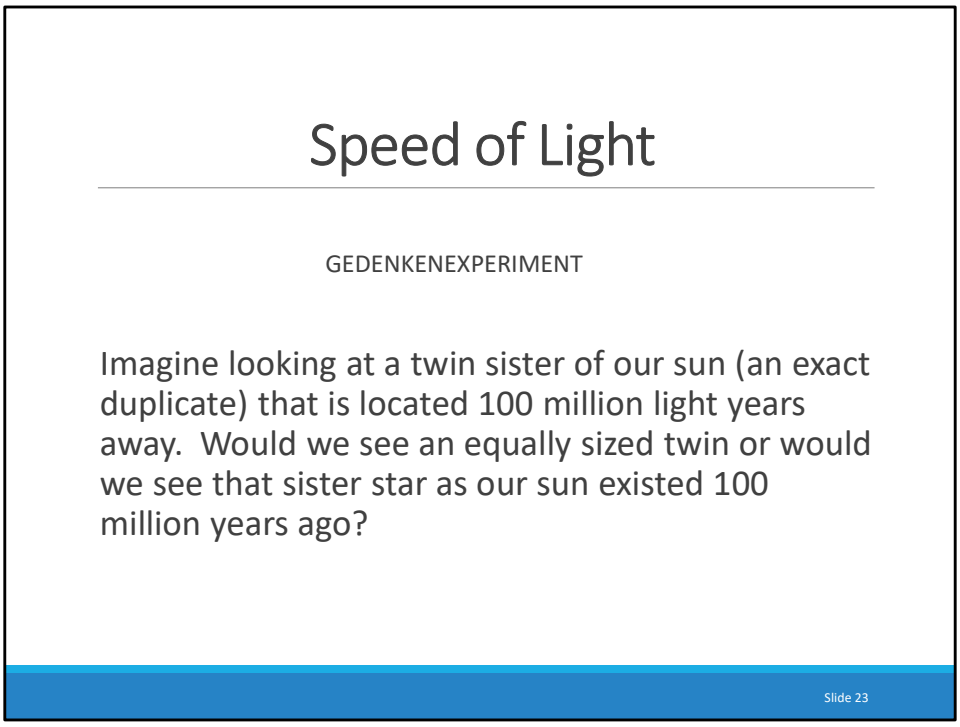
The red arrows pointing to the last column (% heating) indicates an extensive heating period between 358 MYA and 241 MYA that materially intensified for the 25 MY period between 266 MYA and 241 MYA. In the light of today's global heating debate where a few degrees rise in temperature in a few decades (or centuries) is considered highly detrimental to life by many, envision 25 million years of increasing heat with very small incremental increases in temperatures and its affect upon all life on the planet.

Coincidentally, the intensified heating culminated near the Permian-Triassic boundary (250 MYA); the geological time of the world's greatest extinction. Consequently, geologists should consider excessive heating as a cause for that event. The Geological Record indicates the first dinosaurs appeared ~250 mya indicating reptilian life survived and thrived in a warm climate on a warm crust.



Is it possible that heat is being extracted from those two elements? I don't have a physical chemistry answer, but it is something to think about when each atom's decay energy of one electron volt is equivalent to producing a 11,604.5 Kelvin temperature (over a 1.6 MY period).

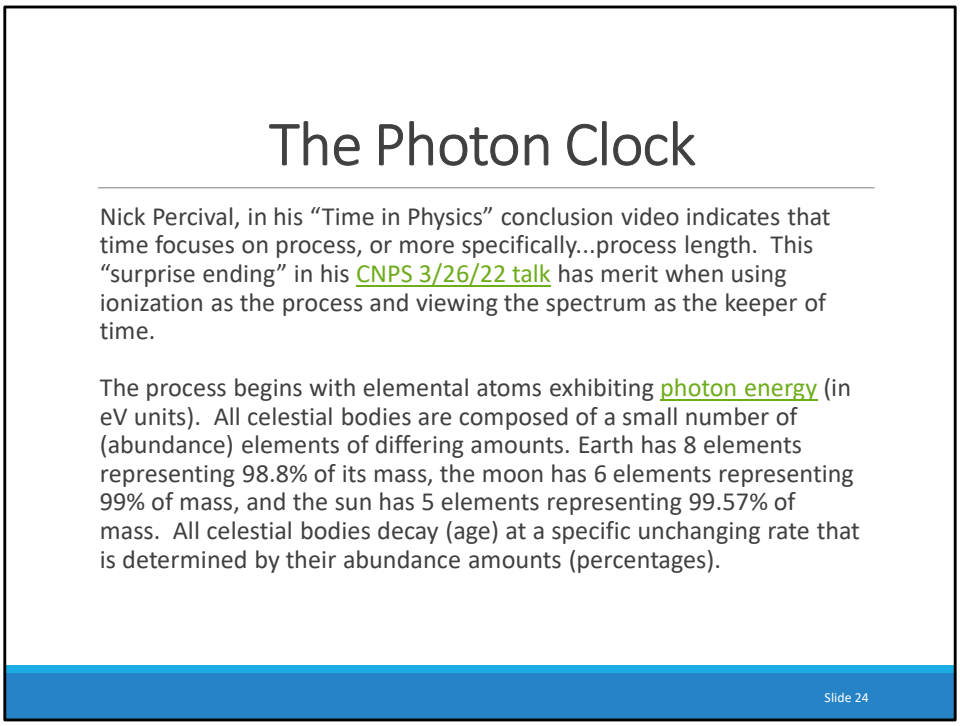
Similar studies on snakes, reptiles, or hibernating animals would be interesting.



If the universe were not expanding, the twins would be the same (smaller) size and closer together. If the universe is expanding, then everything within would be getting larger and we would see a younger, smaller star at that distance. The graph on Slide 13 indicates a size that was around 30% of the sun's present radius and about 10% of its present mass at that past time.

As usual, physicists and cosmologists attribute **dark matter** to the missing 90% gravitational mass. However, such logic misses the 100 million years of hydrogen growth when viewing the smaller, dimmer sun in an earlier time frame where the speed of light measures both time and distance.

[Added June 2022] However, time older than 8.75BY cannot be measured since the first light (photon) occurred when calcium initially ionized. Only distance is measurable when using “c” beyond 8.75BY.



CNPS 3/26/22 talk https://www.youtube.com/watch?v=0RRT01ZHwNE

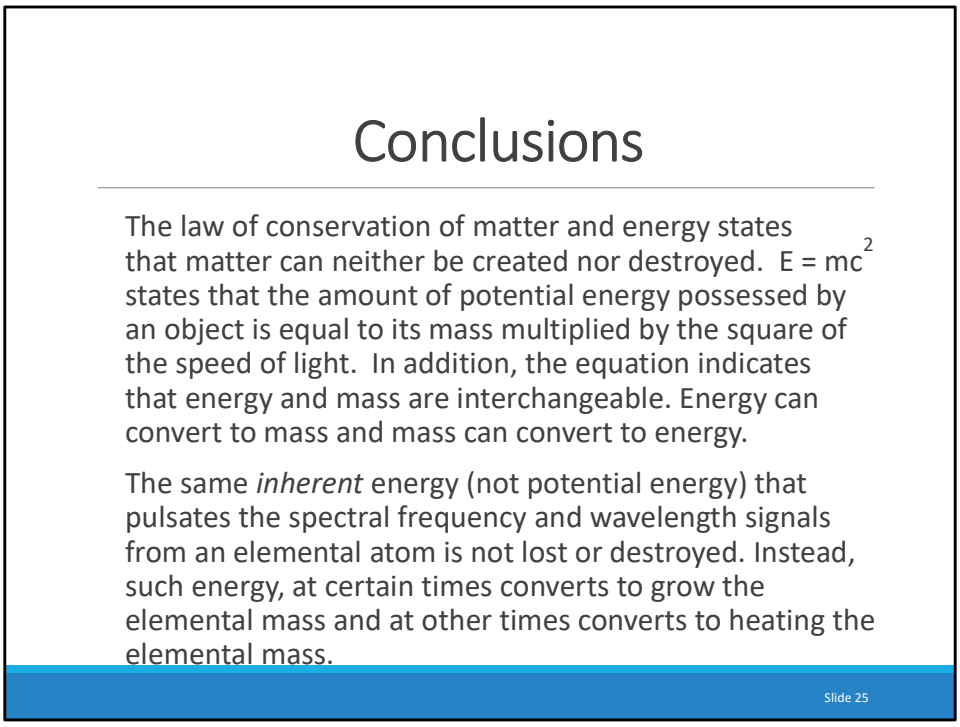
photon energy https://cdn.britannica.com/76/276-050-7BFF196F/position-light-electromagnetic-spectrum-range-right.jpg

The ageing rate at each place also generates a time of occurrence of each element's ionization potential (IP) listed in NBS-34 (https://digital.library.unt.edu/ark:/67531/metadc100707/m1/1) with the IP Limit as the ageing starting point. When ageing, all the abundance elements would decay together around the same time and at the same level, thereby causing an ambient energy level for each place.

Einstein indicated that...time passes differently in different places depending on how those places are moving with respect to one another. The photon ageing rate of earth (1 eV / 1.6 my), moon (1 eV / 2.03 my), and sun (1 eV / 8.29 my) affirms that time passes differently in different places. However, how the places move with respect to one another involves changes in rate of growth, which was an unknown unknown in Einstein's time and it wasn't until 2011 that Physics World published... Radioactive decay accounts for half of Earth's heat. (https://physicsworld.com/a/radioactive-decay-accounts-for-half-of-earths-heat/)

An analysis of the 1970 NBS-34 (Table 1) (https://digital.library.unt.edu/ark:/67531/metadc100707/m1/8/) reveals that the elements grow at certain times and heat at other times. Support for this energy conversion duality is sourced in the amount of heat contained below earth's crust and/or the amount of heat necessary to melt the 32.1% iron that settled mostly in the core. Further analysis of the first 30 elements (Slide 5) reveals the total heating time of the elements (from Z = 3 to Z = 30) progressively increases and always exceeds the total growing time. Yet, to its detriment, the physics of particles and motion disregards this significant heating aspect (entropy@ Slide 19) and its relationship with growth.

Changing growth rates equate with when and how fast or slow mass accumulates at a place while the unchanging ageing rate is immersed in the spectrum. (http://flexautomotive.net/EMCFLEXBLOG/image.axd?picture=/EMCLAB/PNG/EM_Spectrum/electromagnetic_spectrum_02.png)spectrum that functions as photon clock that ticks the ageing rate of each place.



Every celestial body in the universe is composed of elemental atoms. Eight elements comprise 98.8% of earth's matter; six elements comprise 98.0% of moon's matter; and five elements comprise 99.57% of the sun's matter. From the abundance elements, one can determine the rate of energy decay (ageing) of each body. When the heating phases of each abundance element is excluded, only the exponentially growing mass remains to size the earth and retrofit palaeogravity. The heating phases account for the source and time when our planet was molten, contradicting current presumed knowledge.

Knowing earth's rate of decay (ageing) brings a new understanding by establishing the time of occurrence for each Ionization Potential (IP) listed in Charlotte Moore's NBS-34 Tables (https://digital.library.unt.edu/ark:/67531/metadc100707/m1/1/). Among other things, it provides the geological time when an element may join other elements.

In essence, growing elements (atoms) increasing the mass in all celestial bodies enlarges the universe per Newton's inverse square law while confirming $E = mc^2$ (energy converting to equivalent mass). Comprehending growing rocks or fossils or when water initially formed on earth, however, are matters that neither physics nor chemistry nor geology adequately answers.

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E-mail contact: geneaellis@outlook.com

Slide 26

RECOMMENDED:

S. W. Carey - https://www.youtube.com/watch?v=Othb0xsvZb4

Neal Adams - http://nealadams.com/science-videos/

Ionic earth website: https://ionic-expanding-earth.weebly.com/