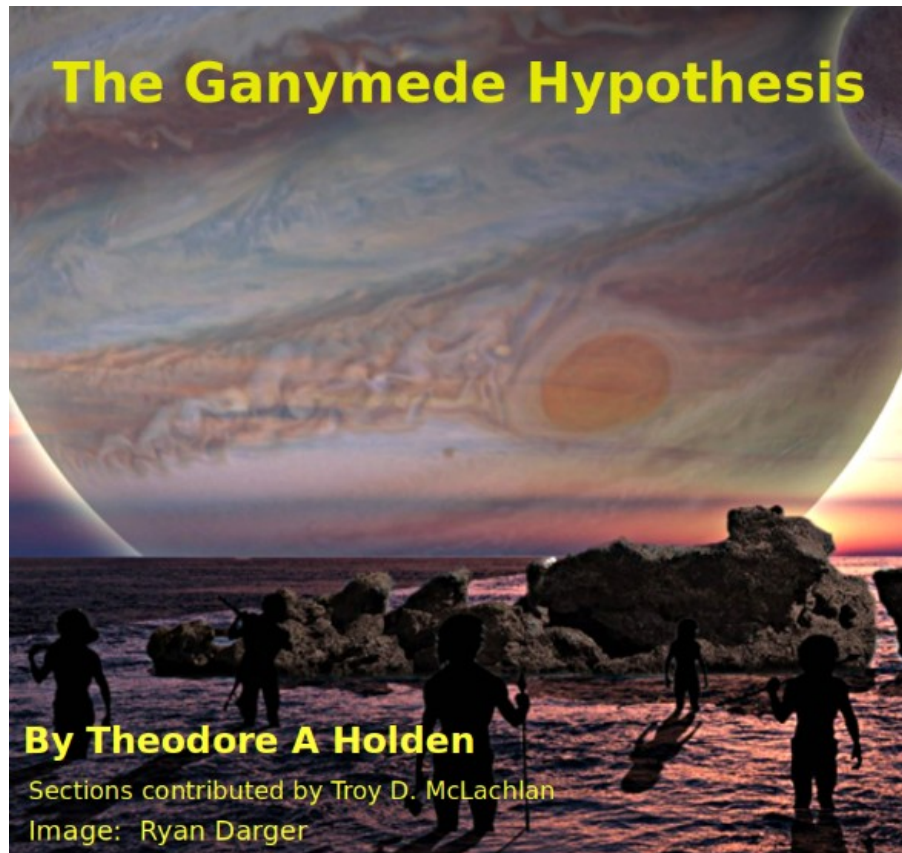


Cover, July 2021



The Ganymede Hypothesis

A Radical New Vision of Human and Solar System Origins

COPYRIGHT

Copyright © 2021 Theodore A. Holden

All rights reserved. Other than as permitted under the Fair Use section of the United States copyright act of 1976, no part of this publication shall be reproduced or distributed in any form or by any means, or stored in a database or retrieval system without the prior written permission of the author.

Quoting of this work must be attributed to this book, and not in a manner which would indicate any sort of endorsement. No derivative works are permitted without express permission of the author.

Reproduction of artwork contained in this book must be properly attributed to this book.

Information, discussion, related links at: <http://www.cosmosincollision.com/>.

Artwork, other than for images otherwise designated are copyright Troy D. McLachlan.

Version Aug 2021

Table of Contents

Cover, July 2021.....	1
COPYRIGHT.....	2
Forward.....	8
Caveats.....	10
Preliminaries.....	12
Anomalies.....	12
Theories of Evolution.....	13
Darwinian Gradualism, Categories of Disproof.....	13
Punctuated Equilibria and Problems with Logic.....	16
Electrical and electromagnetic effects in the cosmos.....	17
Herbig/Haro Strings.....	19
The Nature of Stars.....	21
Axis Tilts.....	21
Dwarf Stars and the Worship of Dwarf Stars.....	21
The Concept of an Electrical Water Bridge.....	22
Splash Saltation.....	23
Gravity and the Square/Cube Problem.....	23
Ignatius Loyola Donnelly (November 3, 1831 – January 1, 1901).....	24
Immanuel Velikovsky (29 May 1895 – 17 November 1979).....	24
Saturn Theories.....	25
Saturn and the question of the tectonic plates of Pangaea.....	29
The Neptune/Venus Question.....	31
Part I Earth in Past Ages.....	34
Gravity in Past Ages.....	34
Brachiosaurids and Diplodocids (Seismosaur/Ultrasaur).....	35
Brachiosaurid neck problems involve blood pressure.....	35

Diplodocid neck problems would involve torque.....	36
Diplodocus and his neck.....	37
Prehistoric Flying Creatures.....	37
Why Are Today's Limits So Much Lower?.....	38
Square/Cube Phenomena.....	39
What is the Absolute Limit for Modern Animals?.....	39
What is the limit for top human lifters like Bill Kazmaier or Benedikt Magnusson?.....	40
How much attenuation would be needed for the ultrasaur?.....	41
Expanding Earth Theories?.....	41
What exactly IS gravity.....	42
Antediluvian Lifespans.....	45
Sudden Saltations.....	46
Dinosaurs.....	47
Art and Petroglyphs.....	49
Ica Stones.....	51
Israelite Descriptions of Dinosaurs.....	51
Latest Version of Largest Dinosaur.....	52
The Neanderthal, Apex Creature of Dark Worlds.....	53
DNA Analysis.....	55
“No contribution”.....	55
Recent Reconstructions and images.....	56
Present state of knowledge.....	56
Neanderthal brains focused on vision and movement leaving less room for social networking.....	57
Prognathic Faces.....	58
Realistic images.....	58
Neanderthal and other hominid communication capabilities.....	60
Descriptions of hominids in literature and oral traditions.....	61
The “Basajaun”.....	63
Bulgarian Kukeri.....	63

Cro-Magnon man was not descended from hominids.....	64
The claims of human/hominid interbreeding.....	66
The requirements for a human home world.....	69
Cro Magnon Man and the people of Genesis.....	71
Cro-Magnon weaponry.....	72
The boomerang:.....	73
The atlatl.....	73
The Wheel.....	76
The Out of Australia Theory.....	76
(Mankind's Purple Dawn).....	77
Small and Weak.....	78
Life Under a Brown dwarf Star dwarf.....	79
The Mystery of Earth Under Saturn.....	84
Broken Comets and Star Factories.....	86
Saturn's Birth and the Birth of Planet Earth.....	90
Saturn as the Master of a Free-Floating Planetary Nebula.....	93
Summary and Takeaways from this chapter.....	96
The Arrival of Man on Earth.....	98
The Cold Reality Facing Primordial Mankind.....	98
Land of Eternal Shadow.....	99
A Fight for Survival.....	102
Summary and Takeaways from this chapter.....	103
Upper Paleolithic World War (Predator Versus Warrior).....	104
Summary and Takeaways from this Chapter.....	108
The Flood.....	108
Shu / the Pillar of Shu.....	110
The Tower of Babel.....	112
The Age of our Earth.....	114
Part II Mars in Past Ages and Now.....	117

Cydonia.....	117
Cities and villages.....	125
Walls and fitted stones.....	128
Mechanical junk and debris.....	128
Assorted other nondescript:.....	131
.....	134
Gateways to Subterranean areas.....	134
Structures.....	136
Martian Sphinx (SOL 787).....	139
Large structure... (http://gigapan.com/gigapans/165653).....	141
Phobos.....	142
Conclusions regarding Mars.....	144
Part III Ganymede in Past Ages.....	145
The Antique Solar System.....	146
The Strange Case of ‘HD 141937 b’.....	152
Ancient Jupiter as a Glowing Sub-Brown Dwarf Star.....	153
Brown Dwarfs as Heavenly Water Carriers.....	156
Other ‘Jupiters’ that show how our Jupiter Might Once Have Been.....	157
Basking in the Warmth of a Sub-Brown Dwarf Star.....	158
The Radiation Issue.....	161
Summary and Takeaways from this chapter.....	162
Ganymede: Third Rock from Jupiter.....	164
Back to the Jovian Moons.....	164
The Enigma of Ganymede’s Moment of Inertia.....	174
A Ball of Pumice Wrapped Around an Iron Core.....	179
Ganymede’s Electrical Conductivity: It’s in the P-Holes.....	182
An Electrifying Scenario: The Birth of Jupiter’s Moons.....	183
Summary and Takeaways from this chapter.....	186
What Happened to Ganymede?.....	188

Frozen Remnants of an Antique Solar System.....	192
The Electrical Scarring of Ganymede.....	194
Summary and Takeaways from this chapter.....	206
Club Ganymede: The Antique Solar System’s Tropical Paradise.....	208
A Day on Ganymede.....	209
Desert Islands: Rocky Lumps and Minerals in the ice.....	211
The Dust of Land and Life: Clay and Organic Compounds.....	214
Postcards from Ganymede’s Lost Atmosphere and Climate.....	217
Water, Water Everywhere... and Plenty to Drink.....	222
The Gravity of Life on Ganymede.....	224
Behold! A Tropical Splendor in the Ancient Heaveens.....	226
Summary and Takeaways from this chapter.....	228
Illustrations.....	231
Purple Dawn Environment.....	231
The huge eyes of leftover Purple Dawn creatures.....	231
More about the Purple Dawn.....	232
How Neanderthals saw their world.....	233
Jill Holod’s Neanderthal scene.....	234
Danny Vendramini’s Neanderthal reconstructions.....	234
Ryan Darger: Ganymede circa 60000 BC.....	235
.....	235
Ganymede today.....	236
Egyptian Crown Design.....	239
Troy McLachlan’s Impressions of Ganymede in Past Ages.....	241
Sun/Jupiter system some tens of thousands of years ago in various phases, the view from Ganymede.....	241
.....	243
.....	243
3ntropy-Gamer’s depiction of the Saturn system, Purple Dawn era:.....	244
.....	244

Cro-Magnon Art.....	245
Laniakea, our local super cluster of galaxies:.....	246
Jupiter in Past Ages.....	247
Part IV Getting to Mars, Ganymede, or Proxima Centauri.....	250
Historical Background for Interstellar Travel.....	250
Biefeld/Brown Propulsion.....	251
The TR-3B.....	254
Exotic US Navy Patents for Space Technologies.....	255
Constant Acceleration.....	256
Deductions and Speculation.....	258
Stellar distances, Friar Occam, and Ganymede.....	258
Questions regarding the human digestive system and diet.....	259
The original human diet.....	259
Fire and the lack of fur.....	260
Implications.....	262
Related Materials.....	265
RENSCI (Renegade Science) FaceBook groups:.....	265
Facebook groups related to NASA/JPL Mars images.....	265
Related Websites.....	265
Selected Bibliography.....	266
(Books).....	266
(Selected PDFs, etc.).....	267

Forward

Any work such as this one benefits from a huge amount of work that has gone before and from the heroic efforts of others in the neo-catastrophist community over the past six decades. A huge debt of gratitude is owed to Immanuel Velikovsky, the father of modern catastrophism, to

a number of his early associates, particularly Alfred De Grazia, and to the scholars and researchers associated with thunderbolts.info, particularly David Talbott, Dwardu Cardona, Ev Cochran, Wallace Thornhill, Donald Scott and others, as well as to scholars and researchers in what you might call the other branch of the neo-catastrophist family that is mainly concerned with chronological reconstructions, including Charles Ginenthal, Gunnar Heinsohn, Emmet Sweeney, Lynn Rose, and others.

Troy McLachlan first came to my attention in the late winter of 2012 from discussions on the thunderbolts.info forum involving Dwardu Cardona's works. I found his Saturn Death Cult website unusually fascinating in that he had actually read one of Cardona's books (similar to reading a 400 page science journal article) and produced something not only comprehensible to the educated layman, but actually imaginative and enjoyable to read. The fact that he had tried to relate Saturn theory to banking conspiracy theories indicated that he did not suffer from the phobia of defending more than one heresy at a time that afflicts most neo-catastrophists (and prevents their dealing with human origin questions).

I had known for some time that a new addition of the little book dealing with dinosaurs and gravity was needed. In the latter half of 2012 I realized that I needed to write a more general book dealing with prehistory, in which dinosaurs and gravity would be one chapter. Most interesting of all, I had determined the general part of our system where modern humans most likely would have originated, but I didn't have anything more precise than that. Troy thereupon embarked on a detailed study of Jupiter and its moon system, particularly Ganymede, its largest moon, resulting in collaboration on an earlier book dealing with this material and his contribution of the section of this book dealing with the characteristics and history of Ganymede.

Caveats

This book comes with a number of caveats.

This book involves a claim that the planet Saturn was very recently a dwarf star and that Earth and Mars were originally amongst its satellites. A quick Google search on “Saturn Theory” should convince most readers (simply the number of hits) that this idea is not new. This book provides some documentation for this “Saturn Theory” but, other than that, generally just assumes it. An encyclopedic defense of the Saturn theory already exists in the form of Dwardu Cardona’s “God Star” (<http://www.amazon.com/God-Star-Dwardu-Cardona/dp/1412083087>).

This book involves a startling claim: that the first modern humans within our solar system were living within Jupiter’s moon system. If correct, that completely wrecks the idea of humans being descended from apes or hominids on Earth.

Nobody owns the time machine that would be required to absolutely verify some of the conclusions that this book suggests.

In the absence of time machines, this work makes heavy use of the logical principle called “Occam’s razor.” Named after Friar William of Occam, the principle is generally understood to mean that of competing theories with equal explanatory power, the simplest should be preferred.

Virtually all work in the area of natural history over the past century and a half has been within the general paradigm of evolution. It is not possible for all such work to be rubbish or for evolution to totally wreck all good logical thinking over such a space of time. To make sense of a number of these kinds of findings, more often than not, you have to be able to separate the wheat from the chaff. In particular, the works of three scholars who have accepted the general evolutionary paradigm will be examined with an eye towards the logical conclusions that their works indicate if the evolutionary paradigm is removed. Those three are Julian Jaynes, a psychologist and philologist who taught at Princeton University and whose “Origin of Consciousness” has remained an academic sensation since the mid-1970s; Elaine Morgan, the most noted advocate of the Aquatic Ape hypothesis; and Daniel Vendramini, a New Zealand scholar who has provided us with the best description and illustration so far of the Neanderthal. Vendramini’s thesis of Skhul/Qafzeh hominids morphing into Cro-Magnon people via a fast process of evolution driven by predation from Neanderthals will also be examined.

This work generally use the term Cro-Magnon where authors 200 years ago would have written “pre-Adamites,”

Where other authors and researchers are cited, quoted, referenced or discussed, there is no implication that those authors in any way agree with or endorse the claims and arguments put forward by this work.

Preliminaries

Anomalies

The list of anomalies within accepted historical and scientific paradigms extends beyond mainstream thinking on how our Solar System was supposedly formed. For example:

- We are told that modern man has been around for a couple of hundred thousand years and that recent ancestors have been around for five or six million years, and yet we only have three or four thousand years of recorded history that we know anything about or about which anything could be said with any degree of certainty.
- We are told that humans share genetic components with Neanderthals; we are not told why there is no physical evidence on the planet of any cross-breeding between modern humans and Neanderthals¹ or any other hominid despite humans and Neanderthals having lived in close proximity for long periods of time in the Levant, where much cross-breeding would have been expected.
- We are told the dinosaurs perished tens of millions of years ago and yet scientists are now finding soft tissue including blood, blood vessels, collagen, and raw meat in dinosaur remains.
- We are told that dinosaurs dominated the earth for tens of millions of years and that their sizes were a winning ticket during that huge space of time; we are not told why, in the tens of millions of years that supposedly intervene between their age and ours, nothing else has re-evolved to those kinds of sizes.
- We are told that evolution is driven by a combination of mutation and natural selection; in the case of birds, we're not told what kind of mutation would change down feathers into flight feathers only on the creature's wings where they were needed.
- As noted already, it is known that the associations of the innermost six planets with the names of the ancient pantheon gods and goddesses are primordial; we are not told why the two chieftain gods of every one of those ancient religions were Jupiter and Saturn and not the sun and the moon.
- Unexplained also is the curious non-relation between Indo-European and Semitic

¹ James Shreeve, "The Neanderthal Peace",
<http://discovermagazine.com/1995/sep/theneanderthalpe558#.UVHN1ztIZ44>

languages²; there is no meaningful racial difference between the two groups and they could not have split up more than a few thousand years ago.

The above points are food for thought in a world in which most are convinced that science has worked out all the major issues and is now simply ironing out details.

Theories of Evolution

This book is not intended to be an anti-evolution text; there are enough of those available, and they are sufficiently easy to find. Nonetheless this book diverges sharply from standard evolutionary paradigms and a few obligatory pages are in order to describe our reasons for proceeding in such a manner.

Readers who have never believed or have already stopped believing in evolution may want to skip this section.

The word "Paradigm" indicates a super theory or general theory (or worldview) that underlies a particular group of studies or scholarly works. As noted above, the theory of evolution amounts to such a general paradigm under which nearly all work in the areas of science formerly called Natural Philosophy have proceeded for the last century and a half. This includes nearly all studies of ancient humans and hominids, nearly all studies of dinosaurs, all of the standard dating schemes that we read about and the assumptions upon which they are based, and accepted notions of what kinds of things are possible and what kinds of things are not. Obviously, if the basic paradigm of evolution and uniformitarian geology is wrong, then entire bodies of what we call science have spent a century or more traveling in wrong directions.

Darwinian Gradualism, Categories of Disproof

The educated lay person is not aware of how overwhelmingly evolution has been debunked over the last century. The following is a minimal list of entire categories of evidence disproving evolution:

² http://web.cn.edu/kwheeler/IE_Non.html The IE/Semitic non relation is explored further in Appendix A

- The decades-long experiments with fruit flies beginning in the early 1900s. Those tests were intended to demonstrate macroevolution; the failure of those tests was so unambiguous that a number of prominent scientists disavowed evolution at the time.
- The discovery of the DNA/RNA info codes (information codes do not just sort of happen...)
- The fact that the info code explained the failure of the fruit-fly experiments (the whole thing is driven by information and the only info there ever was in that picture was the info for a fruit fly...)
- The discovery of bio-electrical machinery within 1-celled animals.
- The question of irreducible complexity.
- The Haldane Dilemma. That is, the gigantic spaces of time it would take to spread any genetic change through an entire herd of animals.
- The increasingly massive evidence of a recent age for dinosaurs. This includes soft tissue being found in dinosaur remains, good radiocarbon dates for dinosaur remains (blind tests at the University of Georgia's dating lab), and native American petroglyphs clearly showing known dinosaur types.
- The fact that the Haldane dilemma and the recent findings related to dinosaurs amount to a sort of a time sandwich (evolutionites need quadrillions of years and only have a few tens of thousands).
- The dna analysis eliminating neanderthals and thus all other hominids as plausible human ancestors.
- The total lack of intermediate fossils where the theory demands that the bulk of all fossils be clear intermediate types. "Punctuated Equilibria" in fact amounts to an attempt to get around both the Haldane dilemma and the lack of intermediate fossils, but has an entirely new set of overwhelming problems of its own...
- The question of genetic entropy.
- The obvious evidence of design in nature.
- The arguments arising from pure probability and combinatoric considerations.

Here's what the term "combinatoric considerations" should be taken to mean in this context.

The best illustration of how untenable evolutionism really is involves trying to become some totally new animal with new organs, a new basic plan for existence, and new requirements for integration between both old and new organs.

Take flying birds for example; suppose you aren't one, and you want to become one. You'll need a baker's dozen highly specialized systems, including wings, flight feathers, the specialized system which allows flight feathers to pivot so as to open on upstrokes and close to trap air on downstrokes (like a venetian blind), a specialized light bone structure, specialized flow-through design heart and lungs, specialized tail, specialized general balance parameters etc.

For starters, every one of these things would be antifunctional until the day on which the whole thing came together, so that the chances of evolving any of these things by any process resembling evolution (mutations plus selection) would amount to an infinitesimal, i.e. one divided by some gigantic number.

In probability theory, to compute the probability of two things happening at once, you multiply the probabilities together. That says that the likelihood of all these things ever happening, best case, is ten or twelve such infinitesimals multiplied together, i.e. a tenth or twelfth-order infinitesimal. The whole history of the universe isn't long enough for that to happen once.

All of that was the best case. In real life, it's even worse than that. In real life, natural selection could not plausibly select for hoped-for functionality, which is what would be required in order to evolve flight feathers on something which could not fly apriori. In real life, all you'd ever get would be some sort of a random walk around some starting point, rather than the unidirectional march towards a future requirement which evolution requires.

And the real killer, i.e. the thing which simply kills evolutionism dead, is the following consideration: In real life, assuming you were to somehow miraculously evolve the first feature you'd need to become a flying bird, then by the time another 10,000 generations rolled around and you evolved the second such feature, the first, having been disfunctional/antifunctional all the while, would have DE-EVOLVED and either disappeared altogether or become vestigial.

Now, it would be miraculous if, given all the above, some new kind of complex creature with new organs and a new basic plan for life had ever evolved ONCE.

Evolutionism, however (the Theory of Evolution) requires that this has happened countless billions of times, i.e. an essentially infinite number of absolutely zero probability events.

Fruit flies breed new generations every few days. Running a continuous decades-long experiment on fruit flies will involve more generations of fruit flies than there have ever been of anything resembling humans on Earth. Evolution is supposed to be driven by random mutation and natural selection; they subjected those flies to everything in the world known to cause mutations and recombined the mutants every possible way, and all they ever got was fruit flies.

Richard Goldschmidt wrote the results of all of that up in 1940, noting that it was then obvious enough that no combination of mutation and selection could ever produce a new kind of animal. There is no excuse for evolution to ever have been taught in schools after 1940.

Punctuated Equilibria and Problems with Logic

Real science theories do not require reinvention every couple of decades. Evolutionists, on the other hand, never have to wait terribly long for the next version. Because there is zero evidence in the fossil record to support Charles Darwin's original gradualist concept of macroevolution and because the original conceptions of evolution have been flatly refuted by developments in population genetics since the 1950's, the latest incarnation of evolution theory is Steve Gould's and Niles Eldredge's "Punctuated Equilibria" concept, commonly called "*punc-eeek*" (PE). This version of the theory of evolution claims that these wholesale violations of probabilistic laws all occurred so suddenly as to never leave evidence in the fossil record. Further, that they all occurred amongst tiny groups of animals living in "peripheral" areas. That is to say, that punctuated equilibria amounts to an attempt to get by both the Haldane dilemma and the problem of the general lack of intermediate fossils between the supposed stages evolving species go through.

Punc-eeek amounts to a claim that all meaningful evolutionary change takes place in peripheral areas, amongst tiny groups of animals that develop some genetic advantage, and then move out and overwhelm, outcompete, and replace the larger herds. The claim is that this eliminates the need to spread genetic change through any sizeable herd of animals and, at the same time, explains why we never find intermediate fossils (since there are never enough of these **CHANGEINGS** to leave fossil evidence).

Obvious problems with punctuated equilibria include, minimally:

- 1 It is a pure pseudoscience seeking to explain and actually be proved by a lack of evidence rather than by evidence (all the missing intermediate fossils). In other words, the people promoting this idea are claiming that the very lack of intermediate fossils supports the theory.
- 2 PE amounts to a claim that inbreeding is the most significant source of genetic advancement in the world
- 3 PE requires these tiny peripheral groups to conquer vastly larger groups of animals millions if not billions of times. This is like requiring Custer to win at the Little Big Horn every day, for millions of years.
- 4 PE requires an eternal victory of animals specifically adapted to localized and parochial conditions over animals that are globally adapted. In real life, the globally adapted animals almost invariably win .
- 5 For any number of reasons, you need a minimal population of any animal to be viable. This is before the tiny group even gets started in overwhelming the vast herds. A number of American species such as the heath hen became non-viable when their numbers were reduced to a few thousand; at that point, any stroke of bad luck at all, a hard winter, a skewed sex ratio in one generation, a disease of some sort, and it's all over. The heath hen was fine as long as it was spread out over the East coast of the U.S. The point at which it got penned into one of these "peripheral" areas, which Gould and Eldredge see as the salvation for evolutionism, it was all over³.

³ http://en.wikipedia.org/wiki/Heath_Hen

The sort of things noted in points 3 and 5 are generally referred to as the "gambler's problem." In this case, the problem facing the tiny group of "peripheral" animals is similar to that facing a gambler trying to beat the house in blackjack or roulette. The house could lose many hands of cards or rolls of the dice without flinching, and the globally-adapted species spread out over a continent could withstand just about anything short of a continental-scale catastrophe without going extinct. On the other hand, two or three bad rolls of the dice will bankrupt the gambler, and any combination of two or three strokes of bad luck will wipe out the "peripheral" species. Gould's basic method of handling this problem is to ignore it.

And there's one other thing that should be obvious to anybody attempting to read through Gould and Eldredge's writings, i.e. they don't even bother to try to provide a mechanism or technical explanation of any sort for these claims. They are claiming that at certain times, amongst tiny groups of animals living in peripheral areas, a "speciation event(TM)" happens, and then the rest of it takes place. In other words, they are saying:

ASSUMING that Abracadabra-Shazaam happens, then the rest of the business proceeds as we have described in our scholarly discourse above!

Again, Gould and Eldredge require that the Abracadabra-Shazaam happen not just once, but countless billions of times, i.e. at least once for every kind of complex creature that has ever walked the Earth. They do not specify whether this amounts to the same Abracadabra-Shazaam each time, or a different kind of Abracadabra-Shazaam for each creature.

Walter Remine has noted⁴ that neither Darwinian gradualism nor punctuated equilibria is logically coherent and that evolutionary theorists are now serving up what he describes as a smorgasbord containing bits and pieces of both. Remine's "*The Biotic Message*" is a thoroughgoing analysis of the Haldane dilemma and of related topics.⁵ More recently, Remine has produced several papers that provide a simplified description of the dilemma, which do not involve the concept of genetic death.

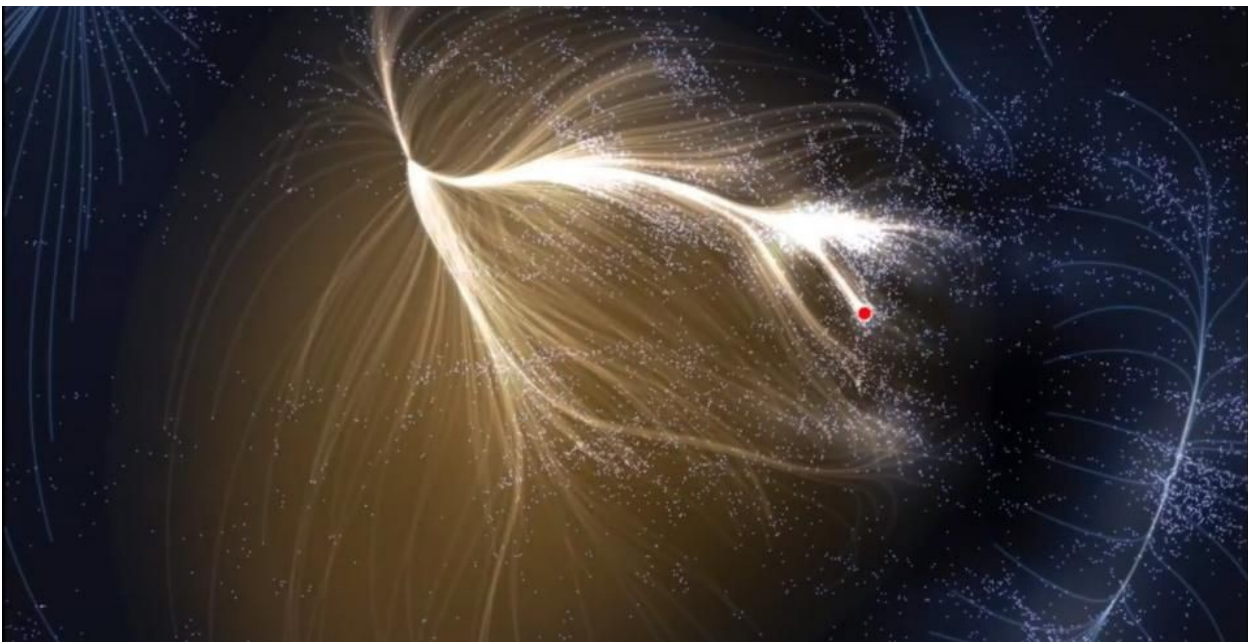
Electrical and electromagnetic effects in the cosmos

⁴ <http://www.nmsr.org/round1b.htm>

⁵ <http://saintpaulscience.com/index.html>

Gravity is by 40 orders of magnitude the weakest force in nature. The idea that gravity mainly controls what we see in the heavens, the so-called gravity-only cosmology, is a habit of thinking more so than anything which could ever be demonstrated. In real life, asking gravity to form up the solar system from swirling dust or to hold a spiral galaxy together is like asking the littlest kid in the school to do the powerlifting event. It does not really make any sense. In real life, it is the electromagnetic forces which are 40 orders of magnitude stronger than gravity that do the heavy lifting.

Not only our own galaxy, but the entire super cluster of galaxies which our Milky Way galaxy is part of are governed by such electrical and electromagnetic forces. Our local super cluster of galaxies is called Laniakea. NASA images show a gigantic structure in which every single point of light represents an entire galaxy with a red dot covering our own Milky Way galaxy, and the entire colossal structure is clearly an electrical breakdown of immense proportions.



Local super cluster of galaxies. The red dot covers our own Milky Way galaxy.

It is altogether astonishing that our telescopes and computers have reached a point at which putting together such an image is possible. And the really funny thing is that the image thus produced is completely familiar; the image is clearly an image of an electrical discharge that absolutely resembles a lightning strike, only on a vastly larger scale.

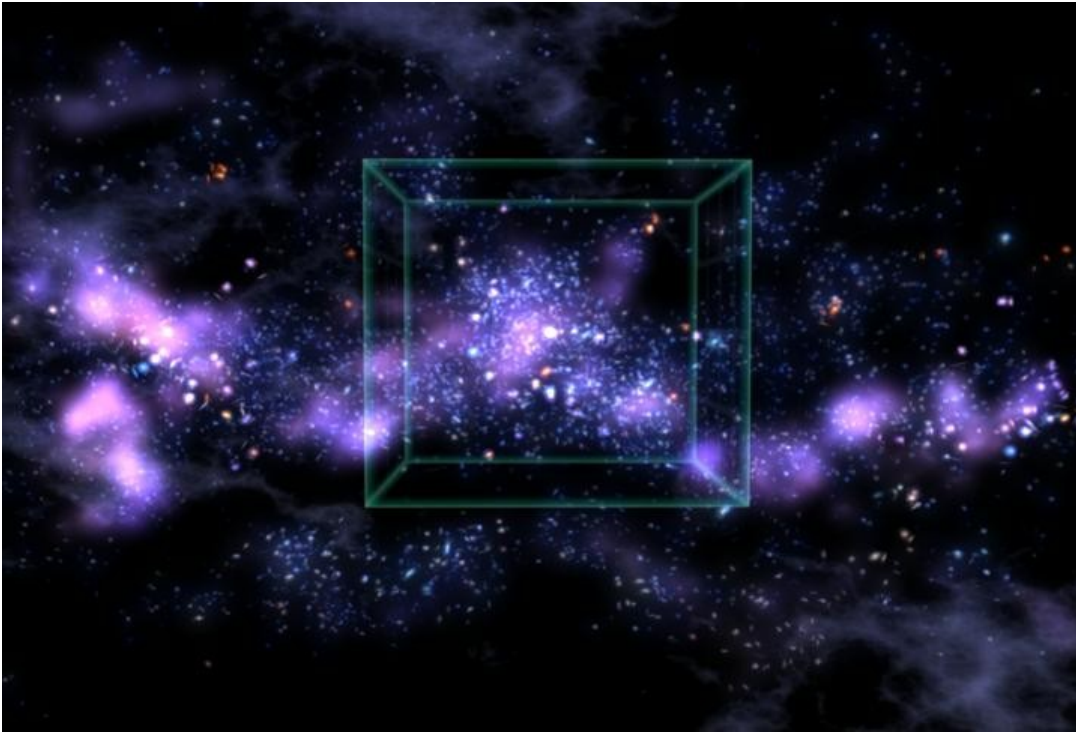
Herbig/Haro Strings

Space is a plasma environment and not a vacuum. There are charge separations across vast regions of space and, because of those charge separations, we see Birkeland currents arcing across huge regions. Those are twisted pairs of currents which look like DNA/RNA strings. Where those current pairs cross each other, there is electrical short circuiting and what are called Z-pinches, and those electromagnetic pinches DO have the power to agglomerate plasma into much more solid objects, proto-stars and other cosmic objects.

A Birkeland current with such objects showing at its pinch points is called a Herbig-Haro object or Herbig-Haro string, and looks like a shish-kabob with the shishes all lit up or a string of Christmas-tree lights with the string pulled taut.



That is basically what a young solar system looks like, an electromagnetically aligned system and not an orbiting system like our present system. On a very much larger scale, Birkeland currents create strings of galaxies at their pinch points. The exact same phenomenon, just at a different scale. Standard science theories have no explanation for strings of galaxies.



Again, such electrical and electromagnetic forces do the heavy lifting in the universe.

Our own system began as such a Herbig/Haro string originally. Beyond some point in time, the northern part of that system had devolved into a bright system containing our present sun and Jupiter with its moons up very much closer to the sun as is the normal and most common situation for dwarf stars or gas giant planets orbiting main sequence stars in our galaxy. The most major rocky body in that northern system was Jupiter's largest moon, Ganymede, now an icy wasteland but, under those conditions, a freshwater ocean world with islands and coagulated floating masses and burgs of pumice and luxuriant vegetation, a sort of an ideal home world for humans and other aquatic mammals.

At the same time, the southern part of the system (Mars, Neptune, Saturn, and Earth) i.e. the bodies with the roughly 26° axis tilts, remained in the linear alignment of the original Herbig/Haro system.

The Nature of Stars

Another habit of thinking which turns out to be wrong is the idea of stars being thermonuclear engines. A thermonuclear furnace star would simply keep on getting cooler as you moved further away from its core. Our sun does not do that; it gets vastly hotter as you move upwards from the surface into the upper layers. Likewise, a sunspot is a place where the electrical activity of the surface breaks down and you are seeing into the interior of the star. If our sun were a thermonuclear furnace, a sunspot would be blue or white and not black. The interior of the sun is obviously cooler than the surface.

What turns out to be the case is that stars are basically light bulbs and not thermonuclear furnaces. Stars are plasma physics phenomena powered by cosmic Birkeland currents. This includes both main sequence star such as our sun and dwarf stars such as Jupiter and Saturn used to be.

Axis Tilts

Given pretty nearly any theory of how solar systems like ours might form, you would expect the spin axes of the bodies in that system to all be roughly perpendicular to the plane of the system, that is, for the axis tilts to all be near zero. At least originally. That, of course, is not what we find. We have Uranus with its oddball axis tilt with its own separate little story; a formerly-northern group (sun, Jupiter, Mercury, Venus) with axis tilts near zero; and a formerly-southern/Saturnian system (Saturn, Neptune, Mars, Earth) with the same roughly 26° axis tilts. The most obvious inference to be drawn is that the bodies with the roughly 26° axis tilts were captured as a group. That indicates that there was a very recent time when our system was a dual system. That is, our system consisted of a northern group (sun, Jupiter, Mercury, Venus), an oddball body (Uranus), and a southern group (Saturn, Neptune, Mars, Earth). The northern group would have been very bright, the southern group very dark (the Purple Dawn environment). Venus, as Immanuel Velikovsky claimed, was a very recent addition to the Northern system and has still not cooled, surface temperature being around 850 degrees F. Venus is basically a new world.

Dwarf Stars and the Worship of Dwarf Stars

All ancient religions were astral in nature; the curious name associations between ancient pantheon gods and our planets are primordial. Primitives seeking to devise an astral religion from scratch in our own age would invariably end up worshiping the sun, the moon, and possibly Venus.

However the two chieftain gods of all ancient religions were the two former dwarf stars, Jupiter and Saturn and particularly Saturn. Vestiges of that ancient reality still surround us. We still call our sabbath "Saturn's Day"; the main religious festival in ancient Rome was "Saturnalia"; Virgil notes (Aeneid) that Rome itself was built over top of the remains of a more ancient city called "Saturnia"; Plato consistently refers to antediluvians as "Nurselings of Cronos/Saturn"; classical authors including Hesiod and Ovid refer to a "Golden Age" when Cronos (Saturn) was "King of Heaven". In the same language, our sun is the "King of Heaven" now.

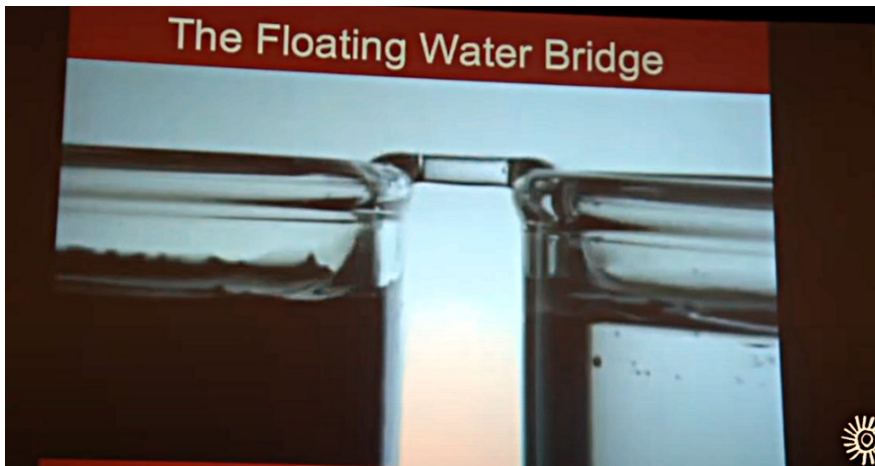
When a dwarf star is captured by main sequence star, the dwarf star dies out and becomes a gas giant planet. It is as if a 200 foot lightning rod was glowing in a storm when, of a sudden, the Acme lightning rod companies truck rolled up and employees got out and constructed a thousand foot lightning rod a couple of hundred feet away. The smaller lightning rod, no longer the focal point of any kind of a discharge, would simply go out and cease glowing.

Another funny thing which has turned up is that the most normal situation for gas giant planets in our galaxy is for them to be up substantially closer to main sequence stars which the orbit than Jupiter or Saturn are now, hence the term "hot Jupiter's" which we read. At least one scholar who studied such things, Jno Cook, claimed to have done calculations putting Jupiter a bit closer to our sun than Earth is now in past ages. That would, of course, transform Ganymede, Jupiter's largest moon, from its present status as an icy wasteland, into a fresh water ocean world.

The Concept of an Electrical Water Bridge

Robert Johnson described the idea of an electric water bridge at the Thunderbolts Group's Electric Universe conference in 2012 (EU2012):

<https://youtu.be/JaEjK8-xhtml>



Basically, if you create enough of a voltage difference between two beakers of water, water can begin to form tubular structures between the two beakers.

Splash Saltation

Now, rather than two beakers of water, assume the water containers in question to be the oceans of two very different kinds of worlds: For instance (a few tens of thousands of years ago) Earth, the largest rocky body of the part of the system also containing Saturn, Neptune, and Mars, (the bodies with the rough 26 degree axis tilts), and Ganymede, the largest rocky body in the antique Northern system (sun, Jupiter, Mercury), the bodies with axis tilts less than 10° .

This would be on one of the near approaches prior to final capture of the Southern system. There would be humans splashing around in the water hunting fish with their atlatls and playing beach-ball games when, of a sudden, clouds, thunder and lightning, the sky goes weird over their heads and the fearful vortex of a cosmic Birkeland current and water bridge opens up and some large number of the people and other aquatic mammals are sucked into the alien world which was Earth, some tens of thousands of years ago.... Not all survived the experience, but some did.

What we really need for that one is Cecil B. DeMille, who unfortunately is no longer with us...

Gravity and the Square/Cube Problem

As creatures get larger, they lose power to weight ratio no matter what they do. Weight is proportional to volume, which is a cubed figure; strength is proportional to cross-section of bones and muscles, which is a squared figure. Double your physical dimensions, and you will cut your power to weight ratio in half. The factor of two will get figured three times for volume and weight, and only twice for cross-section and strength; you will be eight times heavier but only four times stronger. There is obviously some limits as to how many times you can halve your power to weight ratio and still function. The largest land animals that the world supports today, the heaviest one or 2% of elephants, are around 14,000 to 16,000 pounds. The question is, what exactly allowed creatures many times that heavy to function in prehistoric times? We will go over that in more detail a bit later.

Ignatius Loyola Donnelly (November 3, 1831 – January 1, 1901)

Donnelly was a late example of a Renaissance man who, aside from having held several state level political offices in Minnesota, is known as the most recognized scholar prior to Immanuel Velikovsky to have advanced a theory connecting mythological and ancient literary themes with actual cosmic events. His most notable book (“Ragnarok the age of fire and gravel”) correctly associates Nordic mythological themes with an encounter between Earth and what he describes as a Great Comet. He did not make the connection (as Velikovsky does) between that comet and the present planet Venus.

Immanuel Velikovsky (29 May 1895 – 17 November 1979)

Essentially the father of the modern neo-catastrophism movements in science, Velikovsky was the focus of the most major scientific controversy within the last hundred years. He is best known for a book (“Worlds in Collision”) that described several cosmic disasters occurring after the Noachean flood and involving close encounters between Earth, Venus, and Mars. Establishment academia has essentially buried this controversy to such an extent that the average person today has never heard of it and written Velikovsky off as a pseudoscientist. Nonetheless, space-age findings have increasingly tended to support Velikovsky’s claims and even the Wikipedia article, which is openly hostile to Velikovsky, makes it entirely clear that the man was a first-rate scholar and scientist:

https://en.wikipedia.org/wiki/Immanuel_Velikovsky

Childhood and early education

Immanuel Velikovsky was born in 1895 to a prosperous [Lithuanian Jewish](#) family in [Vitebsk, Russia](#) (now in [Belarus](#)). The son of Shimon (Simon Yehiel) Velikovsky (1859–1937) and Beila Grodensky, he learned several languages as a child and was sent away to study at the Medvednikov [Gymnasium](#) in [Moscow](#), where he performed well in [Russian](#) and [mathematics](#). He graduated with a gold medal in 1913. Velikovsky then traveled in [Europe](#) and visited Palestine before briefly studying medicine at [Montpellier](#) in [France](#) and taking premedical courses at the [University of Edinburgh](#). He returned to Russia before the outbreak of [World War I](#), enrolled in the [University of Moscow](#), and received a [medical degree](#) in 1921.

Hebrew University of Jerusalem

Upon taking his medical degree, Velikovsky left Russia for [Berlin](#). With the financial support of his father, Velikovsky edited and published two volumes of scientific papers translated into [Hebrew](#). The volumes were titled *Scripta Universitatis Atque Bibliothecae Hierosolymitanarum* ("Writings of the Jerusalem University & Library"). He enlisted [Albert Einstein](#) to prepare the volume dealing with mathematics and physics. This project was a cornerstone in the formation of the [Hebrew University of Jerusalem](#), as the fledgling university was able to donate copies of the *Scripta* to the libraries of other academic institutions in exchange for complimentary copies of publications from those institutions.

Saturn Theories

Charles Darwin's theory of evolution is a subset of a larger doctrine that is called "Uniformitarianism". Uniformitarianism is what you would call a paradigm or super theory, and amounts to a modality of thinking, affecting more than just one or two branches of science. It amounts to a claim that changes in geological and biological forms only ever take place slowly and imperceptibly over vast spaces of time, and that only processes that we see in action today could ever have been involved in such changes. This paradigm had begun to take shape amongst geologists and biologists just prior to the time of Darwin publishing his "Origin of the Species", and pretty much dominated most scientific thinking between that time and the early 1950s.

The opposite of uniformitarianism is catastrophism, which had been the dominant paradigm of Natural Philosophy prior to Darwin. Pretty much all of ancient literature and religious texts speak of a number of planetary catastrophes beginning with the flood at the time of Noah and physical evidence suggests a number of planetary – level catastrophes at prior times, particularly the event somewhere around 12,000 years ago, which brought about the demise of the American megafauna.

A revival of catastrophism began with the publication of Immanuel Velikovsky's "Worlds in Collision" in 1950. Worlds in collision describes a number of cosmic catastrophes which

occurred after the time of the flood and marked the beginning of the most major scientific controversy of the last hundred years. That controversy has never been settled. Establishment academia pretty much refused to hear the case for a return to a catastrophism paradigm and scientists and scholars believing that Velikovsky was correct have simply gone their own way with their own journals and conferences and a challenge to more establishment scientists and academics to catch up whenever they felt the need to.

In recent years, increasing numbers of physicists, astronomers, and other scholars have been feeling the need to. Findings from our space probes continue to support Velikovsky's positions on a number of issues, particularly the idea that the cosmos is primarily governed not by gravity, but by the more major forces in nature, that is, by electromagnetic and electrostatic forces. The most major Internet site for these kinds of discussions and material is:

<https://thunderbolts.info>

Immanuel Velikovsky had originally intended to write a second volume to *Worlds in Collision* dealing with the flood at the time of Noah and also with the role that Saturn, a dwarf star prior to that time, had played in those events. Velikovsky in fact believed that earth itself had been aligned with Saturn and not our present sun prior to the flood. For a number of reasons including the hysterical reaction of academia to the original volume, that book was never forthcoming. Nonetheless, following the Pensee Journal symposium at McMaster University in 1974, other authors have produced several books on the subject and, at present, there are several versions of a Saturn theory floating around. The three that you are most likely to encounter would be:

- David Talbot's version, which has Saturn wandering into the neighborhood of our present sun from the depths of space.
- Alfred De Grazia's version, which posits Saturn being the most major remnant of a larger body which had fissioned off from our present sun due to electrical stresses.
- The Holden/McLachlan version (the book you're reading now) which has everything that we see in our system today having originally formed amongst the electromagnetic pinch points of a cosmic Birkeland current and its associated Herbig/Haro string. That does in fact appear to be the normal way that solar systems form up in the universe.

https://www.amazon.com/Saturn-Myth-David-Talbott/dp/1979835489/ref=sr_1_1

https://www.amazon.com/Solaria-Binaria-Origins-History-System-ebook/dp/B07NHYZFFF/ref=sr_1_1

<http://www.cosmosincollision.com>

For many, the Bible and other significant works of ancient literature can be difficult to read because they appear to be describing a number of issues pertaining to the realities of ancient life that were so substantially different from anything experienced today, that they do not seem credible to the modern reader. Modern readers, particularly scientists and scholars, assume that these stories employed fanciful techniques and involved allegorical meanings. They generally do not entertain the possibility that the ancient authors were relating to their readers what amounted to everyday reality in their world, and that they were, in actuality, describing such realities in the idioms of their language and not ours.

There are several broad categories for such things; these include:

- Descriptions of planetary scale catastrophes, including the flood at the time of Noah, the incident associated with the tale of the tower of Babel, the story of Phaeton, and several other tales of a similar nature.
- Descriptions of religious practices intended to communicate directly with the spirit realm. Such practices included prophecy, oracles, "familiar spirits" (the tale of Saul, Samuel, and the "witch of Endor," etc.), idolatry and the rituals associated with the worship of idols, and electrostatic devices such as the Ark of the Covenant. All such practices involved humans undergoing trance-like states similar to hypnosis, all appear to have involved electrostatic phenomena and all stopped working prior to the time of Alexander.
- Indications that the Solar System itself was substantially different in ancient times. The earliest religions were astral in nature and the name associations between our planets and the astral pantheons of gods and goddesses have primordial roots. Primitive people in our present world attempting to devise an astral religion from scratch would invariably end up worshipping the sun and the moon. Nonetheless, the two chieftain gods of every one of those ancient pantheons were Jupiter and Saturn, and not the sun or moon. Again, Plato consistently refers to antediluvians as "nursling's of Kronos (Saturn)"⁶ and ancient authors, including Ovid and Hesiod, described the age prior to the flood as having been a golden age when Saturn ruled as 'King of heaven.' In applying the same language today, we would identify our sun as the current 'King of heaven.'

⁶ Plato "The Statesman", <http://www.gutenberg.org/ebooks/1738>

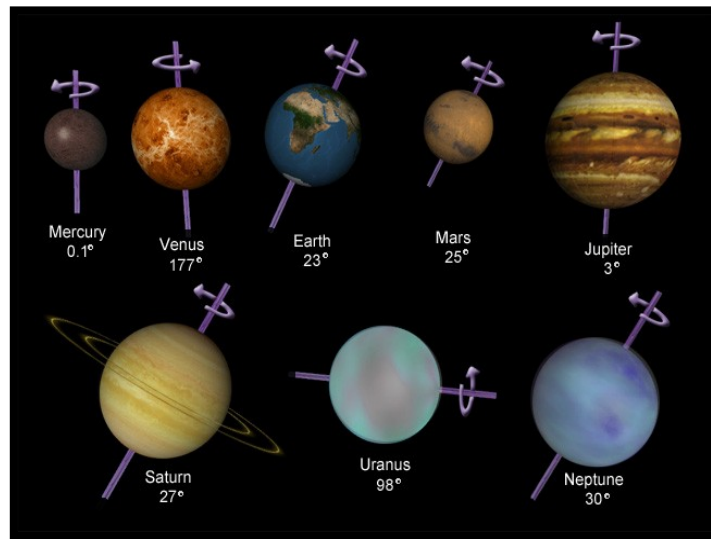
Hesiod and Ovid claimed⁷ there had been a Golden Age during which Saturn (Kronos to the Greeks) had been the King of heaven, followed by a destructive flood and then a silver age during which Jupiter (Zeus to the Greeks) ruled as King of heaven, followed by the age of the Trojan war and then our present (Iron) age. Again, in the same language, our sun is the “King of Heaven” now . In today’s language, this amounts to claims that Jupiter and Saturn had once been dwarf stars, that Earth was originally in orbit around Saturn, and then spent a shorter period of time orbiting Jupiter before our solar system settled into its present configuration. This postulated historical progression has become generally known as “Saturn Theory”⁸.

Over the past three to four decades there have been several versions of Saturn theories floating around; the only thing that we are fairly certain of is that one of these versions will eventually find general acceptance in the broader scientific and historical communities. There are versions that have Saturn approaching our present sun from vast cosmic distances, a version that has Saturn originally having fissioned from our present sun via an electrical process, and then there is a version that we favor. That version involves Saturn and our present sun having originally been formed in relatively close proximity by the same kind of z-pinch phenomenon we see displayed by cosmic Birkeland currents when creating groups of stars and strings of galaxies. This last possibility suggests a scenario entirely similar to imagining the dwarf star component (Proxima Centauri) of Alpha Centauri spiraling into one of the two main stars that constitute Alpha Centauri. We view this as the most likely scenario.

All of this is at extreme variance to what is taught in our schools. Our schools teach that the Solar System is several billion years old and has been in its present configuration for hundreds of millions of years. There is, however, a great deal of physical evidence to support the “Saturn Theory” alternative. Consider the axis tilts of the planets in our system. The problem from the perspective of the standard theory is obvious enough; if our system had formed from a swirling disk of solar material as claimed, all axial tilts should be approximately the same, that is, all near zero with all axes of the planets roughly perpendicular to the plane of our system. But that is not what we observe. Instead we observe great variations amongst the axial tilts of the planets, indicating that something is amiss in the accepted model of our Solar System’s formation.

⁷ Hesiod’s “Works and Days” and Ovid’s “Metamorphoses”, e.g. <http://www.sacred-texts.com/cla/hesiod/works.htm> “First of all the deathless gods who dwell on Olympus made a golden race of mortal men who lived in the time of Cronos when he was reigning in heaven...”

⁸ <http://www.maverickscience.com/saturn.htm>



*The axial tilts of the eight recognized planets making up the Solar System. Of the eight, Earth, Mars, Saturn and Neptune share virtually the same degree of tilt, an indication that they are of the same family but foreign to our present Solar System, **i.e. that our present sun captured them as a group.** Mercury and Jupiter also share virtually identical near-zero-degree tilts (roughly perpendicular to the plane of the system), indicating their origins within the Solar System. The odd ones out are Uranus and Venus, the later identified in Saturn Theory as a late-comer violently ejected from Saturn during the chaotic height of Saturn's entry into the Solar System. The origins of Uranus' side on tilt is more problematic, though it is likely this gas-giant was also part of the Saturn family of planets, yet suffered a pole shift during that system's catastrophic capture by the Sun. Image not to scale.*

The highlighted item above is crucial to the narrative of this book and to Saturn theory in general. What is indicated is that a reasonable interpretation of those axis tilts entirely corresponds to the interpretation of myth and ancient literature and iconography which is associated with the Saturn theory.

Saturn and the question of the tectonic plates of Pangaea

Tectonic plates indicate that the former super-continent (Pangaea) would not fit on our present world and would require a world of greater curvature (a smaller world). This is one of the two reasons for the existence of so-called Expanding-Earth theories; the other is the question of large dinosaurs and gravity that we will go over shortly.

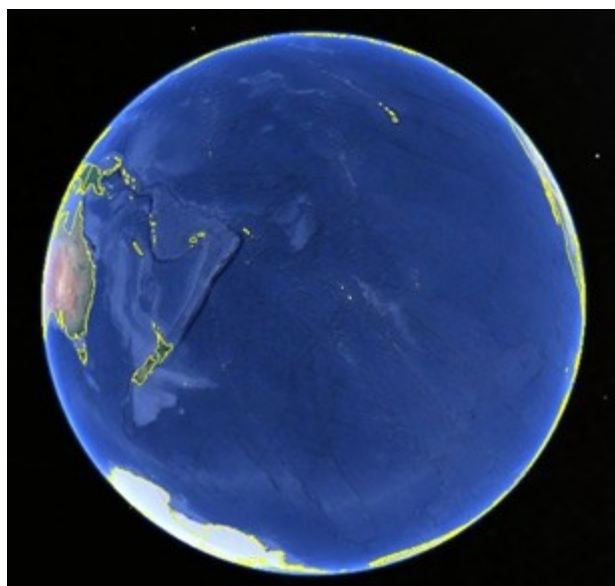
But the question of the Pangaeian tectonic plates is better explained by assuming an egg-shaped world in prehistoric times, without any Earth expansion being needed.

The continental mass of the planet doesn't end up in one place for no reason, it gets **PULLED** into one place by some titanic force of attraction. Basically, the center of Pangaea was sitting on the high point of the egg on an egg-shaped planet. That is the reason for the greater curvature of the Pangaeian tectonic plates; no Earth expansion was required.

Pico Island (Portuguese Azores) is the center of the north Atlantic Bulge and appears to have been the center of the Earth during the Saturnian age.



The side of the Earth opposite Pico Island, as you would expect, is mostly just water, the Pacific void.



That would be the side OPPOSITE the Saturn/Neptune/Mars alignment of course. **Early humans and other aquatic mammals transferring to earth via the kind of water bridge/splash saltation described above would most likely land in those waters.** Vestiges of the ancient symbiotic relationship between humans and other aquatic mammals still show up here and there so that, for instance, we read about dolphins putting themselves into danger breaking up attacks on humans by big sharks. We would assume that in a splash saltation event bringing humans to Earth, dolphins and other aquatic mammals would have assisted humans getting to islands where they could survive, most notably Australia. The “Out of Australia” theory that you read about is compatible with this line of thinking.

The Neptune/Venus Question

A comparison of artwork and iconography from different parts of the ancient near East has convinced Scholars following in the footsteps of Immanuel velikovsky that the Earth was recently part of a linear cosmic alignment involving Saturn, Mars, Earth, and another body, the identity of which involves a bit of a controversy.

Egyptian Shen Bond clasp:

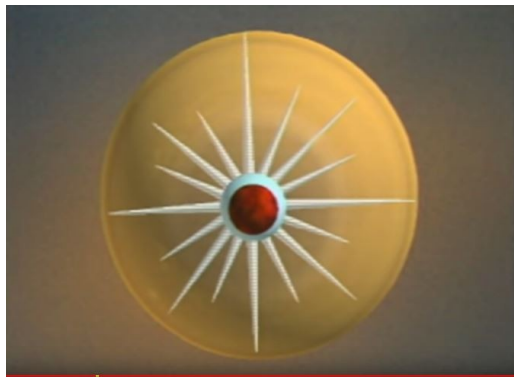


The golden outer rim of the object represents Saturn; the red object is Mars; and the blue object has been assumed by the scholars involved with the Thunderbolts project and the thunderbolts.info website to be Venus. They are assuming that Immanuel velikovsky's claim of Venus having been created via electrical fissioning from Jupiter was in error, i.e. that Venus originated with Saturn and not Jupiter.

Likewise with the common Near Eastern Shamesh glyph:



The Thunderbolts group, from a massive study and cross-referencing of ancient artwork, is convinced that the ancient Saturnian alignment, at least in the recent past, looked like this:



Problems with the identification of the blue body as Venus:

- Neptune has the right axis tilt (28.32 degrees) to have been part of the ancient Saturnian alignment. The axis tilts of outer planets were not known in the late 1970s and early 1980s when David Talbott, Ev Cochrane, and others were putting the Thunderbolts vision of a Saturn theory together.
- Venus' axis tilt is variously given as 177.3 or as 2.64 degrees, depending on whether the writer wants to take the retrograde spin into account. Either way, that is not compatible with Venus ever having been part of the ancient Saturn alignment.
- Jupiter's axis tilt is given as 3.13, less than half a degree from that of that of Venus. Both are basically three degrees off of being perpendicular to the plane of the system. That appears to be a huge argument in favor of Velikovsky's original claim.
- The Thunderbolts group's claim requires believing that Immanuel Velikovsky, probably the most careful scholar any of us have ever been associated with, had made a very large mistake. It

isn't as if this was some kind of an afterthought; IV claimed to have put a great deal of thought into the question and the discussion goes on for a sizable number of pages in *Worlds in Collision*.

- Having Venus spin off of the equatorial region of Jupiter neatly explains the present retrograde spin (think gears) and near zero axis tilt. Those are big anomalies if Venus is thought to derive from Saturn.
- There is a question of time in the picture. Ancient accounts describe Athena/Venus causing problems shortly after its creation. That would not be the case if Venus had spent hundreds or thousands of years in a Saturnian alignment.

There are arguments to be made for the case of the blue body in the ancient artwork having been Venus; nonetheless the questions involving axis tilts and Friar Occam's logical principle appear to be decisive and this work is written as if Venus arose within the Sun/Jupiter system as Velikovsky claimed and the blue body in the ancient artwork and iconography was Neptune.

Part I Earth in Past Ages

Gravity in Past Ages

You cannot start with Einstein's description of gravity as some sort of a 4-dimensional differential geometry thing and believe that it could have undergone a 3-1 or greater change on our own planet in recent times. But it is an easy demonstration that it has. If you can rule out the possibility that the huge change in gravity over recent times is due to any sort of expansion of the mass of the planet, then this becomes a proof that something like Ralph Sansbury's description of gravity as a polarized electrostatic effect is actually needed.



*Argentinosaurus, from Wikipedia article (human in lower left corner of photo):
http://en.wikipedia.org/wiki/File:Argentinosaurus_DSC_2943.jpg*

Brachiosaurids and Diplodocids (Seismosaur/Ultrasaur)



These are the two basic kinds of large (sauropod) dinosaurs. Generally, the brachiosaurids were more heavily built and held their necks upwards; the diplodocids were more gracile and held their necks outwards. In our present gravity, neither would escape insurmountable problems involving their necks. The brachiosaurids would experience gigantic problems involving blood pressure while the diplodocids would experience giant problems involving torque.

Brachiosaurid neck problems involve blood pressure

Christopher McGowan mentions¹ the fact that a giraffe's blood pressure, at 200 - 300 mm Hg, far higher than that of any other animal, would probably rupture the vascular system of any other animal. This pressure is maintained by thick arterial walls and by a very tight skin, which apparently acts like a jet pilot's pressure suit. A giraffe's head might reach to 20'. How a sauropod might have gotten blood to its brain at 50' or 60' is the real question.

Two articles that mention this problem appeared in the 12/91 issue of Natural History. Harvey B. Lillywhite of Univ. Fla., Gainesville, noted:

"...in a Barosaurus with its head held high, the heart had to work against a gravitational pressure of about 590 mm of mercury (Hg). In order for the heart to eject blood into the arteries of the neck, its pressure must exceed that of the blood pushing against the opposite side of the outflow valve. Moreover, some additional pressure would have been needed to overcome the resistance of smaller vessels within the head for blood flow to meet the requirements for brain and facial tissues. Therefore, hearts of Barosaurus must have generated pressures at least six times greater than those of humans and three to four times greater than those of giraffes."²

In the same issue of Natural History, Peter Dodson noted:

"Brachiosaurus was built like a giraffe and may have fed like one. But most sauropods were built quite differently. At the base of the neck, a sauropod's vertebral spines unlike those of a giraffe, were weak and low and did not provide leverage for the muscles required to elevate the head in a high position. Furthermore, the blood pressure required to pump blood up to the brain,

¹ Christopher McGowan, "DINOSAURS, SPITFIRES, & SEA DRAGONS", Harvard, 1991 pp 101 - 120

² Natural History, December 1991: "Sauropods and Gravity", Harvey B. Lillywhite

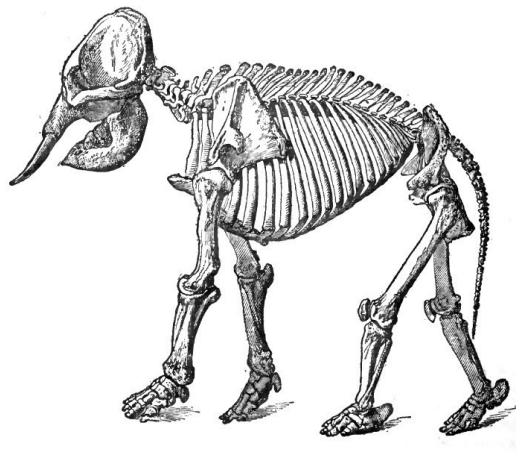
thirty or more feet in the air, would have placed extraordinary demands on the heart **and would seemingly have placed the animal at severe risk of a stroke, an aneurysm, or some other circulatory disaster.**

Not an obvious formula for ruling the Earth for tens of millions of years...

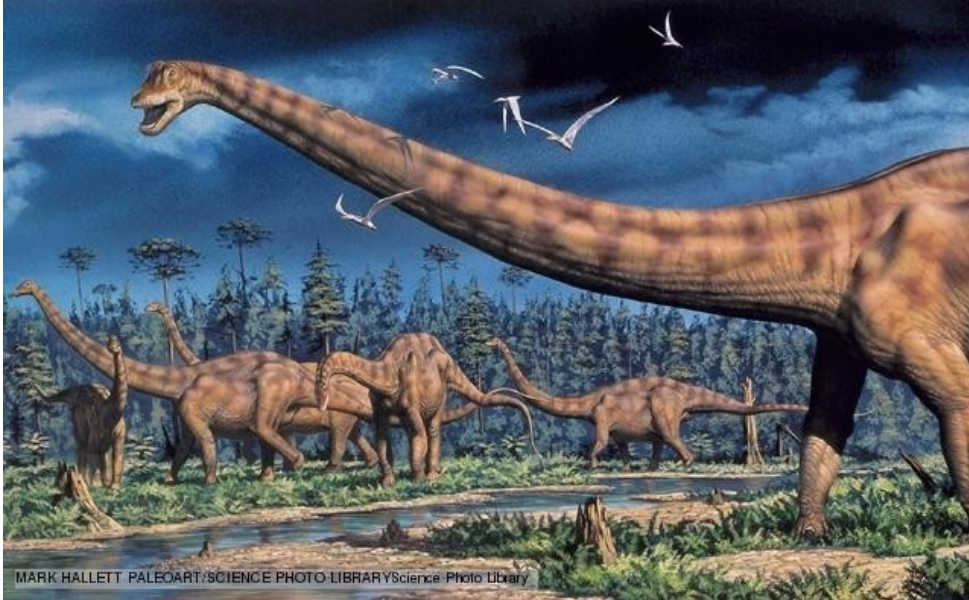
Diplodocid neck problems would involve torque

The Seismosaur and other larger diplodocids, judging by remains, had body lengths of as much as 150' or thereabouts, and we have to assume that fifty or sixty feet of that would have been their necks. It is not difficult to picture such a creature's neck weighing 30,000 – 60,000 lbs and if the center of mass of that neck were to be even 10 – 20 feet out from the shoulders, you'd be talking about having to hold 300,000 – 600,000 or more foot-pounds of torque with structures made of bone and ligaments, which is totally insane. No building inspector in the world could be bribed sufficiently to allow anybody to hang that much torque off into space with no supporting structure.

Nor is there any example of such a thing in our present living world. An elephant's spine, unlike the spines of other land animals, curves **UPWARDS** and his legs serve as columns so that what you observe is the basic component system of Roman architecture, columns and arches. The heck is short enough to be held in place by ligaments in a believable fashion.



Diplodocus and his neck



In the case of diplodocids, the arch of the neck goes the wrong way and there is no supporting structure. In present gravity, the creature would not be able to get his neck off the ground.

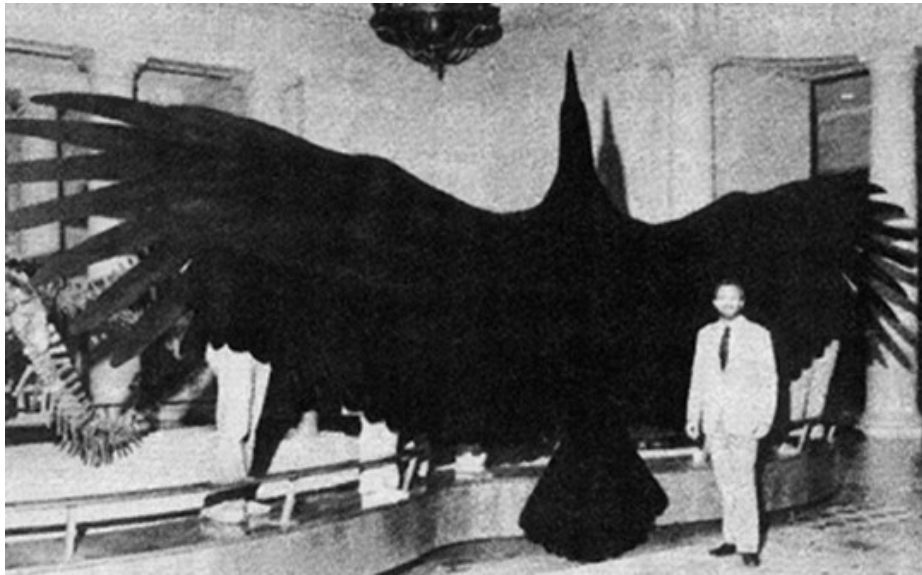
Prehistoric Flying Creatures

Heaviest today:	Berkut	25 lbs (Sam Barnes)
	Albatross	22 lbs (NatGeo)
	Bustard	40 lbs (Wiki)

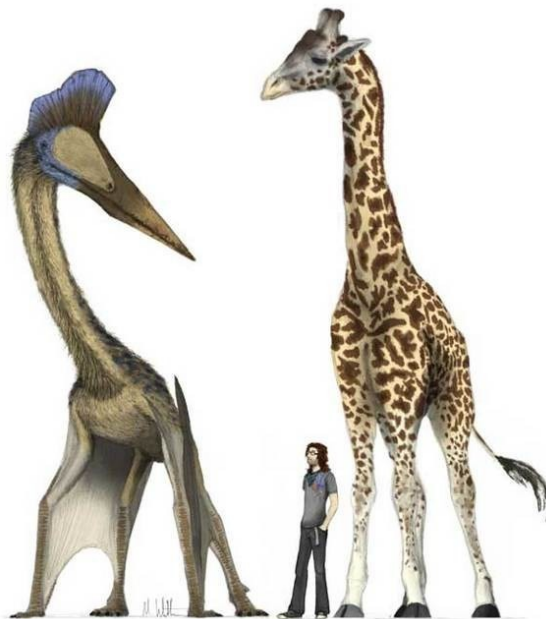
Bustards of course don't fly for any distance in our present world; the limit for creatures that actually fly seems to be around 25 lbs. In birds noticeably heavier than that (ostrich, cassowary...), the wings are vestigial.

In past ages however, creatures much heavier than that flew.

Teratorn:



Pterosaur:



Why Are Today's Limits So Much Lower?

Or you could ask the question this way: If dinosaur sizes were such a winning ticket for creatures which supposedly dominated the Earth for tens of millions of years, then in the 65 million years which supposedly intervene between their age and ours, why has nothing else ever **RE-EVOLVED** into such sizes? Or could it be that such sizes are no longer even possible?

Square/Cube Phenomena

The answer to all such questions concerning size ratios involves what we call square/cube phenomena, that is, ratios of volume or weight (which is proportional to volume) to some measure of strength or efficiency that is proportional to surface area, body cross section, or some other squared figure.

Did you ever wonder why it was always the littlest kid in your class in school who could do the most pushups and pull-ups, or why you never see 200-lb athletes competing in gymnastics? Same basic idea in play.

Weight is proportional to volume, which is a cubed figure (width times breadth times height) while strength is proportional to cross section of bone and muscle, which is a squared figure. Double your physical dimensions, and you have a factor of two that gets figured three times for volume and weight (you'll be eight times heavier), while it only gets figured twice for cross section and strength (and you'll only be four times stronger). You'll have cut your power/weight ratio in half. Clearly you can only halve your power/weight ratio so many times and still stand up and walk.

What is the Absolute Limit for Modern Animals?

An analysis of dinosaur lifting requirements involves a comparison to human lifting capabilities. One objection that might be raised to this would be to claim that animal muscle tissue was somehow "better" than that of humans. This, however, is known not to be the case:

"It appears that the maximum force or stress that can be exerted by any muscle is inherent in the structure of the muscle filaments. The maximum force is roughly 4 to 4 kgf/cm² cross section of muscle (300 - 400 kN/m²). This force is body-size independent and is the same for mouse and elephant muscle. The reason for this uniformity is that the dimensions of the thick and thin muscle filaments, and also the number of cross-bridges between them are the same. In fact the structure of mouse muscle and elephant muscle is so similar that a microscopist would have difficulty identifying them except for a larger number of mitochondria in the smaller animal. This uniformity in maximum force holds not only for higher vertebrates, but for many other organisms, including at least some, but not all invertebrates."³

Another objection might be that sauropods were aquatic creatures. Nobody believes that anymore; they had no adaptation for aquatic life. Their teeth show wear and tear from eating branches and leaves; you wouldn't get that from eating soft aquatic vegetation. Tracks show them walking on land with no difficulty. They would have needed snow-shoe-like feet to walk on river or lake bottoms.

A final objection would be that dinosaurs were somehow more "efficient" than top human athletes, or that they somehow had better "leverage." Superposed images of sauropods and power lifters at roughly equalweight sizes show the sauropods' legs to be puny compared to the

³ Knut Nielson's, "Scaling, Why is Animal size So Important", Cambridge Univ Press, 1984, page 163

human athletes'. That is not surprising, since a sauropod's body was mostly digestive system (for processing leaves and vegetation), while a human athlete's body is mostly muscle. The better-leverage argument would require the sauropod to be a spectacularly knob-kneed sort of a creature with knees and other joints wider than those of the human athletes, even though the rest of their legs were spindly by contrast. Juxtaposed images of human weightlifters and sauropod dinosaurs at roughly equal sizes do not support this idea.

The basic reality is that a quadruped herbivore whose body is dominated by digestive apparatus is not going to be stronger on a per-pound basis than a top human weight-lifter. A mathematical size limit for the one will serve as an upper bound for the other as well.

What is the limit for top human lifters like Bill Kazmaier or Benedikt Magnusson ?

The sport of power lifting involves the three most difficult lifts i.e. bench-press, squat, and deadlift. For the purposes of our study, we will use Magnusson's 1016-lb deadlift at an assumed weight of 379 lbs as a basis of comparison.

We will also use 2/3 power of body weight as a scaling factor. Dividing through by 2/3 power of weight is the normal scaling factor for comparing lifts by the champions of different weight divisions in all lifting sports. 2/3 power of body weight is a general average of body cross section.

The question we want to ask is, at what weight does just standing up require the same level of effort as that that 1016-lb dead lift for Benedikt Magnusson? How large can we scale him before he ceases to be functional due to this square/cube problem which we are talking about?

In other words, we want to set up an equation. On one side is Magnusson at his present weight doing a dead lift with 1016 lbs on a bar and on the other side is Magnusson just standing and lifting his own weight at the last point at which that is possible.

$$1379/379^{2/3} = x/x^{2/3} = \text{cube root of } x$$

Or $X = 18258$.

Somewhere around 18,000 – 20,000 lbs would be a rough mathematical size limit for the present world and that squares pretty well with our observation that the largest elephants which anybody knows anything about are around 14,000 – 16000 lbs.

How much attenuation would be needed for the ultrasaur?

From physics, weight = mg, or mass times the acceleration of gravity at the Earth's surface. We assume that the Smithsonian elephant at 16,000 lbs. is ballpark for the heaviest creature our world will support today and also that the ultrasaur, for which Christopher McGowen gives a 360,000-lb weight figure⁴ (I believe that original volumetric calculation was correct) was the heaviest or near the heaviest of their world. We also assume that the level of effort for the sauropod to stand in his world cannot have been more than it is for the elephant in ours. Using our athletic scaling factor again, we use **gd** for gravity-dinosaur, **ge** for gravity-elephant, **md** for mass-dinosaur, **me** for mass-elephant, and note that:

$$(\mathbf{md} * \mathbf{gd})/\mathbf{md}^{.67} = (\mathbf{me} * \mathbf{ge})/\mathbf{me}^{.67} \text{ (scaled lifts for standing are equal)}$$

$$\mathbf{gd} * \mathbf{md}^{1/3} = \mathbf{ge} * \mathbf{me}^{1/3} \quad \mathbf{ge} = \mathbf{gd} * (\mathbf{md}/\mathbf{me})^{1/3} = \mathbf{gd} * \text{cube root of } 360/16$$

or the elephant's gravity (ours) has to be at least 2.8231 that of the dinosaur

In other words, *it would take almost a three to one attenuation of the acceleration due to gravity in order for the largest dinosaurs to function.*

Expanding Earth Theories?

Now, the only possible way to try to square that result with standard ideas about gravity would be to try to claim that dinosaurs died out 65M years ago and that the Earth has somehow or other gained that much mass since then. Here are a few of the things which are wrong with that:

There are four categories of evidence which form a big-picture of the reality involving dinosaurs:

- Soft tissue increasingly being found in dinosaur remains.
- Radiocarbon dates of 20,000 - approx. 40,000 years being obtained for dinosaur remains⁵.
- Easily recognizable images of known dinosaur types turning up in American Indian petroglyphs.
- American Indian oral traditions which speak of Indian ancestors dealing with dinosaurs.

⁴ Ibid, page 118

⁵<https://kgov.com/dinosaur-soft-tissue-original-biological-material>

Obviously cutting the main age of dinosaurs down to some 20,000 - 50,000 years ago does not leave time for much in the way of evolutionary (or expanding Earth) schemes.

What all that indicates is that promoters of expanding Earth theories need to explain how the earth could have expanded enough to produce a threefold increase in gravity over a space of no more than a few thousand years.

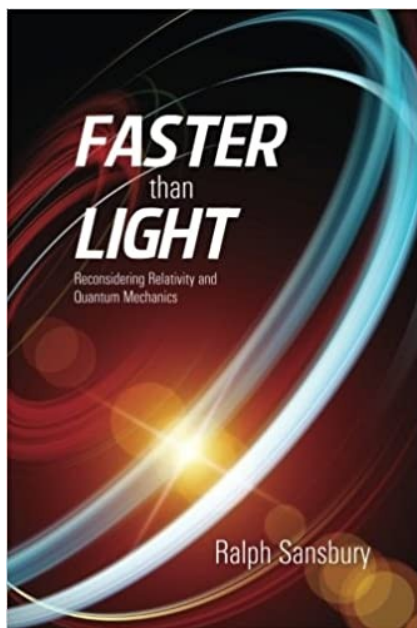
As mentioned above, the other reason for Expanding-Earth theories has to do with the tectonic plates of the ancient super-continent and that phenomenon is better explained by Saturn theory and the tidal pull of the ancient Saturn alignment.

The basic reality is that you need a better explanation for the prehistoric attenuation of gravity; expanding Earth theories won't do it.

What exactly IS gravity

Ralph Sansbury is the author of the theory of gravity that Wal Thornhill and the Thunderbolts group subscribe to; we also recommend this theory:

<https://www.amazon.com/Faster-Than-Light-Relativity-Reconsidered/dp/1477584587>



The book involves a claim/demonstration that electrons, far from being point particles or anything like that, are actually small orbital systems of their own. In this scheme, an electron consists of at least two sub particles, a central particle and an orbiting particle which Sansbury called a "subtron", the computed necessary speed of which would get you from here to the far side of Andromeda in a second or two.

These tiny orbital systems (electrons) are normally spherical and do not represent dipoles but when subjected to ordinary kinds of forces they can get stretched into ellipsoids which in fact DO represent dipoles and if the force in question orients ALL of those dipoles in some physical object, a wire, say, or a planet, in some particular way, then these polarized dipoles generate measurable effects. Thus a voltage across a copper wire will produce a stream of such dipoles aligned in the direction of the wire and an electrostatic field transverse to the current's direction and, of course the field reverses when the current is reversed.

In the case of gravity you have something VERY strange sitting there. The ordinary centrifugal/centripetal forces created by the several kinds of spin forces that the planet experiences are pulling the sub-atomic particles of the planet into a system of "RADIALLY-ALIGNED" dipoles and the electrostatic forces that creates integrate into what we call gravity.

The claim implies that if you were to somehow manage to move our Earth into intergalactic space and stop all of its spinning and orbiting motions, it would have no gravity. You could float up to it, touch it, and float away.

The idea of gravity being created by spin is so far from anything any of us have ever been taught about gravity that we instinctively reject it at first; it's like being whapped across the face with a wet fish; getting your head around the idea is hard and you have to think about it. If you tell somebody that gravity is created by spin, the first thing most people are going to think of is something the size of a baseball or a basketball and if you spin something like that at the Earth's ANGULAR velocity, it won't do much. You have to either make the thing you're spinning very much larger (a planet) or spin it very much faster (a gyroscope) for the effect to become noticeable.

In fact gyroscopic force appears to be a first cousin to gravity, generated pretty much the same way. Wall Thornhill has mentioned experiments involving gyroscopes which many scientists don't seem to want to touch and seem to view as disruptive technology. Similar take on same thing:

<https://www.youtube.com/watch?v=GeyDf4ooPdo>



This involves a 40-lb/19-kg flywheel on bearings at the end of a meter-long shaft. Neither the nerd (shown) nor one of the university's serious athletes can hold the thing outwards from the end opposite the flywheel. Nonetheless, when they spin the thing up to several thousand rpm with a high-power drill, not only does that task become easy, but even the nerd can even hold the thing overhead with just the one hand on the end opposite the wheel.



The obvious follow-on experiment of conducting the exercise with the nerd standing on a scale is not attempted, almost certainly due to fear for the university's reputation...

Ralph Sansbury mentions gyroscopes only on one page in his book but that one page is interesting. He notes that a number of similar phenomena appear to work the same way and he mentions curve and sinker balls in baseball, something many have wondered about.

Granted a tennis ball is fuzzy enough you might could picture it biting into the air and turning, but a baseball is pretty smooth. People say that the seams of a baseball are biting into the air but that seems pretty lame given the large effect of curves, sliders, sinkers. For that matter, a ping-pong ball is totally smooth and still does the same thing when spin is imparted to it and standard explanations for that are pretty lame if in evidence at all.

Antediluvian Lifespans

Ever wonder about that question? From Genesis:

GEN 5:4 And the days of Adam after he had begotten Seth were eight hundred years: and he begat sons and daughters:

GEN 5:5 And all the days that Adam lived were nine hundred and thirty years: and he died.

GEN 5:6 And Seth lived an hundred and five years, and begat Enos:

GEN 5:7 And Seth lived after he begat Enos eight hundred and seven years, and begat sons and daughters:

GEN 5:8 And all the days of Seth were nine hundred and twelve years: and he died.....

And so on and so forth... Now, the flood at the time of Noah and the events surrounding it (the final capture of the southern part of the system) radically changed the entire order of the solar system so that there is no way to really know what a word like “year” would have meant prior to the flood. Nonetheless, we don’t **NEED** to know that. What we can see easily enough is that the **RATIOS** were different. That is, in our present world, humans mature at around 20 and, if all goes well, live to about 80; the ratio of maturity to lifespan is something like 1 - 4.

For people living to 70 or 100 of whatever they viewed as years, marrying and having first children, and then living another 800 (of their) years or thereabouts, that ratio would be more like 1 – 9 or 1 - 12 or thereabouts. Regardless of what antediluvians considered to be years, they were living substantially longer than we do.

There was probably more than one factor involved in that, but the most major factor was stress. Stress on the bones of land animals eventually causes arthritis, and arthritis is the thing that eventually kills off creatures which other things haven’t killed off beyond some point. And the main source of stress on land animals is gravity. That is, the same antediluvian attenuation of gravity that allowed large dinosaurs to exist, was also responsible for the antediluvian lifespans.

Sudden Saltations

The main characteristic of the fossil record is the combination of stasis and sudden change. Long periods go by during which our biosphere doesn't appear to change more than the tiniest bit and then, out of the blue, you see wholesale changes. Immanuel Velikovsky spoke of "catastrophic evolution" and believed that the great catastrophes which have occurred in the past had created mutations in sufficient number to overcome the probabilistic odds against Darwinian evolution. He described the changes in our biosphere which occur at such points in time as being similar to the transition from one act to the next in a play or an opera in which a curtain rises and an entire new background scene and cast of characters comes into view. The idea of associating catastrophes with biosphere changes was reasonable enough; the idea of defeating the probabilistic odds against evolution via mutation was problematical, you would still be needing vast numbers of probabilistic miracles.

The cover of the December 4, 1995 issue of Time Magazine showed an anomalocaris and the heading, "Evolution's Big Bang":



Talking about a "Big Bang" of evolution of course is like talking about the big sex orgy of chastity; in other words, Time was working on an ultimate oxymoron. What they were talking about of course was the [Cambrian Explosion](#), or the start point for complex life forms on this planet. It is said that if the history of this planet were represented as a 24-hour clock, then in all the time from zero to 2100 hours, the planet saw only sponges and other very simple life forms. And then, in a space of time too short to do anything other than guess about and which is often given as something like ten million years (a quasi-official guess), most or all of the present animal phyla, or basic kinds, appeared from out of the blue.

Not only is there no version of evolution which would account for anything like that... no religion accounts for that either. There is no rational way to picture God operating in such a manner. It doesn't even matter whose time theory you subscribe to, whether you buy the evolutionists' notion of a 4 billion year planetary history or the 6000 year history which Christians used to believe in, or anything in between, the whole thing is bewildering.

There are two things which could account for such phenomena: separate saltation via creative act, and what we shall term "splash saltation".

What the idea of a splash saltation would amount to would be another planet which already had complex life forms getting too close to Earth, and water and creatures in it being ripped off the other body, landing in water on this planet, and either taking up residence in that water or walking, crawling, or slithering ashore. Now, obviously in our solar system the way it presently exists, there is nothing like that which anybody could picture ever having happened. But what about the past? Could an electrical water bridge such as we described above have carried humans and other aquatic mammals from Ganymede (which we claim to have been the original home world for humans and aquatic mammals within our system) to earth under conditions which prevailed some tens of thousands of years ago?

Dinosaurs

There are a few things to note about dinosaurs which are substantially different from what you might have learned in school:

- As we have described, dinosaurs never experienced gravity to the extent that we do; a large dinosaur would be crushed by his own weight in our present world.

- Dinosaurs lived during the “Purple Dawn” age. That explains the huge dark-world eyes and it may explain how the planet produced enough food to support such creatures. Our present plant-life system probably couldn’t.
- The thing that we’ve heard all our lives about dinosaurs having died out several tens of millions of years ago, is entirely wrong.

Lights used for growing plants indoors are invariably purple; there are advantages to that and you should probably assume that Earth under Purple Dawn conditions would have had advantages over the present biosphere at sustaining giant herbivores.

There are three kinds of evidence we need to take a look at when seeking a better idea of the antiquity of dinosaurs:

- Soft tissue being found in dinosaur remains since around 2006, and
- Easily recognizable images of known dinosaur types found in ancient artwork and petroglyphs.
- Descriptions of dinosaurs in literature and oral traditions.

Soft tissue in dinosaur remains began turning up around 2006 and has kept on turning up, This stuff includes proteins, collagen, blood vessels, hemoglobin, skin cells and various things, none of which could plausibly last as long as 100,000 years. Any sort of a Google search on "dinosaur soft tissue" will turn up as much of this stuff as you want, including claims by evolutionists that the stuff has somehow or other actually survived for 65,000,000 years, but that's basically grasping at straws.

Dinosaur Soft Tissue is Original Biological Material | Bob Enyart Live:

<http://kgov.com/dinosaur-soft-tissue>

Blind radiocarbon tests involving the dating center at the University of Georgia:

<http://www.newgeology.us/presentation32.html>

The links on that one are all good, particularly the little video:

https://www.youtube.com/watch?feature=player_embedded&v=zyWdWbLcJvQ

Nothing any older than about 60,000 years will radiocarbon date at all. The half-life of Carbon 14 is around 5700 years and past 60,000 years, there simply shouldn't be any which is detectable.

<http://en.wikipedia.org/wiki/Carbon-14>

Art and Petroglyphs

“Mishipishu” (the stegosaur)



Sauropod Glyph, Kachina Bridge, Natural Bridges Utah



Nobody puts humans in North America any more than around 15,000 years back. Again, that says that an expanding Earth would need to explain a 2.8 – 1 increase in gravity within the last 15,000 years and probably within the last 3000. Lewis and Clark noted their guides being in mortal terror of those Mishipishu glyphs along the Mississippi.

Vine Deloria was probably the best known of all native American. He was a president of the National Council of American Indians, and several of his books, including the familiar "Custer Died for Your Sins", are standard university texts on Indian affairs.

One of Vine's books, "Red Earth, White Lies", is a book about catastrophism and about the great North American megafauna extinctions which occurred around 12000 years ago (using conventional dating). In this book, Vine utterly destroys the standard "overkill" and "blitzkrieg" hypotheses which are used to explain these die-outs.

Vine informed us that "Red Earth, White Lies" is one of several books which arise from decades of research including conversations with nearly every story-teller and keeper of oral traditions from Alaska down to Central and South America. He claimed that, if there was one thing which used to completely floor him early on in this research, it was the extent to which most of these tribes retain oral traditions of Indians having to deal not only with pleistocene megafauna, but with dinosaurs as well. In "Red Earth, White Lies", he notes (pages 242-243) that:

“Indians generally speak with a precise and literal imagery. As a rule, when trying to identify creatures of the old stories, they say they are "like" familiar neighborhood animals, but then carefully differentiate the perceived differences. I have found that if the animal being described was in any way comparable to modern animals, that similarity would be pointed out; the word "monster" would not be used.

Only in instances where the creature bears no resemblance to anything we know today will it be described as a monster. Since no dinosaur shape resembles any modern animal, and since the reports are to be given literal credibility I must suggest that we are identifying a dinosaur. Thus, in the story of large animals at Pomme de Terre prairie in southwestern Missouri, a variant of the story suggests that the western animals were megafauna and the creatures who crossed the Mississippi and Missouri Rivers and invaded the lands of the megafauna were dinosaurs. The dinosaurs thus easily displace the familiar, perhaps Pleistocene, megafauna and move west, where we find their remains in the Rocky Mountains today

In numerous places in the Great Lakes are found pictographs of a creature who has been described in the English translation as the "water panther" This animal has a saw-toothed back and a benign, catlike face in many of the carvings. Various deeds are attributed to this panther, and it seems likely that the pictographs of this creature which are frequently carved near streams and lakes are a warning to others that a water panther inhabits that body of water. The Sioux have a tale about such a monster in the Missouri River. According to reports, the monster had ". . . red hair all over its body . . . and its body was shaped like that of a buffalo. It had one eye and in the middle of its forehead was one horn. Its backbone was just like a cross- cut saw; it was flat and notched like a saw or cogwheel" I suspect that the dinosaur in question here must be a stegosaur.

Ica Stones



Ica Stones amounts to a very large collection of decorated stones and stone fragments which began turning up in Peru in the early 1960s. Many of those items show images of known dinosaur types and some show dinosaurs and humans together. The claim you will see from standard sources is that all such items are fakes and forgeries, but there is a logical problem with that. GRANTED it could easily be that some are fakes; nonetheless the first batch of the things that ever turned up numbered in the thousands, while even creating one of them would entail a great deal of work.

NOBODY goes to that much trouble on pure speculation. In real life, had locals conceived a plan to scam gullible tourists or scientists, they would have produced three or four of the things and THEN, if they managed to sell those, worried about creating larger numbers of them.

Israelite Descriptions of Dinosaurs

The description of the behemoth that you read in the book of Job clearly indicates a large dinosaur. Other creatures described in Midrashic Sources (Reem, Ziz bird etc.) also appear to be descriptions of a handful of left over dinosaurs still walking around at a time prior to the flood. The impression one gets however is that those creatures were viewed as a handful of oddities, while ancestors of Native Americans were having to deal with dinosaurs on a much more regular and common basis.

The largest collection of Midrashic literature that has ever been translated into Western languages is Louis Ginzberg's seven-volume "Legends of the Jews", published in English and German in the early 20th century. The first volume contains descriptions of a number of creatures which are candidates for being left over dinosaurs.

Latest Version of Largest Dinosaur



This one is funny for a couple of reasons. My write up of the square/cube problem and the problem that large sauropod dinosaurs would have with it mentions Christopher McGowan, curator of paleontology at the Royal Ontario Museum and his description of the ultrasaur which, until recently, held the title of largest known dinosaur. The ultrasaur is thought to have been about 100 feet long and McGowan claimed (“Dinosaurs, Spitfires, and Sea Dragons”) that volumetric comparisons with other known sauropods indicated a weight of about 180 tons.

McGowan caught all kinds of grief for that and was forced to revise the figure downwards. That is basically comical. The academic types involved plainly understood they had a problem, but were almost certainly unaware of the Holden demonstration of a present limit of around 20,000 pounds for land animals and assumed that careers could be salvaged by claiming a weight of 60,000 or 70,000 pounds or whatever.

But it gets even funnier. This new animal appears to have been larger than the ultrasaur, presumably around 110 feet long and they are claiming an average weight of 173 tons which is probably low, but puts the creature at least in the ballpark for weight that McGowan was claiming for the ultrasaur originally.

<https://www.ngenespanol.com/animales/una-nueva-especie-de-dinosaurio-en-argentina/>

Article in Spanish, feed the url into translate.google.com for other languages.

“Found in Argentine territory, recently the remains of a dinosaur of **dimensions never seen before** were unearthed . Not even the ***Patagotitan*** , which had held the title for years, can compete with the dimensions of the new specimen.

The collection of fossil remains was found in the province of Neuquén, located in Patagonia. After some time of observation, the scientists in charge of the study determined that it belonged to the **sauropod** family, the same to which *Patagotitan* belongs . This species was characterized by **remarkably long necks and tails** , with **pillar-shaped legs** .

Unlike its congeners, **this new species of titanosaur reached about 33.5 meters, with an average weight of 173 tons** . It received its name in honor of the powerful deities of Greek mythology, who wanted to storm Olympus in ancient times.”

Notice the word “average”. A really big one might have been noticeably heavier than that...

The Neanderthal, Apex Creature of Dark Worlds

From the Wikipedia article on Neanderthal 1ⁱ

Feldhofer 1, or **Neanderthal 1** is the scientific name of the 40,000-year-old [type specimen fossil](#) of the species [Homo neanderthalensis](#),^[1] found in August 1856 in a [German](#) cave, the [Kleine Feldhofer Grotte](#) in the [Neandertal](#) valley, 13 km (8.1 mi) east of [Düsseldorf](#). In 1864 the [fossil's](#) description was first published in a scientific magazine and officially named.^[2]

However, the find was not the first [Neanderthal](#) fossil discovery. Other Neanderthal fossils had been discovered earlier, but their true nature and significance had not been recognized, and therefore no separate species' name was assigned.^[2]

That Should Raise a couple of questions immediately. What exactly was different in the European intellectual environment of 1856 - 1864, from the environment prior to 1850 or thereabouts? What other kinds of things might have been happening around 1856, and could any of those things have had much of a bearing on the manner in which the Neanderthal discovery was treated in European academia? How would the Neanderthal discovery have been interpreted had it occurred in 1756 or 1656? I would suggest that there are two such things that scholars might wish to take a look at: the second opium war beginning in 1856, and the publication of Darwin’s “Origin of the species” in 1859.

In fact, a scholar from 1756 might easily have assumed that he had stumbled across the remains of a very advanced bipedal (or at least quasi- bipedal) ape with huge eyes, presumably

adapted to some extremely darkish environment. By 1864 however, Darwin's theory had very rapidly attained a substantial level of acceptance amongst Europe's educated classes, and the search for the "missing link" between apes and humans was on. None of these things can be understood terribly well in a vacuum. A reader might wish to ask himself/herself WHY exactly Darwin's theory had risen to prominence as rapidly as it did.

I mentioned the second opium war which began the same year as the discovery of Feldhofer 1. Nobody should have any difficulty comprehending that for a supposedly Christian nation like England to be engaging in that sort of business must have created big problems for the rulers of the British Empire and the East India Company. Charles Darwin had basically walked into the room and told those people to stop worrying, that the "survival of the fittest" was the only moral law in nature.

At any rate, beginning with Feldhofer 1, the Neanderthal quickly came to be viewed as a human ancestor rather than as an advanced ape. Nonetheless, scholars of the late 19th century had a fairly reasonable idea of what they were seeing. Hence Ignatius Donnelly's description:

Ignatius Donnelly ("Ragnarok, the Age of Fire and Gravel")ⁱⁱ

In another cave, in the Neanderthal, near Hochdale, between Düsseldorf and Elberfeld, a skull was found which is the most ape-like of all known human crania. The male to whom it belonged **must have been a barbarian brute of the rudest possible type**.... ..the horrible and beast-like proportions of "the Neanderthal skull" speak, with no less certainty, of undeveloped, brutal, savage man, only a little above the gorilla in capacity;--a prowler, a robber, a murderer, a cave-dweller, a cannibal, a Cain.

Or Huxley, 1863:

"[The Engis skull] is... a fair average human skull, which might have belonged to a philosopher, or might have contained the thoughtless brains of a savage... The case of the Neanderthal skull is very different. Under whatever aspect... we meet with ape-like characters, stamping it as the most pithecoïd of human crania yet discovered"

Or the images popularized by Marcellin Bouleⁱⁱⁱ



DNA Analysis.

Feldhofer 1 was also involved in the first analysis of Neanderthal DNA. Analyses of Neanderthal mitochondrial DNA were published in 1997; Svante Paabo of the Max Planck Institute described Neanderthal DNA is roughly halfway between humans and that of a chimpanzee at the time. Neanderthal nuclear DNA analyzed in 2006 was described as being closer to that of the chimpanzee^{iv}.

“No contribution^v”

From the enriched dataset, the researchers calculated that humans and Neanderthals diverged approximately 400,000 years ago. And the new data promise to reveal more about the genetic basis of differences between humans and Neanderthals – differences that presumably resulted in the success of modern humans as a species – the researchers say.

“This is a hint of exciting things to come as more Neanderthal sequence is produced,” says David Haussler at the University of California, Santa Cruz, US.

The researchers say the findings strengthen the argument that Neanderthals did not contribute substantially to the modern human genome. “Were there Neanderthals in our lineage? All of the genetics seems to be going in the direction that there weren’t,” says Richard Potts, head of the Smithsonian Institution’s Human Origins Program in Washington DC, US.”

All of that cleanly eliminated the Neanderthal as a plausible human ancestor, and it is at this point that the picture takes an unusual turn. The claim that you read now is that humans and Neanderthals are “COUSINS” with a common ancestor a few hundred thousand years ago, which is generally taken to be Heidelbergensis. The problem is that “too genetically remote to be ancestral to” is a transitive relationship. The claim is similar to claiming that wolves are too genetically remote from foxes to be ancestral to them and that, therefore, foxes must be descended directly from fish.

You have to start by asking yourself what you would expect a creature with DNA slightly closer to that of a chimpanzee than to ours to look like. Again, scholars of the late 19th century appear to have had reasonable ideas as to what Neanderthals would have looked like but, more recently, the study of human origins appears to have been hijacked, and the Neanderthal appears to have been recruited as a poster child for a kind of a Kumbaya pseudo-religion of sorts. As New Zealand scholar Danny Vendramini notes, nearly all of the images that we see in science journals and popular media today show Neanderthals as slightly different humans, which is totally wrong:

Recent Reconstructions and images.

Jay Matternes’ reconstruction and image from a Guardian article:



Present state of knowledge.

The following is more or less what we actually know about the Neanderthal:

- Neanderthal DNA was roughly halfway between ours and that of a chimpanzee.
- His skull was a very good match for an ape's profile, and a bad match for one of ours (Vendramini):



- No Neanderthal needles (Cro-Magnon needles are common); a creature with a 6" fur coat simply doesn't require needles.
- Rib cages were conical as are those of primates (to make room for the gigantic upper body musculature); our rib cages are cylindrical.
- Eye sockets and nasal areas much larger than ours.
- Placement of noses and eyes on faces much different (higher) than for humans.
- Neanderthal faces were prognathic rather than flat like ours. This was generally the case with all hominids.
- The Neanderthal brain, slightly larger than ours, was nonetheless dominated by the areas of the brain associated with vision and motion^{vi}. This, combined with the huge dark-world eyes, tells us that the Neanderthal brain was to a large extent the neurophysiological equivalent of the circuitry for a military night vision system. In fact, the Neanderthal was reasonably intelligent, having fire, stone spear points, and the means of binding those points to shafts, but he was not inventive the way modern humans are. And inventive creature, faced for the first time with an adversary who used projectile weapons, would have invented wicker shields pretty quickly.
- We know that the mindset of the Neanderthal was similar to that of an African lion. He viewed the living world as neatly divided into two categories: his own family group and meat. Even other Neanderthal families were on the menu, and they find the remains of Neanderthal groups with clear butchering marks made by flint knives^{vii}.
- We know that Neanderthal population dynamics were similar to those of other predators, and that there were never any huge numbers of Neanderthals alive on the planet at any one time.
- We know that the Neanderthal could adapt to an omnivorous diet when it was available but that, in the setting of the European ice age, he was for all intents and purposes a pure carnivore.

Neanderthal brains focused on vision and movement leaving less room for social networking^{viii}

March 19, 2013, University of Oxford, *Summary*:

“Neanderthal brains were adapted to allow them to see better and maintain larger bodies, according to new research. Although Neanderthals' brains were similar in size to their contemporary modern human counterparts, fresh analysis of fossil data suggests that their brain structure was rather different. Results imply that larger areas of the Neanderthal brain, compared to the modern human brain, were given over to vision and movement and this left less room for the higher level thinking required to form large social groups.”

Prognathic Faces

Notice that when you see images of juxtaposed human and Neanderthal skulls, the Neanderthal skull is most often shown looking down at his feet so as to make the Neanderthal appear as if he had a flat face like one of ours.



Note however that if you rotate the Neanderthal skull upward sufficiently to make the line of his teeth horizontal as is the line of the human teeth, the Neanderthal is seen to be prognathic, i.e. to have a snout just like any other land animal native to Earth.



Realistic images.

Rob Gargett (“subversive archaeologist”) notes that, even if you try to draw a completely anthropomorphised Neanderthal with the eyes and nose as large as the bones indicate that they would have to be, what you end up with is still outlandish:



Danny Vendramini's reconstructions match pretty much everything on the little list above and, as you might expect, come a bit closer to the reconstructions of the late 19th century:





I have two minor quibbles with those images. Danny Vendramini assumes present cosmic conditions in past ages, that the Neanderthal was diurnal, and that the eyes need to be drawn with slit pupils like those of a house cat. The reality turns out to be that hominids and other creatures of the so-called “Purple Dawn” age never saw anything that we would call daylight at all. Then again, Vendramini’s artist has a penchant for drawing his subjects with fight faces, and it is difficult to picture a predator ever showing a face like that to a prey animal. We have one very good artist, Jill Holod, in the Neanderthal Realities group on Facebook and I asked her to try to draw a Neanderthal with a more businesslike look about him... What she came up with is quite good:



That image also matches our little list of requirements, but without the psychotic look.

Neanderthal and other hominid communication capabilities

Articles purporting to describe manners in which neanderthals and other hominids might have communicated using spoken languages similar to human speech are misguided. Human

speech depends upon voluntary control over breathing. That is basically an aquatic adaptation, useful for swimming underwater; humans have that and take it for granted but monkeys and apes don't and it is highly unlikely that hominids would have.

That brings up a big question: what exactly would Neanderthals have done for communication? You might think the deaf signs would be one possibility. Chimpanzees and gorillas, lacking voluntary control over breathing, have nonetheless been taught to sign and, in fact, one of those gorillas on two or three occasions and just for the sake of curiosity to see what would happen, has taken human IQ tests and achieved scores of 75 - 90. Signing, nevertheless, is only good within a short distance and not around corners; in theory at least you would like to have something better than that.

There is no shortage of strange stories in the Bible and other ancient literature. Two of the strangest if not THE 2 strangest such stories in the Old Testament are the stories of the flood and the Tower of Babel. The story of the Tower of Babel, properly interpreted, does not indicate that humans all spoke a single human language similar to the languages we use today prior to that time. It indicates that Communications amongst both humans and other reasonably intelligent creatures prior to that time had been basically telepathic and that the ability of the planet itself to support that kind of thing was lost at the time of the tower's collapse.

Thus, the story of the serpent in the garden is presented without any kind of explanation, as if everybody knows that women can talk to snakes...

The neanderthal, while highly unlikely to have been capable of spoken speech, would almost certainly have been capable of using the telepathic capability that was common prior to the flood and the fall of the Tower.

My own take on that kind of thing:

<https://youtu.be/XYv5rB62qHk>

Descriptions of hominids in literature and oral traditions

As far as is known, there is only one reference to hominids in Jewish literature which occurs in the writings of Flavius Josephas, a Jewish historian writing for Roman audiences about a century after Christ and the giant hominids he describes were likely distant relatives of the

Neanderthals (which were not giants):

AN. 1487.]

ANTIQUITIES OF THE JEWS.

135

lower city, which was not under a considerable time, they slew all the inhabitants. But the upper city was not to be taken without great difficulty, through the strength of its walls and the nature of the place.

For this reason they removed their camp to Hebron; and when they had taken it, they slew all the inhabitants. **There were till then left the race of giants**;* who had bodies so large, and countenances so entirely different from other men, that they were surprising to the sight, and terrible to the hearing. The bones of these men are shown to this very day, unlike to any credible relations of other men. Now they gave this city to the Levites, as an extraordinary reward, with the suburbs of two thousand cubits. But the land thereto belonging they gave as a free gift to Caleb, according to the injunctions of Moses. This Caleb was one of the spies which Moses sent into the land of Canaan; they also gave land for habitation to the posterity of Jethro, the Midianite, who was the father-in-law to Moses. For they had left their own country and followed them, and accompanied them in the wilderness.

Now the tribes of Judah and Simeon took the cities which were in the mountainous part of Canaan, as also Ascalon and Ashdod, of those that lay near the sea. But Gaza and Ekron escaped them; for they, lying in a flat country, and having a great number of chariots, sorely galled those

However, the tribe of Ephraim, when they besieged Bethel, made no advance; nor performed any thing worthy of the time they spent, and of the pains they took about that siege. Yet did they persist in it, still sitting down before the city; though they endured great trouble thereby. But, after some time, they caught one of the citizens, that came to them to get necessities; and they gave him some assurances, that if he would deliver up the city, they would preserve him and his kindred. So he swore that, upon those terms, he would put the place into their hands. Accordingly, he was preserved with his family, while the Israelites slew all the other inhabitants, and retained the city for themselves.

After this the Israelites grew effeminate as to fighting any more against their enemies; but applied themselves to the cultivation of the land; which producing great plenty and riches, they neglected the regular disposition of their settlement, and indulged themselves in luxury and pleasures. Nor were they any longer careful to hear the laws that belonged to their political government. Whereupon God was provoked to anger, and put them in mind, first how contrary to his directions they had spared the Canaanites; and, after that, how those Canaanites, as opportunity served, used them very barbarously. But the Israelites, though they were in heaviness at these admonitions from God, yet were they still very unwilling to go to

This description indicates that the giants described were not human. Goliath of Gath on the other hand is described as having spoken a human language and was plainly just a very large human. Both ancient literature and evidence from American burial mounds indicate that there were both human and hominid giants in the recent past. The Neanderthal, of course, although mean and ugly enough, was not a giant and may have been sort of the Eskimo of the late hominid world, powerful but squatty.

The Iliad contains a similar vague reference to what were small numbers of leftover hominids and may in fact have been leftover Neanderthals:

“„These were the strongest generation of earth-born mortals, the strongest, and they fought against the strongest, the **beast men** living within the mountains, and terribly they destroyed them. I was of the company of these men, coming from Pylos, a long way from a distant land, since they had summoned me...”

The "Basajaun"

Given that the Neanderthal made his final European stand in Spain, you'd expect the Spanish Basque, one of the oldest, if not the oldest of human groups in Europe, to remember him . . . and they do. The term "Basajaun" means "forest lord," and the descriptions of these "forest lords" found in traditional literature indicate they were hominids, an observation that entertains the distinct possibility they may have been leftover Neanderthals. Google image searches on "basajaun" turn up pictures that are not that much different from Vendramini's version of the Neanderthal.



At left Danny Vendramini's fearsome reconstruction of the Neanderthal as a predatory hominid, compared to the Basque legend of the 'Basajuan' or 'Forest lord' (at right). Neanderthal image courtesy of themandus.org.

Bulgarian Kukeri

There are several similar kinds of things to be seen in European folklore. The ancient dance rituals you see in Bulgaria involve Kukeri supposedly dressed as evil powers to be banished and the costumes, again, aren't that different from the impressions one gets from depictions of the Basque "Basajaun" or one of Vendramini's Neanderthal depictions:



<https://youtu.be/bDYWep1ZF44>

Cro-Magnon man was not descended from hominids

The Neanderthal is the one hominid for which DNA studies have been conducted and, again, those studies have ruled out any possibility of human descent from Neanderthals⁶. With one possible exception, other known hominids were more remote from us **THAN** the Neanderthal and it is probably the case that something like Heidelbergensis would look as frightening to the Neanderthal as the Neanderthal looks to us.

All of that leaves one possibility for believing that modern humans have evolved from hominids on this planet. Danny Vendramini claims that predation **BY** Neanderthals drove the more gracile (Skhul/Qafzeh) hominids of the Levant into a very fast (Gould/Eldridge) type process of evolution into Cro-Magnon man. That appears promising at first glance, nonetheless there are two overwhelming arguments against it.

⁶ <https://journals.plos.org/plosbiology/article>

The first such argument involves the sudden appearance of Cro-Magnon man. One thing scholars all agree on is that whatever caused Cro-Magnon people to appear on this planet when they did was not gradual. Danny Vendramini ("Them and Us") notes:

"The speed of the Upper Palaeolithic revolution in the Levant was also breathtaking. Anthropologists Ofer Bar-Yosef and Bernard Vandermeersch:

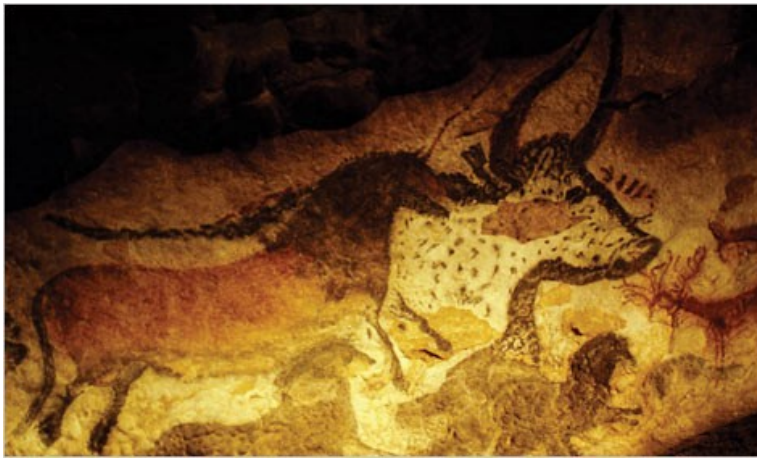
"Between 40,000 and 45,000 years ago the material culture of western Eurasia changed more than it had during the previous million years. This efflorescence of technological and artistic creativity signifies the emergence of the first culture that observers today would recognise as distinctly human, marked as it was by unceasing invention and variety. During that brief period of 5,000 or so years, the stone tool kit, unchanged in its essential form for ages, suddenly began to differentiate wildly from century to century and from region to region. Why it happened and why it happened when it did constitute two of the greatest outstanding problems in paleoanthropology."

Likewise Dwardu Cardona ("Flare Star"):

"Where and how the Cro-Magnons first arose remains unknown. Their appearance, however, coincided with the most bitter phase of the ice age. There is, however, no doubt that they were more advanced, more sophisticated, than the Neanderthals with whom they shared the land. Living in larger and more organized groups than had earlier humans, Cro-Magnon peoples spread out until they populated most of the world. Their tools, made of bone, stone, and even wood, were carved into harpoons, awls, and fish hooks. They were presumably able hunters although, as with the Neanderthals, they would also have foraged to gather edible plants, roots, and wild vegetables. The only problem here is that, as far as can be told, the Cro-Magnons seem to have arrived on the scene without leaving a single trace of their evolutionary ancestors. Ian Tattersall observed:

"When the first Cro-Magnons arrived in Europe some 40,000 years ago, they evidently brought with them more or less the entire panoply of behaviors that distinguishes modern humans from every other species that has ever existed."

There is also a question of artwork, i.e. going from hominids with no artistic capabilities whatsoever to the Cro-Magnon Sistine Chapel at Lascaux, with no evidence to be found in the world of any sort of a run-up to that.



That obviously is not compatible with the idea of humans evolving from apes and/or hominids. What that **IS** compatible with is the idea that Cro Magnon man, fully formed, **CAME** here from somewhere else in our system, which is the basic thesis of this work.

Aside from everything else, the idea of modern humans evolving from hominids is simply not workable on the level of logic. For any hominid to have evolved into humans, that hominid would have to have lost:

- His fur while ice ages were going on.
- Almost all of his night vision while living in the perpetual twilight of the “Purple Dawn” age and while surrounded by predators which could see very nicely in the dark.
- Almost all of his sense of smell while trying to survive as a land prey animal.

If any of those losses by itself would have been less than fatal, the combination of them would certainly have been fatal.

Again, none of the evidence that we actually have is compatible with the idea of humans evolving from hominids on earth.

The second argument against Vendramini’s claim involves James Shreve’s 1995 paper titled “Neanderthal Peace”. In order to be descended from something, at some point, you have to be able to interbreed with the something.

The claims of human/hominid interbreeding.

James Shreve's 1995 article in Discover Magazine describes the total lack of any evidence of human/hominid interbreeding in the one area of the world where, according to all standard theory and knowledge, such evidence ought to be plentiful.

More recently, Shreve, apparently cowed by the faux prestige of Svante Paabo and the Max Planck Institute, has made statements claiming that, according to Paabo at least, humans and Neanderthals DID interbreed. In real life, Shreve's 1995 paper appears to be unassailable, and the assumption being made by Paabo and others (that common genes implied past interbreeding) is erroneous.

<https://www.discovermagazine.com/.../the-neanderthal-peace>

"...When Neanderthals and modern humans came into contact in the Levant, they would have interbred, no matter how strange they might initially have seemed to each other. If their cohabitation stretched over tens of thousands of years, the fossils should show a convergence through time toward a single morphological pattern, or at least some swapping of traits back and forth.

But the evidence just isn't there, not if the TL and ESR dates are correct.

Instead the Neanderthals stay staunchly themselves. In fact, according to some recent ESR dates, the least Neanderthalish among them [the Skhul/Qafzeh hominids that Danny Vendramini describes] is also the oldest. The full Neanderthal pattern is carved deep at the Kebara cave, around 60,000 years ago. The moderns, meanwhile, arrive very early at Qafzeh and Skhul and never lose their modern aspect. Certainly, it is possible that at any moment new fossils will be revealed that conclusively demonstrate the emergence of a Neandermod lineage. **From the evidence in hand, however, the most likely conclusion is that Neanderthals and modern humans were not interbreeding in the Levant.**"

There is a claim that, because some humans have a certain small number of genes in common with Neanderthals, that humans and Neanderthals must have interbred. That amounts to thinking that a Neanderthal male could/would rape a woman and, rather than cooking and eating her afterwards as usual, somehow or other keep her alive long enough to bear a cross-species child, raise that child to reproductive age, and have him/her breed back into human populations without anybody catching on, i.e. the claim is ridiculous.

In real life:

- Neanderthal females would kill that woman the first time her new owner left her alone for ten minutes.

- The woman wouldn't fare any better than the subjects of the soviet attempts to breed humans and apes into super workers in the 1930s.
- Humans would notice the child was different (really different...)
- And humans would kill that child and everybody else like him as part of the same program which killed out the Neanderthal. They would not need DNA tests to determine who to kill for that sort of reason, it would be exceedingly obvious.

In other words, it would be a miracle for something like that to ever have happened once while the claims from Paabo et. al. require it to have been going on all the time. That is, for human/hominid cross-breeding to have left detectable traces in the DNA of modern humans, it would have to have been entirely common. There will be some rational reason for any common genes between humans and Neanderthals. Claims of interbreeding however are not rational. A reasonable person might entertain a theory requiring one probabilistic miracle or zero probability event in the history of the universe, but not something that stands everything we know about probability theory on its head.

There is one other problem with such claims of human/hominid cross-breeding which might be worth mentioning... The claim is that humans of European and Asian descent have 1 – 4 percent Neanderthal genes, and that Africans don't. But there is terribly little genetic diversity amongst modern humans; it is said in fact that there is less genetic diversity in the entire human race than there is in a typical group of 50 African monkeys of the same species. This is attributed to a very recent population bottleneck that the human race went through and that establishment scientists place around 45,000 years ago. At that time, they assume there may have been as few as 100 modern humans alive on the earth.

Any crossbreeding with Neanderthals would have to have been either before or after this bottleneck. If it occurred prior to the bottleneck, Africans would not have been left out. If after the bottleneck, and not involving Africans as per the claim, then the genetic gap between Africans and everybody else would be gigantic rather than minuscule, as it actually is.

And one final problem to mention: Cro-Magnon art includes self-portraits and those self-portraits are most definitely depicting modern humans and not any sort of a gracile hominid in the process of becoming modern humans:



Cro-Magnon sculptures (images public domain)

The requirements for a human home world.

Again, having a sense of smell no better than humans possess would be fatal for any land prey animal. Notice however that aquatic mammals do not really require much of a sense of smell. Elaine Morgan listed a hundred or so traits^{ix} which we share with other aquatic mammals but there are a few which stand out:

- Voluntary control of breathing which is an adaptation for swimming and diving. We take that for granted but monkeys and apes do not have it. That is the only reason they cannot teach chimps and gorillas to speak English (they can be taught to communicate using deaf signs perfectly well).
- Face to face sex. Marine mammals do that, land animals generally don't.
- Shoulders adapted for swim strokes. The motion to swim is the same as to throw something like a javelin or use an atlatl. Humans have that, primates and hominids never did. That is why Neanderthals were limited to thrusting spears while early humans had atlatls and javelins.
- Lack of a decent sense of smell.

Elaine Morgan's aquatic ape theory can be viewed two ways. Viewed as a new version of evolution, it doesn't really work. Viewed as a theory of human adaptation, it is the best theory that has ever been put forward, but it has never gotten any traction in academia and there are two reasons for that:

- There is no fossil evidence of any sort of an aquatic ape ever having lived on this planet, and

- There has never been a body of water on this planet which would be safe for humans to live in. You only need to spend 15 minutes in the ancient sea monster section of any large museum to comprehend why humans never lived in water on Earth in prehistoric times.

Perfectly good theory, it just needs a different kind of a world to happen on. That is again what we noticed with the question of the sudden appearance of Cro-Magnon people on earth with all their fancy tools, weaponry, and artwork seemingly in place from the first day. It seems that the search for a believable home world for modern humans within our system is always going to lead away from this particular planet (Earth).

An original human home world would need four things:

1. It would have to be bright (the relatively tiny human eyes).
2. It would have to be warm (the lack of fur).
3. It would have to be wet (the aquatic adaptations) and
4. It would have to be safe, both from sea monsters and from cosmic radiation.

For a number of reasons, neither Mars nor Earth would have been a candidate for such a thing in prehistoric times. Nonetheless, there was in fact one place within our system that would have been such a candidate. Under present conditions with Jupiter well outside of the so-called habitable zone of our system, Jupiter's largest moon, Ganymede, is a frozen wasteland. Several tens of thousands of years ago, with Jupiter in a much closer orbit as is the normal case for gas giant planets or dwarf stars aligned with a main sequence star such as our sun, Ganymede would have been a freshwater ocean world with both islands and floating bergs and coagulated masses of pumice, which is actually lighter than water.

All of that, of course, completely wrecks the entire idea of modern humans having evolved from hominids here on Earth. Scientists and scholars investigating the case of Feldhofer 1 assumed that they were seeing a missing link, part of an evolutionary continuum between apes and modern humans. That was due mainly to the zeitgeist of the age and not to anything that you might call sound logical reasoning or good scientific methodology.

What they had actually discovered was the apex creature for dark worlds, humans being the apex creature for bright worlds such as Ganymede was in prehistoric times and such as Earth is now. The question of the Neanderthal is one facet of the Ganymede Hypothesis; there is

obviously a great deal more to the story than that. The Ganymede Hypothesis answers the question of where and under what kinds of conditions the first humans within our system lived. It does not answer the question of how or when life forms first came to our system, or where, how, or when the first humans ever to live in the universe were living.

Cro Magnon Man and the people of Genesis

The first part of Genesis describes the creation of Adam and Eve and reads as if to mean that Adam and Eve were the first two humans ever to live on Earth; that is the way most people read the first section of Genesis. And yet, a slightly more alert reader will note the following, shortly after the story of the creation of Adam and Eve:

GEN 4:9 And the LORD said unto Cain, Where is Abel thy brother? And he said, I know not: Am I my brother's keeper?

GEN 4:10 And he said, What hast thou done? the voice of thy brother's blood crieth unto me from the ground.

GEN 4:11 And now art thou cursed from the earth, which hath opened her mouth to receive thy brother's blood from thy hand;

GEN 4:12 When thou tillest the ground, it shall not henceforth yield unto thee her strength; a fugitive and a vagabond shalt thou be in the earth.

GEN 4:13 And Cain said unto the LORD, My punishment is greater than I can bear.

GEN 4:14 Behold, thou hast driven me out this day from the face of the earth; and from thy face shall I be hid; and I shall be a fugitive and a vagabond in the earth; and it shall come to pass, that every one that findeth me shall slay me.

GEN 4:15 And the LORD said unto him, Therefore whosoever slayeth Cain, vengeance shall be taken on him sevenfold. And the LORD set a mark upon Cain, lest any finding him should kill him lest any finding him should kill him.

Who was Cain worried about killing him when, supposedly, he, Adam, and Eve were the only three humans on the Earth? A religious purist might try to claim he was worried about Adam and Eve having other children and those children eventually killing him but that is grasping at straws; surely God could have simply instructed Adam and Eve to teach such other children to refrain from harming Cain.

Genesis 4 reads entirely as if there were other people living on Earth at the time when Cain slew Abel and the Old Testament, being generally laconic, does not bother to explain things which are assumed to be common knowledge. There is no completely good word for the people who lived prior to Adam:

- The term "Pre-Adamite" is now politically incorrect since it was being used in racist tracts in the late 1800s and early 1900s.
- The term "Cro Magnon" has fallen into disuse because scientists could never agree as to what groups to include.
- The terms 'Anatomically Modern Human' or 'Early Modern Human' and the acronyms AMH and EMH are problematical since scientists tend to lump gracile (Skhul/Qafzeh) hominids into that category, which which is wrong for several reasons.

We use the term Cro Magnon to indicate all people living prior to Adam, although there is no way to know how many such saltations there may have been. Standard theories have Cro Magnon man arising something like 45,000 years ago. Remnant Cro Magnons likely account for the "non people" who Cain was worried about.

There was no continuum between Cro Magnon man and the people of Genesis. If there had been, there is a list of things which Jewish literature would have to know about and that knowledge simply is not there. That list would include

- Stone tools. There was never any sort of a stone age amongst the people of Genesis, who were metal tech people from day one.
- The atlatl, the signature weapon of Cro Magnon man. Aztecs were using it against the Spanish and native Australians are still using it to hunt kangaroos today, but Jewish and other Mediterranean-basin literature know nothing about it. The weapons of the Bible are the sword, spear, sling, and bow.
- Hominids, particularly the Neanderthal which Basque folklore refers to as "Basajaun". Cro Magnon man fought a paleolithic world war which generally exterminated all hominids from the planet other than for a very few isolated and small groups which may or may not have survived into modern times in the form of "Bigfoot" and similar creatures, IF any such exist.
- A Purple Dawn age of perpetual twilight before the final capture of the southern part of our system which included Saturn, Neptune, Mars and Earth.

Cro-Magnon weaponry

Cro-Magnon weapon technology may be the clearest demarcation separating Cro Magnons from the Biblical antediluvians. The neat thing about Cro-Magnon weapons is that you don't have to guess what they looked like or how they worked. The videos found at the following URLs will perfectly illustrate their effectiveness as hunting tools:

The boomerang:

<https://youtu.be/BtsGsF-50uo>



Cro-Magnon hunting technology at work. An Australian Aborigine hunter uses his boomerang to hunt bats in flight. Still shot taken from the film 'Ultima grida dalla savana' (1975)

Pity the Winchester or Beretta salesman who needed to sell that gentleman a shotgun...

The atlatl

Likewise, images and videos available on the Internet indicate that proficiency with the atlatl (or “woomera” in the Australian outback) is not limited to one or two specialist exponents of the art or to anthropologists studying these ancient weapons. They retain their place amongst many pre-industrial peoples and are likewise being enthusiastically being taken up by hobbyists and sportsmen in the developed world.

<https://youtu.be/gpzZGVD0RoA?t=321>



The Atlatl: The world's first human super weapon. (image public domain)

Again, if you wanted to believe that Adam, Eve, and the familiar people from the Old Testament were descended from Cro-Magnons, Biblical and Jewish literature would have to know something about the atlatl. This weapon was not just another type of spear; it was the world's first super weapon.

If you have ever watched a particularly hard serve in professional tennis, you understand how the atlatl works. A player like Roscoe Tanner or Andy Roddick is basically trading three inches worth of wrist motion for four feet of racket head motion in the blink of an eye, sending a tennis ball off at as much as 140 mph. An atlatl, if properly used, amounts to doing the same thing with a six foot spear instead of a tennis ball. This weapon would have been the decisive edge in any struggle against either hominids or prey animals that would otherwise not have been possible for humans to hunt. The atlatl is thus probably much of the reason that Neanderthals no longer rule our planet.

Anthropologists generally assumed that early humans on this planet devised the atlatl as a hunting and possibly a defensive weapon. That assumes a long time period for development and from what we've seen, Cro-Magnon man on this planet did not have such a time period. He was dumped on this planet suddenly, most likely by splash saltation as described previously, and had to deal with Neanderthals immediately upon arrival. We view it as most likely the case that the atlatl had been a fishing weapon on the water world of Ganymede and that it was simply adapted to the requirements of the new home. Interestingly, native Australians still use the atlatl for fishing today.



The atlatl is not as accurate as a bow but in the right hands, it is likely more powerful. An archer uses upper back muscles to pull a bow; but somebody who knows how to use an atlatl properly can step up into it and use pretty nearly the entire power of his body:

<https://youtu.be/rrlr02YDr5A>

Our recommendation: If you need to kill a white-tail deer from forty yards away, use the bow; if you need to kill a Neanderthal or a mammoth or wooly rhino, use the atlatl.

Again, there is absolutely no mention of atlatls in Jewish literature and there appears to have been no knowledge of it on Europe or Asia within historical times. The atlatl is certainly a better weapon than a sling and Alexander had slingers; if Alexander had had any way of knowing about atlatls, he'd have had them in his army.

The original human home world in our system had been a fresh water ocean world and the atlatl was almost certainly being used as a fishing weapon as it still is in and around Australia. When those first humans to transfer to Earth discovered that they had to deal with Neanderthals and other hostile hominids, they simply switched off the fishing points for more lethal points on the atlatl spears.

The Wheel

And, again if there had been any sort of a continuum between Cro Magnon man and the people of Genesis, there is one overwhelmingly huge thing which Cro Magnon man would have to have had, i.e. the wheel. None of the Cro Magnon descended groups appear ever to have had wheels, at least originally. Spaniards were totally flummoxed by this lack of wheels amongst the otherwise sophisticated peoples of Central and South America.

There is one way to explain a group of people not having wheels of course, which arises from Cosmos in Collision and the Ganymede Hypothesis: If your ancestors had just spent the last 20,000 or 100,000 years living in water, the idea of a wheel might never occur to you.

Again there is no meaningful genetic difference between the two human groups. The original difference was in the cultures and technologies, which were totally different because of the huge expanse of time between the two saltations.

The Out of Australia Theory

As we shall see shortly, NASA/JPL probe images show evidence of Mars having been home to an advanced technological society. There is no such evidence involving early humans on Earth. ***The first humans on earth were culturally advanced but not technologically advanced. There is no reasonable way to picture them having gotten here via space vehicles.*** As mentioned earlier, the most likely scenario for early humans to have gotten to earth involves an electrical water bridge and a splash saltation event that most likely would have landed those early humans in the waters of the Pacific Ocean. On their own, they most likely would all have drowned. Our working assumption is that they were assisted by other aquatic mammals with whom early humans had symbiotic relationships, and the most likely large body of land for them to have ended up on would have been Australia.

Articles and books related to an Out-Of-Australia theory of human origins are not difficult to find, e.g.

<https://www.amazon.com/Out-Australia-Aborigines-Dreamtime-Human/dp/1571747818>

(Mankind's Purple Dawn)

Subsection contributed by Troy D. McLachlan

“In the beginning there was only darkness. Yet, in that darkness, there was already Raven. He was *still small and weak* and his special powers had not fully developed.”⁷*Eskimo creation myth*

Between 20,000 - 40,000 years ago, humans in Europe entered into the dark and foreboding gloom of various deep cave systems, lit their animal fat fuelled lamps, and proceeded to produce artistic masterpieces that, when rediscovered millennia later, led Pablo Picasso to declare modern art “had invented nothing!” According to the scenario that will unfold in the following pages, the subterranean gloom encountered by these early artists was nothing substantially different from their everyday existence on the surface above. Outside these caves, in the open air of a world existing under a chaotic void-like sky, mankind's early ancestors are reported in myth to have lived in a perpetual twilight devoid of our current sun. Their world, according to many ancient creation accounts, was permeated by a dull glow that provided barely enough light by which to read your average Palaeolithic newspaper.

Dwardu Cardona, in a chapter in his book *God Star* titled ‘The Age of Darkness,’ points to comments made by P. Wheeler on the Japanese creation myth that indicate the universal nature of the Kronos/Saturn myth as the main construct in this primordial age of darkness.

“In the earliest legend with which the recital [i.e., the *Kojiki*] opens, one recognises the primal myth . . . the development from a primordial darkness and chaos. . . This is the Kronos legend, in its thousand forms, the father of all mythologies, upon which so many peoples have constructed their cosmogonies.”⁸

While also providing many direct quotes from various world creation myths, including Jewish literature, Cardona cites H. Osborne whose work on South American mythology also recognised this primeval ‘age of darkness’ theme:

⁷ M. Wood, “*Heroes and Hunters from North American Indian Mythology*,” (N.Y. 1982), page 17; as quoted with emphasis added by Dwardu Cardona, “*God Star*,” (2006), page 284. Note: ‘Raven’ is the Eskimo equivalent to the primordial star and later planet Saturn.

⁸ P. Wheeler, “*The Sacred Scriptures of the Japanese*,” (N.Y. 1952), page 387; as quoted by Dwardu Cardona, “*God Star*,” (2006), page 275.

“Some mythological cycles feature a primitive age of darkness *before the existence of the sun*, when human beings lived in a state of anarchy without the techniques of civilized life.”⁹

An age *before the existence of the sun*? As noted by Cardona, such descriptions may leave the reader with the mistaken impression that, without the sun, there was no light at all. Yet, this is not quite the case in mythology, and the same creation myths point to the existence of at least a modest amount of light before the coming of the sun, albeit from a different source to our current sun. That source was Saturn, the ancient creator god in his myriad of forms throughout world mythology, and conclusively identified with the planet Saturn. This celestial Saturn was the very same *small and weak* Raven-character we saw in the Eskimo quote at the beginning of this chapter.



The Purple Dawn of Mankind. Artist's impression of the mythical 'age of darkness' when Saturn is said to have hovered as a pale, weak orb in Earth's north celestial sphere. The purple hue of the light is a result of Saturn's blue/red light spectrum, the spectrum most associated with brown dwarf stars.

Small and Weak

The light of our current sun, as a rule, is *not* essential to life. Microbial life can exist in a sunless environment as can species of deep sea life, while photosynthesis in vegetation works best in the darker, red-light spectrum rather than the harsh and bright ultraviolet light of the Sun. So it is not inconceivable that life on Earth as we know it could have existed, and even flourished, in a predominantly nocturnal world, provided there was some form of radiated red-spectrum light or energy. In fact, most species of animal, including those now long extinct,

⁹ H. Osborne, “South American Mythology,” *Mythology of the Americas* (London, 1970), page 294; as quoted with emphasis by Dwardu Cardona, “God Star,” (2006), page 278.

exhibit high degrees of nocturnal adaptation. Of all the higher creatures currently inhabiting the Earth, human beings are probably the least adapted to a nocturnal environment.

Yet traditional mythologies remember a time of darkness stretching out into an unknown antiquity, a time in which the god Saturn, in all his manifestations, was small and weak, a mere shadow of the creative force he was destined to become. As mankind's first remembered source of light, long before the coming of the sun, Saturn is said to have cast its pale light on a world without seasons and devoid of any means for humans to calculate time. Locked in a stationary post that is reported in mythology to have been at the northern celestial realms, the primordial Saturn seemingly drifted aimlessly through the skies on a chaotic heavenly milieu resembling the ebb and flow of a dark ocean. It is this state of affairs that is referred to in the opening verses of Genesis when "darkness [was] upon the face of the deep. And the spirit of God moved upon the face of the waters."¹⁰

Our conclusion here is that Saturn, this primordial source of a dim, timeless light, was a dully glowing *sub*-brown dwarf star of which Earth was one of its primary and original satellites; and that Earth was nestled close enough to its original host star to have been enveloped in Saturn's opaque and warming plasma sheath. For humans alive on Earth at this time, there would have been no reference to the greater cosmos, and therefore no reference to any moving celestial object with which they could have marked the passage of time. This was a timeless age in which the dim blue/red-light spectrum emanating from Saturn would have cast a dark purple-hued glow over Earth's surface. This, then, was mankind's purple dawn of creation.

Life Under a Brown dwarf Star dwarf

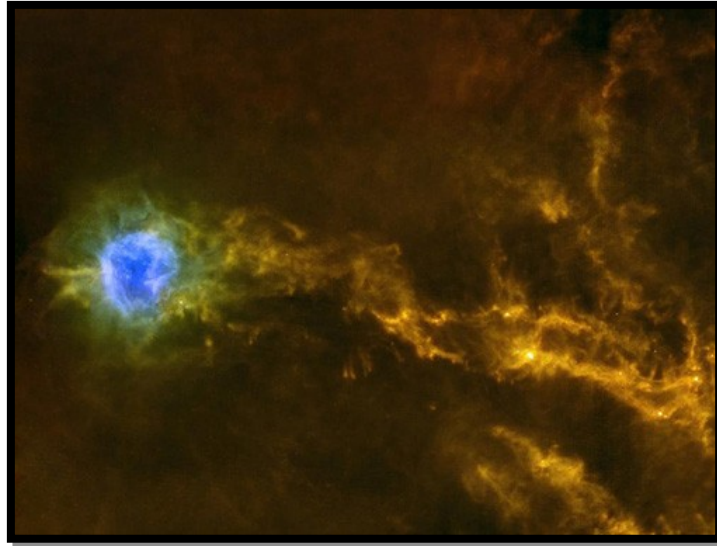
Electric Universe (EU) physicist Wallace Thornhill has suggested that planets orbiting closely to brown dwarf stars would be the best place to go looking for life as we know it outside the Solar System. This is a possibility under the EU model because all types of stars, including brown dwarfs, are explained as an electric discharge phenomenon taking place where vast cosmic and electrically live Birkeland currents entwine and pinch down into what is called a z-pinch (also known as a Bennett pinch). Discovered over one hundred years ago, Birkeland currents,¹¹ or the filamentary gas-like strings of twisting 'plasma ropes' seen in space, are

¹⁰ Exert from Genesis 1: 1-2.

¹¹ For an overview on Birkeland currents, see:
http://en.wikipedia.org/wiki/Birkeland_currents

For an Electric Universe take on the role played by Birkeland currents in the formation of galaxies, see: Wallace Thornhill, "Electric Galaxies," May 20, 2008,
<http://www.holoscience.com/wp/electric-galaxies/>

viewed in the EU model as the galaxy's power lines feeding electrical power to all the stars we see shining in the night sky.¹²



Mistakenly referred to as filaments of 'hot gases' that are subject to meteorological-like space winds and mechanical models producing acoustic shocks,¹³ the filamentary orange-like strings seen in this image are actually made of plasma, an excellent conductor of electricity. These are electrically alive Birkeland currents operating at interstellar scales, seen here feeding electrical energy into a star manufacturing area called the Cocoon Nebula (blue region). Image credit: ESA/Herschel/SPIRE/PACS/D. Arzoumanian (CEA Saclay)

The z-pinch effects we see in Birkeland currents appear as beads along the giant strings of interstellar plasma seen in many telescope images taken of deep space. These glowing beads, like pearls on a string, are the points of light that make up the huge clusters of stars seen in ours and other galaxies.¹⁴ The Birkeland currents feeding these stars or beads with electrical power are usually in their dark mode and therefore cannot be detected by traditional optical means.

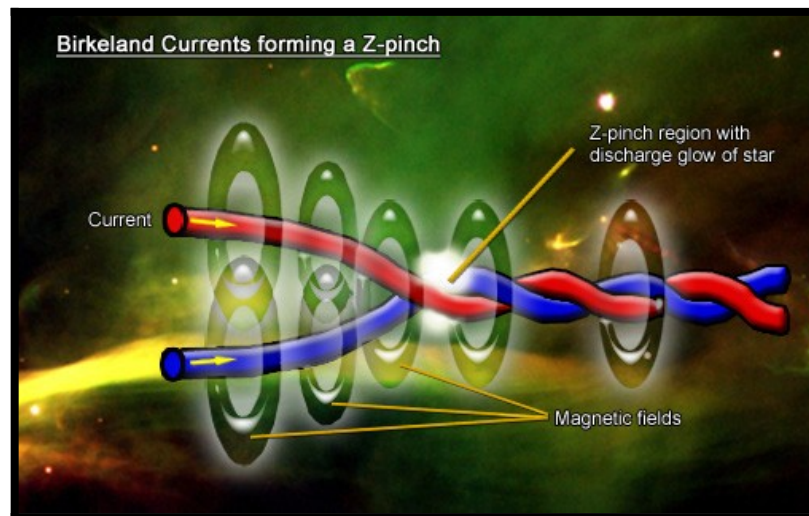
¹² An excellent summary of Birkeland currents acting as galactic power lines can be seen here: <http://www.thunderbolts.info/tpod/2011/arch11/110629powerlines.htm>

Also see: "Cygnus Loop," *Picture of the Day*, August 31, 2005, Thunderbolts.info, <http://www.thunderbolts.info/tpod/2005/arch05/050831cygnusloop.htm>

¹³ (Note to photo caption) For an Electric Universe perspective on the debate surrounding gaseous filaments seen in space, see: "Hot Gas vs. Electric Currents," *Picture of the Day*, April 17, 2009, Thunderbolts.info; <http://www.thunderbolts.info/tpod/2009/arch09/090417hotgas.htm>

¹⁴ See: "Electrical Birthing of Stars," *Picture of the Day*, March 4, 2005, Thunderbolts.info; <http://www.thunderbolts.info/tpod/2005/arch05/050304starbirth.htm>

“As the effect, called a "z-pinch," increases, the electric field intensifies, further increasing the z-pinch. The compressed blobs form spinning electrical discharges. At first they glow as dim red dwarfs, then blazing yellow stars, and finally they might become brilliant ultraviolet arcs, driven by the electric currents that generated them.”¹⁵



The vast clouds of filamentary plasma seen in photos taken of deep space cannot be detected by the human eye. This is because the plasma seen in them is operating in what is called ‘dark mode.’ Only when plasma shifts into ‘glow mode’ as seen in aurora phenomenon and ‘arc mode’ as seen in welding torches and stellar flares can it be seen by the naked eye. In the above graphic a simplified diagram of a Birkeland current z-pinching down to create a star discharge has been superimposed onto a classic false-color image taken of deep space by NASA.

The star’s visible outward glow is the electrical anode of these z-pinches and it is analogous to the same discharge glow we see given off by an ordinary electric light bulb. As the late electrical engineer and scientist Ralph E. Juergens has said regarding our own sun, as quoted by Thornhill:

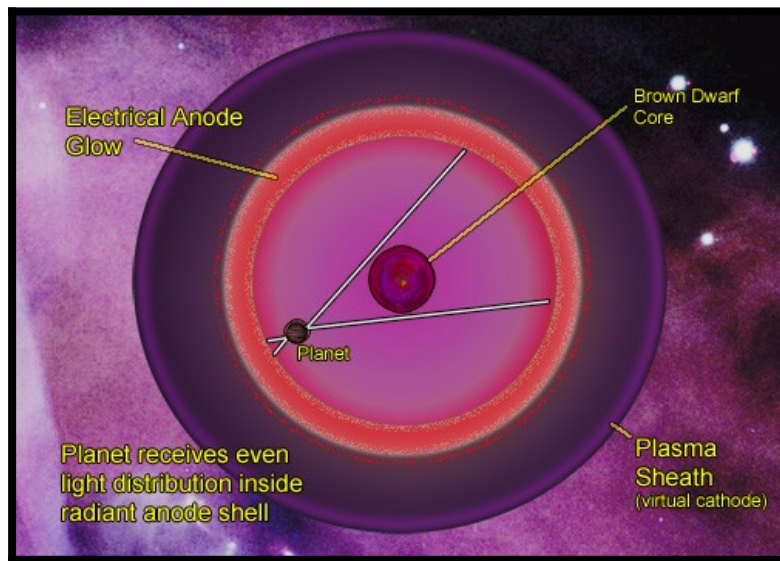
“As I pursued the phenomenology of electric discharges, it gradually dawned on me that, structurally, the atmosphere of the sun bears a striking resemblance to the low-pressure type of electric discharge known as the glow discharge...”¹⁶

What this means is that if the temperature of a star’s glow discharge is low enough, such as that of a brown dwarf star, then planets orbiting in close proximity would not experience the searing heat associated with main sequence stars like our sun.

¹⁵ Stephen Smith, “How Stars are Born,” *Picture of the Day*, November 6, 2009, Thunderbolts.info

¹⁶ See “Twinkle, twinkle electric star,” by Wallace Thornhill, July 1, 2008; <http://www.holoscience.com/wp/twinkle-twinkle-electric-star/>

“Since an electric star [as opposed to a nuclear fusion-driven star] is heated externally [by Birkeland currents] a planet need not be destroyed by orbiting beneath its anode glow. In fact life is not only possible inside the glow of a small brown dwarf, it seems far more likely than on a planet orbiting outside a star! This is because the radiant energy arriving on a planet orbiting inside a glowing sphere is evenly distributed over the entire surface of the planet. There are no seasons, no tropics and no ice-caps. A planet does not have to rotate, its axis can point in any direction and its orbit can be eccentric.”¹⁷



Brown Dwarf with planet existing inside its anode glow shell and plasma sheath according to the Electric Universe model for the structure of brown dwarf stars.

Here we have the type of conditions required for mythology’s purple dawn of creation; i.e. a terrestrial-type planet trapped within a low temperature opaque glowing sheath and receiving enough radiated energy for life to survive, yet that life having no frame of reference beyond the all-encompassing dull anode glow of its host star. Brown dwarf stars generally glow in the 800 - 1,700 Kelvin range, a temperature range that can provide enough warmth to a close orbiting planet for human life to flourish. By contrast, self-regulating main sequence stars like our own sun glow at temperatures of 5,500° Celsius plus on their surfaces and in excess of 2 million Kelvin at their coronas; far too hot for a similar scenario involving any close orbiting planets with life on them.

Importantly, and especially for some of the Jupiter-related concepts that appear later in this work, Wallace Thornhill has also provided us with an illustration of just how such a planetary arrangement might exist inside the anode glow of a brown dwarf:

¹⁷ Wallace Thornhill, “Other stars, other worlds, other life?” December 15, 1999. See; <http://www.holoscience.com/wp/other-stars-other-worlds-other-life/>

“For example, consider Jupiter as an independent body moving in the galaxy inside its radiant plasma sheath (analogous to a cometary coma). It would be regarded as a brown dwarf star! And even if that glowing sphere were half the size of Jupiter’s present magnetosphere, which is 10,300,000 km in diameter, all of Jupiter’s large moons would orbit comfortably inside that cocoon.”¹⁸

That the earth was originally encased in a similar situation under a brown dwarf star called Saturn is central to understanding why mythology tells us our most primordial existence was one of darkness, an age when Saturn hovered as a dull orb in the chaotic swirls of the northern skies. Outside stars could not have been seen because Saturn’s opaque plasma sheath and its anode glow would have blocked out all incoming light — much in the same way that the glow from city lights bouncing off the atmosphere can block out the stars today.

And herein lays a caveat in contemplating life under a brown dwarf star, for it was this enveloping plasma sheath that catastrophically short-circuited and lost its opaqueness when it eventually brushed against the Sun’s heliosphere during Saturn’s approach towards the Solar System, an event that is recorded in mythology as the dramatic and destructive flaring of the god Saturn at the start of the fabled Golden Age.

“... The brown dwarf ‘Garden of Eden’ comes with a caveat. Stars off the main sequence do not have the self-regulating photospheric discharge to smooth out variations in electrical power input. Consequently, brown dwarfs are subject to sudden outbursts, or ‘flaring,’ when they encounter a surge in the circuit that powers them. These flares could cause sparking to and between the satellites orbiting inside the sheath and lead to sudden extinction events, vast fallout deposits and fossilization. There is much food for new thoughts!”¹⁹

Food for new thoughts indeed! We can only begin to imagine the effect on Earth’s existing human inhabitants in seeing their previously passive host star burst into life. What terror must have been felt as their previously dark and tepid world suddenly disintegrated in a blindingly bright flash of light and the huge vastness of space was revealed to them!

¹⁸ Wallace Thornhill, “Assembling the Solar System,” October 23, 2008. See; <http://www.holoscience.com/wp/assembling-the-solar-system/>

¹⁹ Wallace Thornhill, “Twinkle, twinkle electric star,” July 1, 2008, see; <http://www.holoscience.com/wp/twinkle-twinkle-electric-star/>

Yet, what was this world truly like for those humans living there before these spectacular events that heralded the start of the mythical Golden Age? Can we truly ever come to understand the challenges and complexities of their lives as they struggled to survive and make meaning of the world in which they lived? After all, these are the same people who produced the masterpieces seen in the caves at Lascaux and Chauvet and other parts of the world, a people whose artistic merits cannot be questioned and whose obvious knowledge of self cannot be denied. And in the same way that our modern interest in them belies a fascination with our origins as a species, could it also be that they too wondered from whence they had come, and who they might have truly once been?

The Mystery of Earth Under Saturn

"The evidence of myth which points to Saturn having once occupied a position above Earth's north polar regions is voluminous. There is not a race on Earth that has not preserved at least one account which states as much. According to this evidence, Saturn occupied a central position in the north celestial regions. It rotated, and rotated widely; but other than that, it was immovable."

Dwardu Cardona (1978)

A macro-cosmological view of the world in which our cave painting ancestors lived must take into account the mythological record of a dominant Saturn, the very same god that was clearly identified by the ancients with the actual planet Saturn, a planet that now, somewhat incongruously, resides in exile in the outer realms of the Solar System.²⁰ As noted already, this reportedly stationary celestial object hovering over Earth's northern polar regions eventually burst forth into a bright sun in its own right where it claimed the mantle as Earth's original sun. E.S. Butterworth had this to say about how the ancient's viewed their sun:

"[The sun of the ancients] is not the natural sun of heaven, for it neither rises nor sets, but is, as it seems, ever in the zenith above the navel of the world. There are signs of an ambiguity between the pole star and the sun."²¹

²⁰ While critics have tried to refute a direct association between the mythical god Saturn and the planet Saturn based on claims that the naming of the planets only occurred at a later date and are therefore coincidental with mythology, this can clearly be shown not to be the case. Such spurious refutations stem from the works of a 19th century scholar called John J. O'Neill who, in his work *The Night of the Gods*, recognised the consistent placing of Saturn above the north pole, but contrived to create a distinction between the god and the planet due to his inability to reconcile the mythological record with the planet Saturn's current orbit. See: David Talbott, "Guidelines to the Saturn Myth." *KRONOS* X:3 (Summer 1985)

²¹ E. A. S. Butterworth, "The Tree at the Navel of the Earth," (Berlin, 1970), page 124

The *Popol Vuh*, a Mesoamerican text detailing similar traditions, tells of the same phenomenon associated with the Saturn myth:

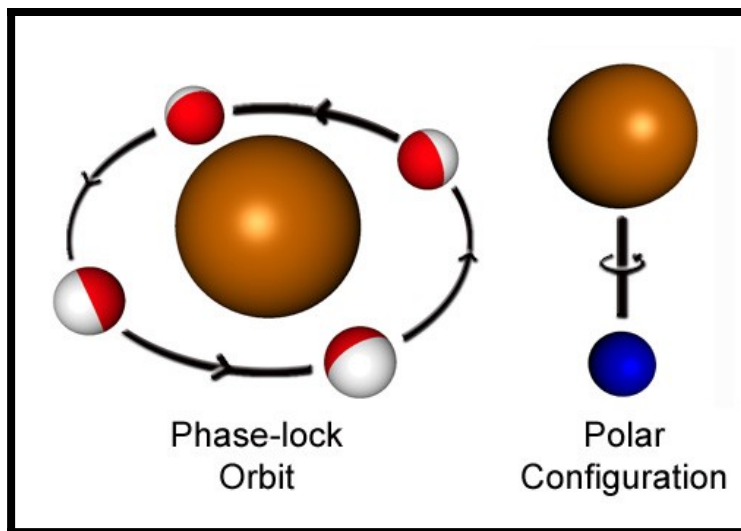
"Like a man was the sun when it showed itself. It showed itself when it was born and *remained fixed in the sky like a mirror. Certainly it was not the same sun which we see, it is said in their old tales.*" [emphasis ours]

There are only two ways a celestial stellar object can appear to remain immobile in the sky from the perspective of one viewing it from a rotating Earth. The first is if the Earth were in phase-lock with the object in the same way the moon is in phase-lock with the Earth today. Or, and this is the more controversial solution, the Earth is suspended below Saturn's south pole where it rotates in axial alignment with its host star (see graphic below). While variations of the former configuration, the phase-lock solution, are favored by the majority of Saturn Theory researchers, the great champion for the latter solution is Dwardu Cardona. Dubbing his model the *polar configuration*, Cardona tells of the difficulties this solution faces while giving the reasoning for his acceptance of such a model:

"[Speaking of Prof. Lynn Rose's phase lock solution] It is, therefore, understandable that, in *his* Saturnian scenario . . . Lynn Rose opted for an Earth in phase lock with Saturn. And yet for years I had reason to object to Rose's explanation of this phenomenon, just as he found reason to object to mine — since, almost from the very start of my research, I had come to the conclusion that Saturn's proper placement in Earth's primordial sky *had* to have been in Earth's north celestial sphere. Given that Rose's model is more feasible from a physical point of view, why do I opt for this bizarre idea? The answer is simple enough: *That* is where the mytho-historical record places the primeval Saturn — plumb in the centre of the Earth's north celestial sphere, the very place which is presently occupied by the Pole Star."²²

Cardona's point coincides with the question of Egyptian art forms (reproduced in chapter "Splash Saltations") showing a rotation about a central northern pole, i.e. the ship-of-morning, ship-of-day, ship- of-evening, ship-of-night images.

²² Dwardu Cardona, "God Star," *Trafford Publishing*, Victoria B.C. Canada, (2006), pages 220 – 222.



The two competing models describing how Saturn could have been seen by inhabitants on Earth sitting immobile at Earth's celestial north.

Readers with a physics mind-set, especially those with a basic grounding in Newtonian celestial mechanics, will find the concept of planets aligned axially in a polar configuration untenable. This is especially so since it seems obvious no such configuration is observed amongst any of the planets currently known. However, there have been observations of such a phenomenon, just not with planets — yet! In fact, polar configurations in their various guises are becoming increasingly common in the observable universe, providing us with vital clues into the physics of such a model. It's simply a matter of knowing what you are looking at.

Broken Comets and Star Factories

Something extraordinary happened in 2005 — contrary to all previous known laws of physics, scientists at the California Institute of Technology confirmed that bumble bees could, and actually do indeed fly.²³ And the world breathed a sigh of relief that all was well with the world. . .

Something extraordinary had also previously occurred in the year 1994 — the comet Shoemaker-Levy 9 split apart into twenty-one separate pieces, reformed into a *polar configuration*, and spectacularly slammed into the planet Jupiter.

Of the event taking place in 1994, astrophysicists have been conspicuously quite in coming forth with an explanation as to why the separate pieces of comet Shoemaker-Levy 9 should

²³ See: “Deciphering the Mystery of Bee Flight,” Pasadena, California, *NEWS*, 11/29/2005, see: <http://www.caltech.edu/content/deciphering-mystery-bee-flight>

assume its famous ‘string of pearls’ configuration where each piece was stacked up above the one below it in axial alignment.²⁴ To date most physicists are only concerned with the fireworks surrounding the impact of Shoemaker-Levy 9’s pieces as they crashed into Jupiter where, contrary to all mainstream expectations, they exploded in the higher Jovian atmosphere and not further down towards the planet’s denser interior — but that is another story perfectly explainable by the EU model, which sees such ‘impacts’ as mostly attributable to destructive atmospheric electrical discharges.

For the issue at hand, the fact that Shoemaker-Levy 9’s shattered remnants formed up into precisely the type of celestial alignment posited for the Earth/Saturn polar configuration as recorded in ancient times should give critics pause for thought in their assertions that no such celestial configuration can occur. Here is observed evidence for just such a configuration, albeit at a vastly smaller scale.

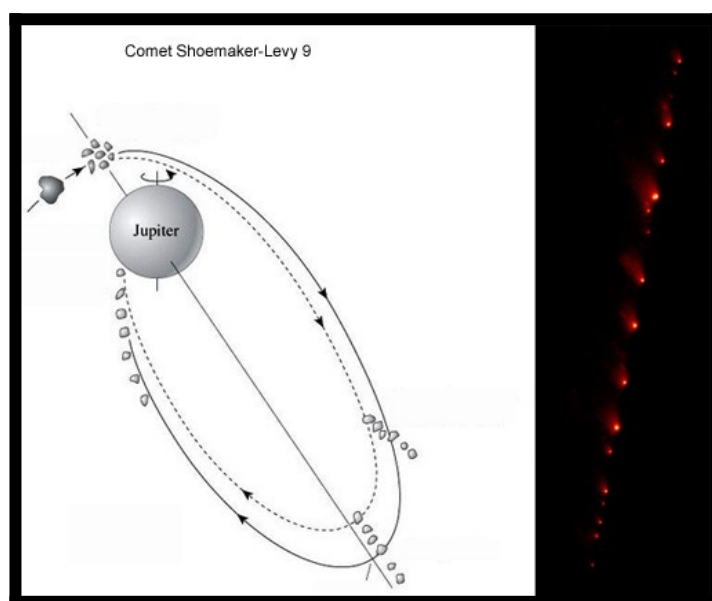
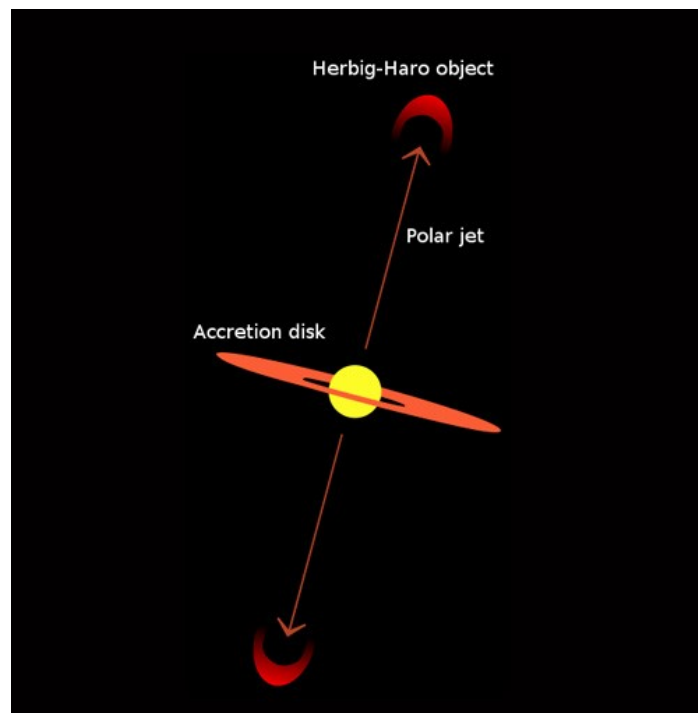


Diagram showing comet Shoemaker-Levy 9’s breakup and subsequent orbit in its famous ‘string of pearls’ formation – i.e. each piece axially aligned. At right is a photo showing all twenty-one pieces of the broken apart comet. Diagram adapted from original image by: Professor Kenneth R. Lang, Tufts University; Photo image credit at right: NASA, ESA, and H. Weaver and E. Smith (STScI)

Then again, at the other end of the cosmic scale we have an increasing number of observed axially aligned space objects called Herbig-Haro objects. According to mainstream science, “Herbig-Haro objects are ubiquitous in star-forming regions, and several are often seen around a single star, *aligned along its rotational axis.*”²⁵ Herbig-Haro objects are recognized space regions viewed as star-making factories.

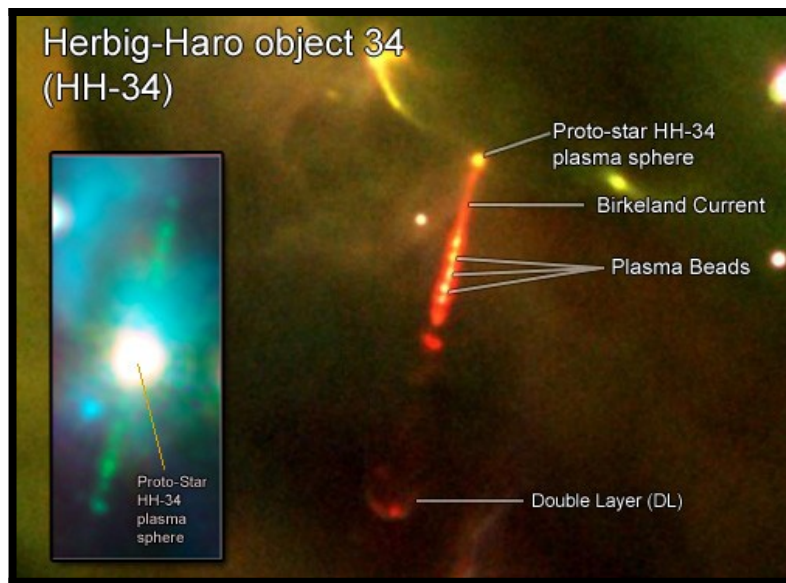
²⁴ An excellent diagram detailing Shoemaker-Levy 9’s polar configuration, reproduced in part in the following page’s graphic can be seen here:
http://ase.tufts.edu/cosmos/view_picture.asp?id=1262



The stand-ard (and badly labeled) model for a Herbig-Haro object showing the axially aligned ‘polar jets’ being expelled by a newly formed proto-star. The half-moon objects at the ends of the polar jets are thought by mainstream science to be ‘bow shocks’ caused by the fast moving hot gas of the jets moving through cold interstellar space. The disk labeled an ‘accretion disk’ is the circumstellar cloud of dust and debris found around most stars — we reject the notion that any form of gravity-only induced ‘accretion’ is taking place here.

Herbig-Haro objects are believed to be associated with *proto*-stars in their infancy, and the accepted view is that these baby stars are shooting out vast polar jets of gas along their rotational axis in which globules or beads of plasma collect in our now familiar ‘string of pearls’ analogy. These so-called beads maintain their axial alignment and rotation in step with the proto-star exactly in the manner suggested for the Earth/Saturn polar configuration. Here, in fact, is the elusive evidence pointing to the possibility that polar configurations are possible in the depths of space.

²⁵ Wikipedia entry on “Herbig-Haro object,” see: http://en.wikipedia.org/wiki/Herbig%E2%80%93Haro_object



The Herbig-Haro object 34 (HH-34) is a classic example of axially aligned celestial objects conforming to the polar configuration model postulated for an ancient Earth/Saturn axial alignment. The inset photo is a Spitzer Space Telescope image with enough resolution to show HH-34's northern polar jet/Birkeland current. Image credits: NASA, IRAC

However, astronomers are not quite sure what is going on inside these beads of plasma. There is not enough infrared radiation to convince them that more main-sequence proto-stars are being born and they have certainly never suggested that the formation of proto-planets or sub-stellar objects might be taking place. We, on the other hand, claim this may be exactly what is happening.²⁶

Why?

Firstly, what mainstream scientists identify as polar jets of hot gas are, in fact, Birkeland currents, the great interstellar and interplanetary transmission lines for the flow of electrical energy through interstellar space. The beads of plasma collecting along these Birkeland currents are where z-pinches are taking place. Z-pinches are extremely stable areas into which heavy elements like iron, ejected from the proto-star or drifting in interstellar space, are attracted and captured due to the intense magnetic fields associated with z-pinches. Some of these z-pinches fail to spark into full-blown main-sequence stars, and instead produce brown dwarfs. They even may produce the solid cores needed for the formation of terrestrial-type planets — and all this is happening along the same axial alignment of their proto-star's shared rotation.

²⁶ Recent work by the Gemini Observatory has determined the presence of iron in similar 'gas bullets' being shot out of the Orion Nebula. Iron is, of course, a precursor element to the forming of a core around which a planet or a star can form, according to the EU model. See: "Gemini's Laser Vision Reveals Striking New Details in Orion Nebula," Gemini Observatory, Hilo HI, USA, <http://www.gemini.edu/node/226>

Secondly, the so-called ‘bow-wave shocks’ supposedly produced by the hot gas shooting out along the proto-star’s polar axis are nothing more than what plasma physics calls a ‘Double Layer’. These double layers, or DLs, are the signature effect of a Langmuir sheath, or, in other words, a *plasma sheath*; the same protective electrical cocoon we have already encountered when looking at the electrical environment surrounding brown dwarf stars. Their presence in Herbig-Haro objects is a dead giveaway that serious electrical activity is taking place, the kind of activity that produces intensely strong and attractive magnetic fields. Wherever you have powerful magnetic fields you have a recipe for potential planet and star-birthing activity; it is the magnetism at work that attracts heavy elements like iron to form a solid core. It is this profusion of electrical activity that is most relevant to our assertion that Earth started off under Saturn according to this polar configuration model.

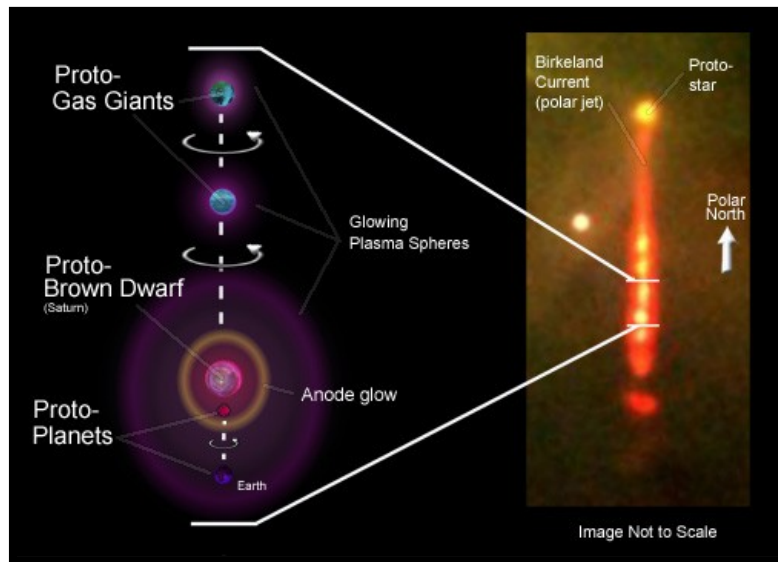
Saturn’s Birth and the Birth of Planet Earth

Obviously, the mainstream nebular hypothesis for planet formation out of a star’s so-called accretion disk is discarded where this work is concerned. There are too many problems with this hypothesis, mostly to do with mainstream astrophysics’ insistence that gravity, and not electromagnetism is the dominant force involved in shaping star systems and the creation of their planetary satellites. When electric forces are factored in, it is the power of a Birkeland current’s z-pinch that determines how and where heavy elements are accreted (magnetically attracted) to form the core for any star, planet or sub-stellar object. Herbig-Haro objects proliferate with these powerful yet stable magnetic fields making them ideal candidates for the birthing of brown dwarfs and planets.

The sheer size of some of these axial aligned Herbig-Haro objects suggests a vast degree of separation between the main proto-star itself and the beads of plasma seen forming along its length and at the furthest extremities of the proto-star’s electrically powered polar jets. However, should the Birkeland current emanating from the main proto-star electrically surge, then any star or planet-producing activity taking place in one of these beads would be severely impacted. If one of these beads harbors a proto-brown dwarf, then it is likely this proto-brown dwarf will flare electrically under the stress of the surge and eject a portion of its own core out along its own polar axis. This happens when an electrical short circuit takes place and the proto-brown dwarf’s internal core fractures to leave two pieces of positively charged iron core — the smaller piece of the core is repelled (ejected) by the like-charged parent core.

All the above can potentially take place inside any one of these giant beads of plasma seen strung out along the length of most Herbig-Haro objects. According to this scenario, the plasma beads seen by our telescopes constitute the proto-plasma sheath for any newborn brown dwarf and any newly ejected moon or planet that is being held in place by a z-pinch in the proto-star’s Birkeland current. This is why there is a low amount, if any infrared activity

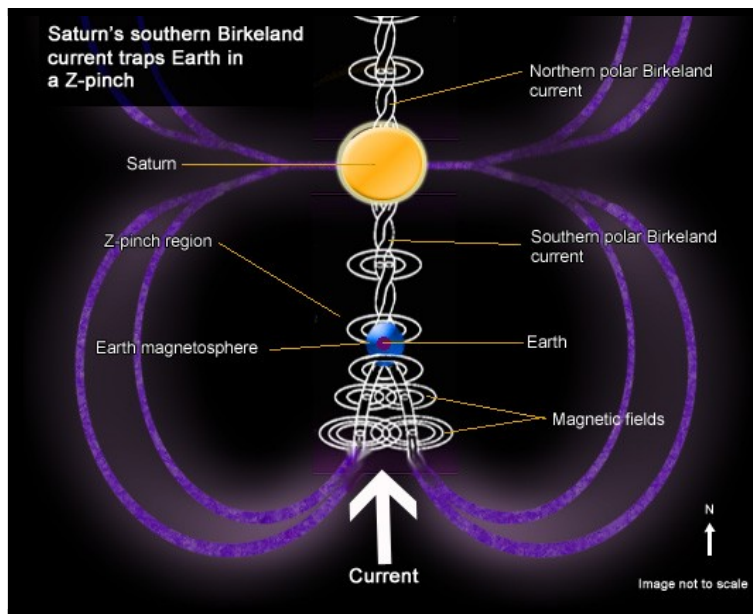
detected from inside these beads; it is not a main sequence star like our sun that is being formed there, but the conditions for the forming of a brown dwarf star or planet.



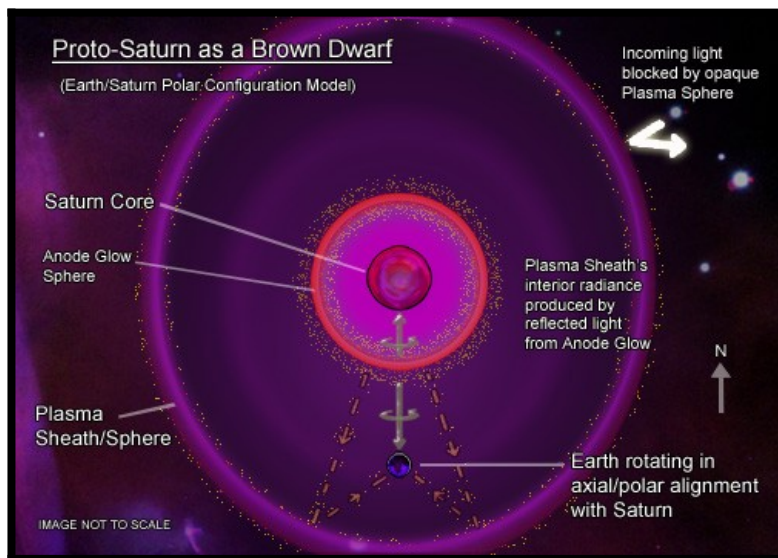
The prospective axial alignment of the Saturnian system of planets within the beaded plasma spheres found along a proto-star's polar jets. This diagram uses the axially aligned Herbig-Haro object 34 (HH-34) as an analogous reference. Image credit for HH-34 photo: NASA.

A brown dwarf star formed in this environment can be expected to maintain its own axially aligned Birkeland current even if it is severed from the main Birkeland current emanating from the main proto-star. Acting as a spinning homo-polar electric motor, or Faraday motor, the new brown dwarf star will generate its own electrical equilibrium as it feeds from the same general galactic electrical circuit that is also driving the main proto-star at the heart of the now breaking-apart Herbig-Haro object. In this way its axial tilt may change slightly, an important consideration when contemplating why Saturn came to have a *different* axial tilt to the Sun.

Any close proximity proto-planets captured along the Birkeland current of this newly formed and now separated brown dwarf star, either through ejection from a parent body or through the magnetic attraction of heavy elements into a z-pinch, can also be expected to remain trapped in the z-pinch in which they find themselves. While the vast majority of proto-planets and moons will eventually scatter like buckshot to find orbits along the equatorial plane of our newly formed brown dwarf, some will remain trapped in the z-pinches of the existing Birkeland currents flowing along the new system's rotational axis. Again, it is well to remember that z-pinches are very stable electrical constructs and are therefore quite capable of holding a planetary body in rotational lock-step alignment with the polarity of the brown dwarf's Birkeland current.



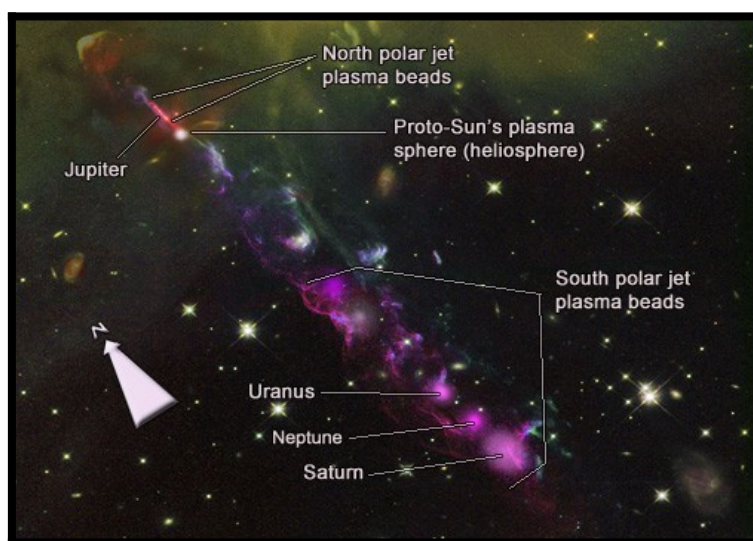
Birkeland currents forming Saturn's electrical circuit with Earth trapped in a z-pinch along Saturn's southern polar Birkeland current. Saturn is operating as a giant Faraday motor that produces the powerful Birkeland currents seen here. The formation of an intrinsic magnetosphere around the Earth is a key component for allowing terrestrial life to exist in the high radiation field produced by a brown dwarf star like proto-Saturn. Graphic adapted from Hannes Alfvén's larger model for a galactic electrical circuit.



A cross section of the polar configuration model for a brown dwarf (proto-Saturn) harboring an axially aligned planet (Earth) between its anode glow discharge and its outer plasma sheath. Light from Saturn's pale anode glow is reflected back off its plasma sheath to provide a generally uniform spread of energy over the Earth at all points. Only Earth's northern polar region would receive direct light and would therefore be the brightest area on a fairly dark planet.

It should also be remembered that the lifespan of a Herbig-Haro object is a relatively short-lived affair, lasting in the tens of thousands of years, and not the millions of years usually associated with star formation. Things happen quickly where these objects are concerned, and they apparently begin to break up once the proto-star at its center develops into a fully-fledged main-sequence star like our current sun. Any brown dwarfs and their satellites attached to such a former proto-star will be released to form their own planetary nebula while finding their own way in space.

This, then, is the possible mechanism for how a separate brown dwarf planetary system is formed within an overall axially aligned Herbig-Haro object. According to this scenario, as the main proto-star goes main-sequence, we are left with a separate planetary nebula formed far down along the former proto-star's polar axis; a planetary nebula whose planets will likely still be aligned according to the polar configuration required by the Earth/Saturn relationship of mythology.

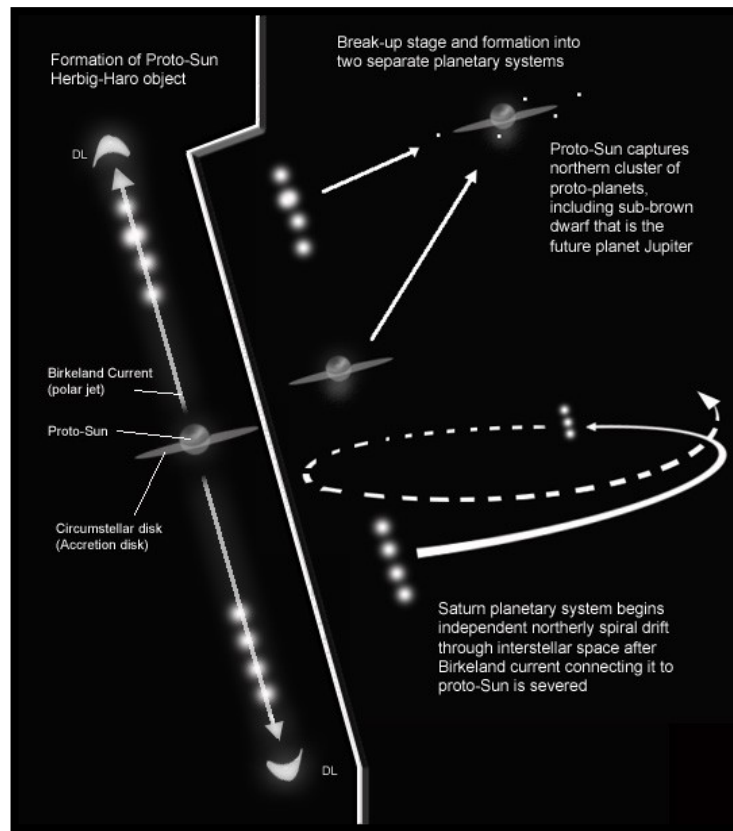


Speculative mock-up composite image showing a perspective view from south south-west of the Sun in its proto-star stage within a Herbig-Haro object. The proto-brown dwarf Saturn and its proto-planets are encased in the plasma bead at the extreme end of the Sun's southern polar jet (Birkeland current), while proto-Jupiter is portrayed as being part of the northern polar jet's string of plasma beads. The distance from the Sun to Saturn would be approximately 1,800 AU, or 15 solar systems away. Image composited from NASA images of HH-34 and HH-110 Herbig-Haro objects. Additional detail added by the authors.

Saturn as the Master of a Free-Floating Planetary Nebula

In the case of Saturn, we would suggest that three plasma beads attached by a Birkeland current to their parent proto-star (the Sun) became separated and formed a string of free-floating proto-brown dwarfs, Saturn being the most southern and the largest of these beads. The two remaining beads north of Saturn reduced to become the planets Neptune and Uranus while continuing to remain in axial alignment with Saturn, becoming trapped in the northern

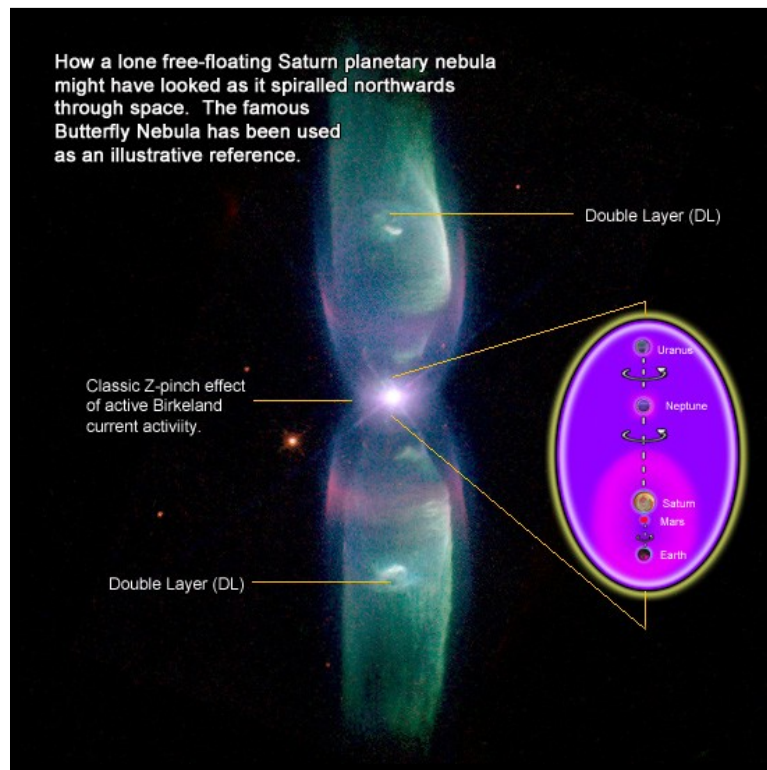
flow of Saturn's dominant Birkeland current. The planets Mars and Earth, we suggest, were ejections from Saturn's core and they remained trapped in z-pinches along the tornado-like flow of the Saturn's powerful southern polar Birkeland current. This Saturnian system, a planetary nebula in its own right, then broke free of the confines of the overall Herbig-Haro object it had been a part of and proceeded to widely spiral northwards through interstellar space. Eventually it would 'catch-up' to its parent proto-star, the Sun, and experience multiple interactions with the Sun's relatively positively charged electrical sphere. Such brushes of contact between the now two different systems would have been played out over multiple times before the Saturnian system was eventually fully captured by the Sun, which had previously captured those northern proto-planets formed in its northern polar jet.



Two stages in the formation and break-up of a Herbig-Haro object with the Sun as its central proto-star. The Sun will quickly catch up with its northern proto-planets to form a classic solar system, while the southern proto-planets will remain in axial alignment with the proto-brown dwarf Saturn. This axial alignment for the Saturnian system of planets is maintained until it caught up to make eventual contact with northern solar system forming around the Sun.

Many of the space objects identified by astronomers as 'planetary' nebulas are, in fact, centers for young proto-stars. The classic signs of electrical Birkeland current activity can be seen in many of these planetary nebulas; for example, signature effects like z-pinches and Double Layers (DLs), which belie the existence of cocooning plasma sheaths, can be seen interacting

with the greater interstellar electric field. The possibility that active brown dwarf stars can themselves form these spectacular displays of plasma activity also holds true, especially during periods of enhanced electrical input or disruption. This is what we believe happened to Saturn and its satellites as they found themselves severed from their main proto-star.



After separation from the main proto-star (the Sun's) Birkeland current, the proto-Saturnian system of polar-configured planets would have been encased in their own nebular plasma environment powered by Saturn's own Birkeland current. It is in this environment that mankind experienced the purple dawn era of myth. Each planetary nebular takes on its own electro-visual characteristics, but the famous Butterfly Nebula (seen above) serves as an illustrative reference for how the Saturnian system may have looked to any hypothetical imaging telescopes seeing it from the depths of space. NOTE: The image of the Butterfly Nebula is a false-color image that can't be detected by the human eye without special imaging equipment. Image of Butterfly Nebula credit: NASA.

After separation, the proto-Saturnian system of planets would have then found itself spiraling independently towards its original proto-star that had formed the Herbig-Haro object that had given it birth. By this time, that very same proto-star had now developed into a full-blown main-sequence star with its own set of orbiting planets, and almost definitely one companion sub-brown dwarf star. That former proto-star is what today we call the Sun. The Sun's companion sub-brown dwarf we are talking about was destined to become the future planet Jupiter, but that part of the story is for the second part of this book.



The primordial and dark ‘Purple Dawn’ era under proto-Saturn during its sub-brown dwarf star stage. A view looking north from the Siberian arctic coast.

Summary and Takeaways from this chapter

Before light came into the world, humankind’s earliest memories are of a primordial and permanent darkness permeated by a dull purple-hued twilight glow. In this ‘dreamtime’ or ‘purple dawn’ humanity is said to have had no way of calculating the passage of time since neither the Sun, the moon or the stars could be seen. Instead, the weak and dull glow of a future creative force hovered over a celestial ocean that milled chaotically above humanity for a period that stretched back into an unknowable antiquity.

- The sole energy source for the dull glow that permeated the Purple Dawn era of humanity is recorded as having occupied the northern celestial realms where it maintained a semi-stationary position where the Pole Star is seen today.
- We argue that descriptions of this dark primordial twilight actually describe the conditions of life under a sub-brown dwarf star and that this sub-stellar object would later come to be known as the planet/god Saturn, a celestial body that ancient mythology identifies as Earth’s first and best sun.
- Earth was originally a satellite of Saturn during the latter’s phase as a sub-brown dwarf star with Earth being cocooned in Saturn’s opaque plasma sheath where it received a uniform radiated energy from Saturn in the blue/red spectrum that was reflected back off Saturn’s plasma sheath, a type of electrical cocoon.
- The Earth, during its time under Saturn, would have experienced a season-less climate where flora grew in predominantly reddish hues and animal life was primarily adapted to a nocturnal existence (with the notable exception of humans). All light from stars outside of Saturn’s plasma sheath would have been blocked from reaching the Earth, thus depriving any humans at that time from being able to calculate the passage of time.
- The predominant force governing the universe (and therefore Earth’s primordial relationship to Saturn) is not gravity, but electricity. The transmission of electrical currents via cosmic plasma-based Birkeland currents, where the phenomenon of the electrically-induced and powerful z-pinch can form stars and planets, supersedes gravity as the main force shaping our cosmos.
- Earth was formed and trapped in the z-pinch of proto-Saturn’s southern polar Birkeland current where it maintained axial alignment with its original host star in what is called a ‘polar configuration’. This axial

arrangement persisted and extended back in time for the duration of the period called by us the Purple Dawn and only came to an end after Saturn's capture by the Sun. An axial alignment of this type perfectly explains Saturn's stationary position at Earth's celestial north as recorded in world mythology.

- Axial aligned objects are now commonly seen throughout the galaxy where they are often referred to as Herbig-Haro objects. These Herbig-Haro objects are associated with proto-stars that display vast polar jets (Birkeland currents) populated with plasma beads along their length (z-pinch regions where planets can form). Herbig-Haro objects offer a new axial-aligned model for the birthing of brown dwarfs and planets as polar ejected bodies originating from the cores of young proto-stars.
- We hypothesize that our current Sun started out life as a proto-star at the centre of a Herbig-Haro object where its southern polar Birkeland current formed the proto-brown dwarf Saturn and the proto-planets Uranus, Neptune, Mars and Earth, while its northern polar Birkeland current formed Jupiter, Mercury and Pluto.
- We hypothesize that the proto-Sun's axially aligned Herbig-Haro configuration broke up once the Sun went main sequence and that the Sun's northerly drift first allowed it to capture its northern proto-planets of Jupiter (and its moons), Mercury and Pluto before being eventually caught-up by the southern proto-planets dominated by Saturn.
- We hypothesize that in the interim between the break-up of the Sun's proto-Herbig-Haro configuration to its capture of Saturn, the Saturnian collection of proto-planets (including Earth) maintained their axial alignment while drifting in a wide northerly spiral towards the Sun. During this time Saturn and its axial-aligned satellites formed a planetary nebular within an opaque plasma cocoon capable of blocking out all incoming galactic light — i.e. the age known as the Purple Dawn of Mankind.

The Arrival of Man on Earth

Subsection contributed by Troy D. McLachlan

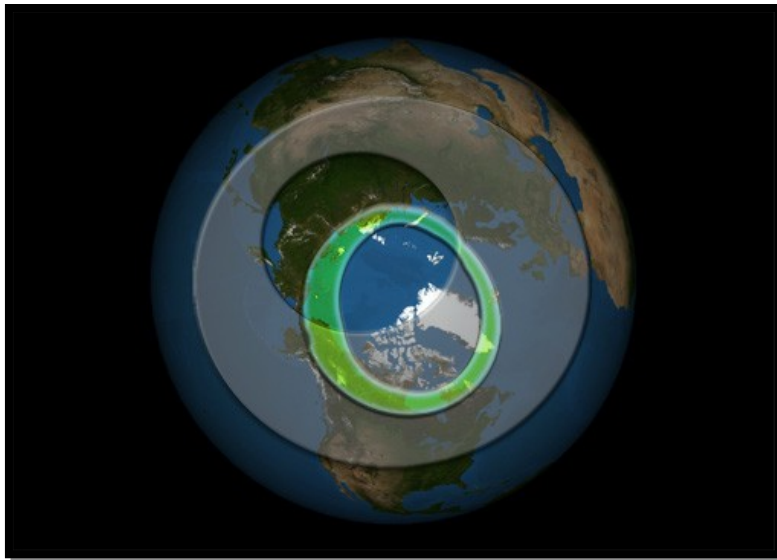
The Cold Reality Facing Primordial Mankind

There is no doubting the antiquity of life on Earth as a whole. We can trace the lineages of a huge range of species back through the fossil record to periods vastly predating the arrival of human beings. But at some time in the relatively recent past, the species called *Homo sapiens* appeared on this planet — and the world has never quite been the same. . .

We jest, but while evolutionists persist in the greater joke of tracing human lineage down through a disconnected and convoluted chain of hominid species to a common simian ancestor, what can be established is that full *Homo sapiens* (modern man) made his earliest mark with the arrival of a people once referred to as Cro-Magnons.²⁷

The world initially inhabited by this Cro-Magnon people was the world of the purple dawn era as discussed in the previous chapter; an age of darkness spoken of in the myths and oral traditions of the most ancient peoples on Earth. As already discussed, it was a dark world imbued with only one season, one climate and absolutely no reference for Cro-Magnons to mark the passage of time. It was also a time when a large chunk of the Cro-Magnons' world was covered by an eternal shadow, a great thick dusty aurorae covering that produced a ribbon-like sheet of ice circumnavigating the Earth's Arctic Circle. It was a time science calls the Pleistocene Ice Age.

²⁷ See the section above titled "The requirements for a human home world" for a more full discussion on this topic.

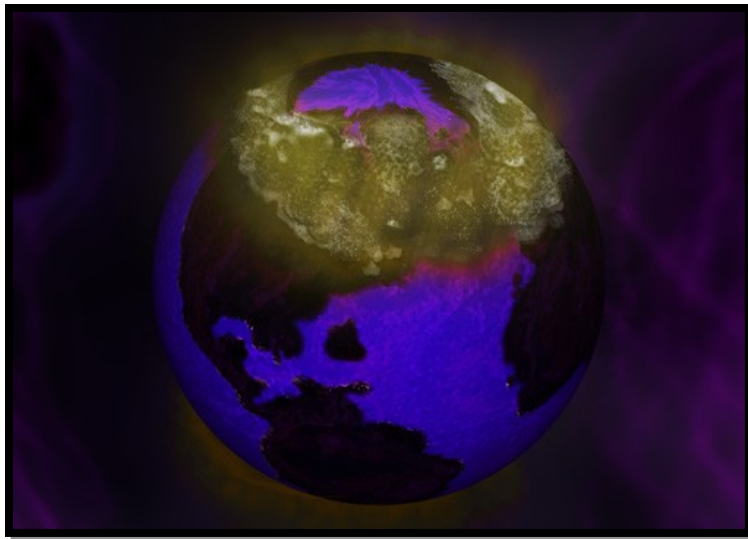


The extent of the Pleistocene ice age is represented by the larger, grey overlay. It clearly shows the Arctic region ice-free, as would have been the case had a sub-brown dwarf star existed for a period of time above Earth's North Pole. The smaller, green colored overlay indicates the general coverage of today's aurora bands. Under Saturn, Earth's aurora band would have been far larger and much denser, a feature that allowed it to cast a cooling shadow over the Earth's surface below them. Such an aurora band probably corresponded to the area covered by the Pleistocene ice sheets.

Land of Eternal Shadow

Dwardu Cardona has postulated that, as Saturn approached the Sun with Earth in its tow, the Saturnian system of planets would have 'electrically sensed' the more positive charge of the Sun's heliosphere as the electrically alive plasma sheaths of both systems drifted towards each other. The net result would be a surge of enhanced electrical activity throughout the Saturnian system, its most noticeable effect on Earth being the emergence of great auroras appearing around the Arctic and Antarctic polar regions.

Auroras are a recognized form of plasma and plasma is known for its ability to attract large concentrations of dust and other particles into cloud-like formations. Due to the close proximity of Earth to Saturn, this aurora would have been highly enhanced compared to the auroras we see today, enhanced enough to have attracted into a vast ribbon of cloud much of the dust in the Earth's atmosphere at that time. This auroral ribbon of semi-permanent cloud would have corresponded very well to the known areas of glaciations that occurred during the Pleistocene ice age.



The cooling effect of a dust heavy aurora ring caused by enhanced electrical activity between Saturn and Earth as Saturn starts to ‘electrically sense’ the more powerful Sun before its capture. This produced the glacial ice sheets that conform to the known glaciated areas of the Pleistocene Ice Age (see previous graphic). Also corresponding to Pleistocene ice coverage, the northern polar region remains ice-free largely due to the concentration of radiated energy arriving from Saturn sitting above the North Pole. The Earth’s vegetation takes on a reddish hue at this time giving Earth its purple-hued look for anyone seeing it from orbit.

A common misnomer surrounding Earth’s ice ages is that they initially spread from the poles outwards to the lower latitudes as the global temperature cooled. In fact, one of the great mysteries to modern science is that the greater amount of land found within the Arctic Circle remained ice-free during the Pleistocene epoch, a finding that is completely at odds with the accepted model for how ice ages start.

“The islands of the Arctic Archipelago were never glaciated. Neither was the interior of Alaska,” wrote R. F. Griggs in an article quoted by Cardona in his book *Flare Star*,²⁸ while also quoting Immanuel Velikovsky’s reference to J.B. Dana who wrote: “It is a remarkable fact that no ice mass covered the lowlands of northern Siberia any more than those of Alaska.”

Cardona also quotes the catastrophists DS Allen and JB Delair (see their work *Cataclysm*, p. 39) in making a case for an ice-free Arctic:

“Today, the world’s coldest known land region is north-eastern Siberia. There, if anywhere, we might expect huge ice-sheets to have developed if the Ice Age theory

²⁸ Dwardu Cardona, “Flare Star,” Trafford Publishing, Victoria, B.C., Canada, 2007, page 81; quoting R. F. Griggs, “Indications as to Climate Change From the Timberline of Mount Washington,” *Science*, Vol. 95, No. 2473 (1942), p. 519

possessed validity. Yet comparatively very few areas of Siberia exhibit signs of significant glaciation, either past or present. . .

“Interestingly, as in neighbouring Alaska to the East, thin rock pinnacles still stand unglaciated at several Siberian localities which thick ice, had it once existed, would unquestionably have ground down and demolished.”²⁹

And even the venerable *National Geographic* has chimed in on this theme:

“Ice held most of the northern latitudes in its grip 18,000 years ago – with important exceptions. In the last ice age glaciers never completely covered eastern Siberia, Alaska, and the Yukon.” (“Plant that Beat the Ice Age,” *National Geographic*, March 2001)

What this all points to is a source of heat radiating from above the north pole at a time when Cro-Magnon man walked the earth during the Pleistocene Ice Age, a source of heat that is well explained by the presence of a radiating, yet dull brown dwarf star that would eventually become the planet Saturn.

The ribbon of glaciated ice sheets that ringed the Arctic Circle would have formed a natural barrier between flora and fauna both north and south of this ice ring, with the majority of Cro-Magnon people settling south of the ice sheets. Yet, it has long been known that lush vegetation once existed within the Arctic Circle, a fact referred to by the writer William Warren in his search for evidence that man’s original mythical Paradise had been near the North Pole:

“The Arctic regions, probably up to the North Pole, were not only free from ice, but were covered with a rich and luxuriant vegetation.”³⁰

Evidence of early humans has also been found there.³¹ It seems Cro-Magnon man may have braved crossing the broad glaciated barrier and settled in the areas close to the Arctic coast,

²⁹ Ibid, pp. 81 – 82.

³⁰ W. F. Warren, “Paradise Found,” (Boston, 1885), page 85, as quoting Croll, “*Climate and Change* (American edition, 1875), page 7. Both references taken from Dwardu Cardona, “God Star,” page 361

³¹ John Noble Wilford, “New Evidence of Early Humans Unearthed in Russia's North,” September 6, 2001, *The New York Times*, Science section, see; <http://www.nytimes.com/2001/09/06/science/06TUSK.html>

Also see evidence for Neanderthal presence near the Arctic Circle: L. Slimak, J. I. Svendsen, J. Mangerud, H. Plisson, H. P. Heggen, A. Brugere, P. Y. Pavlov, “**Late Mousterian Persistence near the Arctic Circle**,” *Science*, 2011; 332 (6031): 841 DOI: 10.1126/science.1203866. See: <http://www.sciencedaily.com/releases/2011/05/110513112527.htm>

and possibly even on some of the Arctic islands. Here, tribes of Cro-Magnons would find themselves closer to the source of life that shed its pale light on this purple dawn of mankind. Here they could have basked under the primordial dark glow of Saturn, even as it drifted unknowingly ever closer to its fateful encounter with the Sun. Here was a virtual paradise for mankind, a land filled with rich game and flora, a world immortalized on the walls of caves by their cousins still living south of the ice sheets. Here then was the mythical world of the Purple Dawn of Creation.

A Fight for Survival

Such a world as described above can be placed as beginning about 30,000 – 40,000 years ago (at least by standard dating schemes) and lasting up until at least 10,000 years ago when Saturn finally and catastrophically found itself captured by the Sun. The beginning of the Pleistocene ice age coincides with the arrival of Cro-Magnon humans and its end marks the beginning of the mythical Golden Age. Cro-Magnons lived and died during the intervening millennia, leaving us a magnificent testimony as to their existence painted on the walls of deep caves and subterranean tunnels.

During this period, however, Cro-Magnons faced a far more immediate threat to their existence than the depressingly dark atmosphere of primordial Earth. It was a menace that was to have long-reaching consequences for the collective psyche of humans as a whole, a menace that was something truly frightening; it would precipitate a struggle for survival that amounted to what was an Upper Paleolithic world war. The menace in question involved a fight to the death with the leading predator of the age, a creature both cruelly intelligent and immensely strong. In the gloomy depths of this age of darkness, Cro-Magnons found themselves facing their greatest enemy, the Neanderthal!

Summary and Takeaways from this chapter

The appearance of *Homo sapiens* (modern humans) on Earth was heralded by the arrival of disparate groups of people generically referred to as Cro-Magnons. Their world was, at that time, a dark twilight and timeless existence illuminated only by the dull glow of the sub-brown dwarf called Saturn, a time in which nocturnal animals thrived and the planet found itself in the icy grip of the Pleistocene Ice Age.

- Contrary to popular belief, much of the Arctic polar region was ice-free during the Pleistocene, with the ice sheets actually forming a glacial ribbon around the Arctic Circle and not originating from or extending into the Polar Regions.
- The ice-free land within the arctic circle during the Pleistocene was warmed by the radiating glow of Saturn situated at Earth's celestial north and abounded with flora and mega-fauna at this time.
- The ice sheets encountered by the Cro-Magnon peoples existed in an 'eternal shadow' cast by thick dust-laden aurora generated by Saturn's electrical relationship with Earth. These enhanced aurorae occurred as a result of Saturn's *electrical sensing* of the Sun's heliosphere as it spiraled ever closer to its eventual capture. Similar aurorae existed in the southern hemisphere.
- There is now undeniable evidence for human habitation within the Arctic Circle during the height of the Pleistocene Ice Age; a fact only made possible by the warming influence of Saturn's once radiating energy coming from its northern position where the Pole Star is today.
- The period of time in which Cro-Magnon culture dominated stretches (by standard dating schemes) approximately from 40,000 years ago till 10,000 years ago at which time the Pleistocene Ice Age came to an end as Saturn was captured by the Sun and the Golden Age epoch of world mythology dawned.
- During the Pleistocene Ice Age Cro-Magnons faced the greatest threat to their survival in the form of a predatory hominid called the Neanderthal.

Upper Paleolithic World War (Predator Versus Warrior)

Prior to the arrival of Cro-Magnon man on Earth, the Neanderthal had gone for some very long space of time unchallenged. He was conservative in his habits, his basic tool/weapon kit never changing over his entire existence on Earth. He was not inventive the way humans are. His brain was substantially larger than those of other hominids, a bit larger than ours even, but it hasn't been clear what he used it for; we don't find Neanderthal bridges, aqueducts, or cathedrals, nor even harpoon points or any of the myriad things that Cro-Magnon people made from horn, bone, or stone. New studies are indicating that:

*“...Results imply that larger areas of the Neanderthal brain, compared to the modern human brain, were given over to vision and movement and this left less room for the higher level thinking required to form large social groups....”*³²

It is a reasonable conjecture that, prior to the arrival of Cro-Magnons, the only real existential threat to Neanderthals was other Neanderthals. One assumes, therefore, that a lot of whatever creative energy Neanderthals may have had went into dealing, one way or another, with other Neanderthal groups. It could also be, given the tremendous selection pressure there would have been for family group leaders who could keep their fellow hunters fed, that those bigger brains were working overtime designing traps, and that the simplest trap may have been more complex than the most complex weapon in those days.

The European Neanderthal appears to have died out in a wave spreading from East to West as he came into contact with Cro-Magnons, with the final Neanderthal stand in Europe occurring in caves on the coast of southern Spain. Recent dating efforts have moved the die-out in Spain back substantially; the picture we used to have of Neanderthals holding out in Spain for three or four thousand years after being extinct in the rest of Europe is being replaced with a picture of a more sudden collapse, ending in Spain³³.

This appears to have been a war of extermination on the part of the Cro-Magnons. There is no reason to believe they would have harbored any hatred for hominids prior to their arrival on Earth, but reasons for such hatred apparently arose in short order, and probably involved Cro-Magnons being eaten. For that matter, lions and hyenas don't always bother to kill prey animals before eating them and there's no particular reason to believe that Neanderthal

³² BBC: “Neanderthals' large eyes 'caused their demise” <http://www.bbc.co.uk/news/science-environment-21759233>

³³ <http://www.archaeology.org/news/504-130205-spain-neanderthals-extinction>, “What our research contributes is that in southern Spain, Neanderthals don't hang on for another 4,000 years compared with the rest of Europe. And the hunch must be that they go extinct in the south of Spain at the same time as everywhere else.”

behavior would have been different. Cro-Magnons would only need to have seen something like that happen to one of their own number once.

On the other hand, if the thought that they needed to exterminate Cro-Magnon man ever occurred to Neanderthals at all, it occurred to them way too late. The greater likelihood is that Neanderthals viewed humans not so much as enemies or adversaries, but as exotic food items. That is to say, that a creature that typically slew bison and mammoths for main course diet staples would not plausibly have viewed humans as a major source of protein; more like something in the way of desert or hors d'oeuvres, and in something like the manner in which we view French pastries. The idea of **exterminating** us would have struck them as abhorrent, much as we would view the idea of bombing or burning down the French pastry shop.

For a very brief period after the two groups first met, the advantages would have been on the side of the Neanderthals. But this would not have involved anything that you might call a military action; more like groups or hunting parties of several Neanderthals skulking around the perimeters of an early Cro-Magnon settlement until they could find a way to nab one or two humans to carry back to their own settlement for culinary purposes.

Despite the superior physical strength of the Neanderthal however, Cro-Magnons quickly developed several decisive advantages in this conflict. They had javelins, bows, and their signature weapon, the atlatl; they had dogs that would have neutralized any edge the Neanderthal had at night; they had fire and, granted that the Neanderthal also had fire, the Neanderthal with his fur coat had to be a great deal more careful about using fire in the open and could not use it as a weapon. An incident that would cause a minor burn to a human, would most often light a Neanderthal up like a torch and fry him.

But the biggest edge the Cro-Magnons had was probably organization (and the fact that they realized that they were in a war). The large-scale evidence of cannibalism amongst Neanderthals indicates that, as is the case with lions, their social organization was entirely on a family group basis and that trying to organize on any kind of a larger basis than that would have been extremely difficult for them.

All of that says that a Cro-Magnon war party needed be only two or three times the numbers of the largest Neanderthal family they figured they would encounter, i.e. that they never encountered more than one family group worth of Neanderthals at any one time. They could travel with dogs and their projectile weapons and every fifth or sixth person could carry a torch to deal with any Neanderthal that managed to get to close quarters. The whole deal was pretty one-sided and, by the time the Neanderthals realized that they needed anything beyond the organization and skills that had given them dominion over this planet for so many thousands of years, it was way too late.

It is a reasonable conjecture that the Cro-Magnon conquest of Europe took the form of a military invasion rather than merely a sequence of migrations, which would necessarily have included women and children, and that Cro-Magnon's began to settle in Europe after the

territory was cleared. One might also surmise that killing Neanderthals was the easy part of the business and that the more difficult task was staying alive in the deep freeze of the European Ice Age. It turns out, in fact, that the extermination of the Neanderthal mainly took place during one of the warmer periods:

“The data reveals that Team Cro-Magnon began to take over during a not-so-severe climatic era called Greenland Interstadial 8 — an abrupt cold reversal taking place around 40,000 years ago.”³⁴

Again, the last European stand of the Neanderthal was in southern Spain and you might think that would have been the end of it, but it wasn't. Modern humans spread out from Europe and from the Levant and everywhere they went they exterminated all hominids, and not just the Neanderthal. This gets into areas of investigation at the edge of history and science. Danny Vendramini claims that junk DNA has a way of encoding instinctive behaviors, particularly instinctive recognition of enemies³⁵. It is known that turkey chicks will flee from the sight of a hawk and the human abhorrence of spiders and snakes is similarly instinctive. In fact modelers have flown high-performance radio planes straight out over groups of Canada geese (on the ground) and then turned the planes upwards 5 feet over their heads and the geese don't even blink; that almost certainly has something to do with the fact that no goose has ever seen one of his friends killed or eaten by a toy airplane. . .



AXN Floater Jet: Will Canada geese ever come to fear such creatures?

Vendramini claims that human abhorrence of hominids was thus coded into human DNA at an early point so that the war against them continued wherever humans traveled. Interestingly

³⁴ Rachel Durfee, “[Presenting: Cro-Magnon v. Neanderthal in the Battle of Extinction](http://www.popsci.com/scitech/article/2008-12/presenting-cro-magnon-v-neanderthal-battle-extinction),” Popsci.com, 31 December, 2008. See: <http://www.popsci.com/scitech/article/2008-12/presenting-cro-magnon-v-neanderthal-battle-extinction>

³⁵ <http://thesecondevolution.com/>

enough, there is no evidence of a human instinct to completely exterminate monkeys or apes. Vendramini refers to this phenomenon as TEEM theory (Trauma Encoded Emotional Memory) and the idea amounts to a claim that Lamarck's vision of evolution actually works for instinctive behaviors

The other question that arises is that of "cryptozoology" and whether or not a certain number of hominids actually remain in the world today. The most densely populated state in the US is New Jersey, which is said to be something like 35% developed. The claim that Lloyd Pye and others make is that something like 65% of the Earth's land surface is seen only from the air and that hominids, including the "Bigfoot" live in such areas. If any such creatures exist, then the fact that no completely verifiable account of them has ever been forthcoming has to mean that previous experiences the creatures have had with humans over the ages have been very, very bad; bad enough that their most basic rule is to avoid contact with us at all costs. Eyewitness accounts of "Bigfoot" describe the creature typically as seven or 8 feet tall, eliminating the Neanderthal from possibility. Amerind oral traditions are not lacking in descriptions of hominids³⁶.

Hominids came in a number of different flavors. This used to be presented to the public in the form of an evolutionist chain of ascent with presumably remote ancestors at one end of the line leading up to the Neanderthal and then humans at the most recent end. The picture that is emerging now looks more like a case of the various hominid types walking around at roughly the same time. Lloyd Pye claims there are several such creatures still walking around in that 65% of the planet's land surface that is seen only from the air³⁷.

³⁶ <http://www.bigfootencounters.com/biology/fusch.htm>

³⁷ http://www.youtube.com/watch?v=pe6DN1OoxjE&feature=player_detailpage

Summary and Takeaways from this Chapter

There have recently been claims of genetic evidence indicating crossbreeding between some human groups and Neanderthals. These claims cannot be squared with the dynamics of the recent human population bottleneck and there is no way to believe that early humans would have tolerated hominid crossbreeds at a time during which they were occupied with exterminating hominids, root and branch, from the planet. As James Shreve has noted (“The Neanderthal Peace”), there is no physical evidence of humans and Neanderthals crossbreeding on the planet. In short, we view such claims as false.

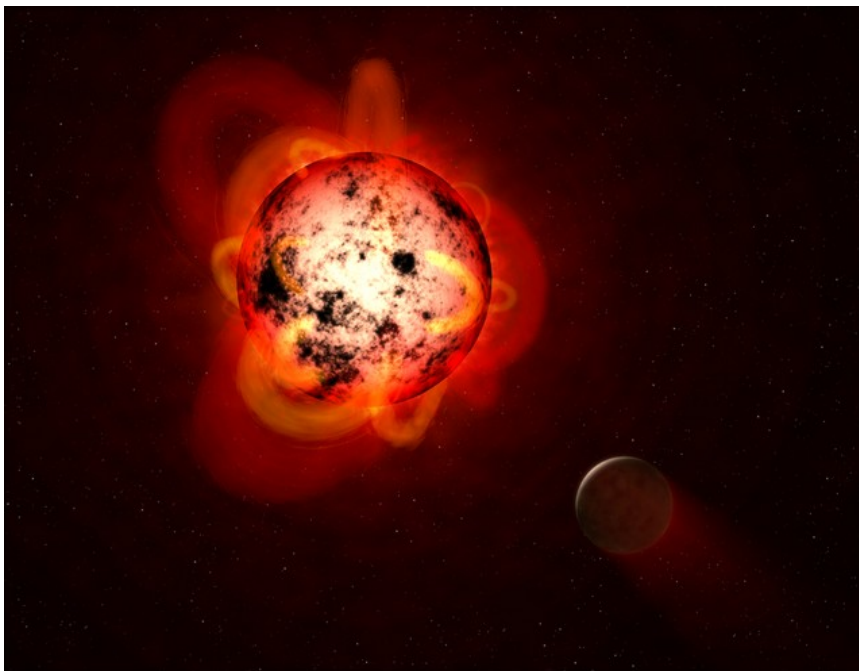
The Neanderthal was the apex predator of Ice Age Europe. Compactly built and massively strong, he had dominated the Earth for untold ages before the arrival of Cro-Magnon man, using thrusting spears to kill large prey including mammoths and woolly rhinos. But he lacked the organizational skills and inventiveness of the Cro-Magnons and, viewing them as a food source rather than as an implacable enemy, apparently never realized that he was in a war until it was too late.

Danny Vendramini’s claim that instinctive behaviors are heritable (“TEEM theory”) appears plausible. If, as Bigfoot aficionados claim, small groups of remnant hominids still live in the 65% of the planet’s land surface that is seen only from the air, then their instinct to avoid contact with humans will have arisen, as per Vendramini’s claim, from overwhelmingly bad experiences dealing with our ancestors.

The Flood

A recent article on the topic of dwarf stars flaring:

<https://www.nasa.gov/feature/jpl/flares-may-threaten-planet-habitability-near-red-dwarfs>



There is substantial evidence that Jupiter and Saturn used to be dwarf stars (the thing about Jupiter and Saturn being the two chieftain gods of the old pantheon religions, the near universal worship of Saturn in ancient times etc.). Did people living on earth ever witness Jupiter or Saturn flaring?

Consider what the Bible, the King James version at least, has to say about the seven days preceding the flood:

"GEN 7:4 For yet seven days, and I will cause it to rain upon the earth forty days and forty nights; and every living substance that I have made will I destroy from off the face of the earth.....

GEN 7:10 And it came to pass after seven days, that the waters of the flood were upon the earth."

There is something interesting going on in that question of the seven days just prior to the flood but the Bible itself does not explain it, at least not clearly. There is one other place in the Bible which refers to those seven days. In Isaiah 30:26, the prophet makes a vague reference which he does not bother to explain because he assumes everybody in his audience understands the reference. He is describing the end of the world in far time and says (as the King James version has it)

"ISA 30:26 Moreover the light of the moon shall be as the light of the sun, and the light of the sun shall be sevenfold, as the light of seven days,,,"

Now, what has actually happened is that this text has been translated OUT of some language which, like Russian, does not use articles (when you have six declension cases you don't NEED articles); it should read "...the light of the sun shall be sevenfold, as the light of **THE** seven days,,,"

In other words, the passage is referring back to the seven days mentioned in Genesis 7:4 - 7:10.

Nonetheless, Isaiah 30:26 is mistranslated in all more modern Bibles, at least as far as we know. Without reinserting the word "THE" in the passage, what it looks like the prophet is trying to say would be "as bright as if somebody were to somehow manage to cram seven days

of daylight into one day". In fact the NIV actually inserts the word "FULL" ("... The light of the sun shall be sevenfold, as the light of seven FULL days") and that totally locks the mistranslation into place.

Midrashic sources absolutely connect Isaiah 30:26 back to the two passages in Genesis 7, claiming that God turned on the primordial lights of the universe for the week prior to the flood, to commemorate the death of Methuselah (e.g. Louis Ginzberg "Legends of the Jews", Vol 5 page 175).

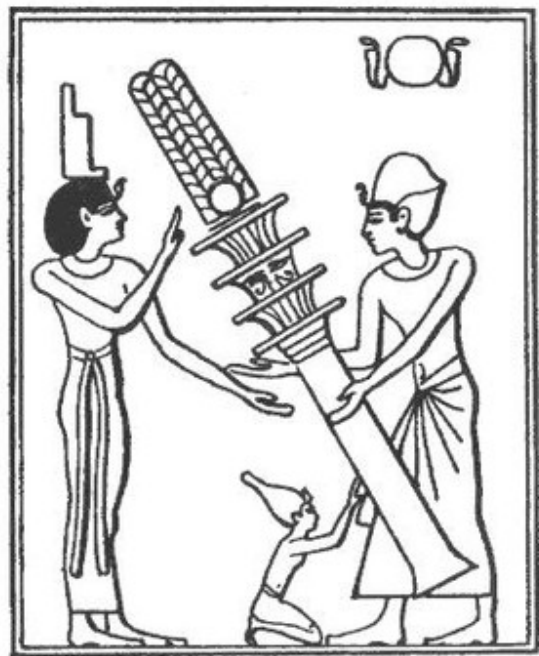
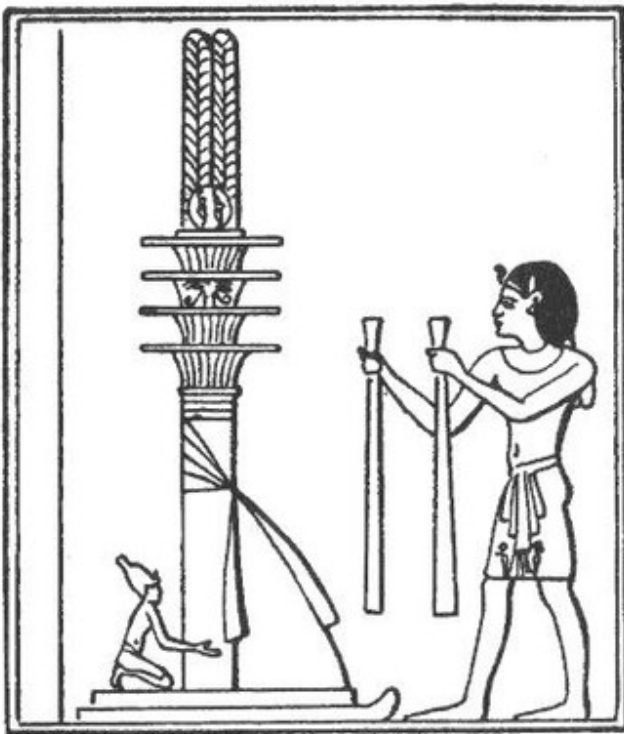
Turning on the "primordial lights of the universe" for seven days would have to get everybody's attention. What the prophet is saying is that there were seven days of intense light and radiation, followed by the flood. In other words, the flood itself was preceded by some kind of a major event within our system, and that the flood itself was part and parcel of some kind of a system-wide catastrophe.

The kind of catastrophe which you normally associate with blinding light and radiation would be a nova condition. We can rule out the possibility of our present sun (a main sequence star) having gone nova at that time since that would have fried the entire system to cinders and we wouldn't be here. The next item down on the list for things like that, which would in fact get our attention but would stop short of frying the entire system, would be for one of the dwarf stars, Jupiter or Saturn, to have FLARED as the article mentioned above describes. That is basically what happened and that is basically what brought about the flood at the time of Noah.

Shu / the Pillar of Shu

The cosmic Birkeland current strung out between Saturn, Earth, Mars, and the blue body (Neptune or Venus) between Saturn and Mars, was easily visible from Earth. Greeks and Romans referred to this apparition as the magic mountain (Othrys) that Saturn/Kronos sat upon (the actual mountain in northern Greece is named after the mythological mountain/Birkeland current). Egyptians referred to the apparition as the "Pillar of Shu" or "Djed Pillar"; they viewed it as supporting the heavens and the Saturnian cosmos..

Egyptian depictions:



3ntropy-Gamer's depiction:



The Tower of Babel

The “Pillar of Shu” generated a massive static electrical field and surface charge on the Earth.

Artist's conception:



Static electricity generates white noise and white noise is the most common denominator of many experiments involving telepathy and telepathic capabilities.

A realistic study of the history of human languages on earth indicates that if the story of the Tower of Babel did not exist, we would have to invent it. The problem is that the theory of evolution works about as well for human languages as it does for animals. That is, it can explain small changes, but not large ones. The best example of this is the Indo-European – Semitic divide. There is no meaningful racial difference between the two groups and they could not have split up more than a few thousand years ago. The language groups should be strongly related but, other than for a handful of borrowed words, they are not related at all. The easiest way to grasp this is the question of the words which typically start with a P in one Indo-European language and an F in the next (fish / pesha, foot / pied etc.) , . Indo-European people originally pronounced P's and F's together; German retains nearly 300 words beginning with "Pf" and even comparisons of languages like English and Russian which have been separated for 3000 years or more show examples of this, e.g.

Flame / Пламя

Fall / пал – упал

Flow / плавать-плавание

Fart / пердеть

Family / племя etc. etc.

In order to believe that there ever was any kind of a superfamily of languages (Nostratic) that included both Indo-European and Semitic languages, some of these P/F connections would have to carry into Hebrew and Arabic, but they don't. The language groups are unrelated.

What the actual evidence suggests is that prior to some very recent point in time, human communications was of some totally different nature and that, whatever that older form of

communication was broke down on a single day and has never worked again from that day to this. Thereafter, the kinds of spoken languages we use now were devised in a big hurry out of dire necessity.

Given that hypothesis, the only thing you need to explain the Indo-European/Semitic divide, is that the two groups were separated by the Caucasus Mountains for that critical period of one or two centuries during which our present languages were being created.

That of course is basically the story of the Tower of Babel, and what that story means. Human communication prior to the flood and the fall of the tower was essentially telepathic, involving static electricity and that right side analog to the Wernicke area of the human brain that Julian Jaynes described. A Facebook group has been created for discussion of that kind of topic:

<https://www.facebook.com/groups/ancienttelepathy>

Aside from everything else, it is probably the case that the Neanderthal and other hominids were able to communicate that way while, like monkeys and apes, they probably lacked the voluntary control over breathing which is needed for human spoken languages.

The Age of our Earth

Allowing for even one cosmic catastrophe of global scale wrecks all of the assumptions upon which the dating schemes which you read about are based.

How old then is our planet in real life? All we can really do is guess; the question then becomes, what would a **REASONABLE** guess look like?

The approach which seems to come closest to suggesting itself in any sort of a natural way would be to go back to the familiar 24-hour clock analogy:

http://www2.nau.edu/~lrn22/lessons/timeline/24_hours.html

To help you put the age of the Earth in perspective, this analogy may be helpful. If you think of all of Earth's history as having taken place in just one day, then the pie-chart above is a 24 hour clock. The Earth forms at 12:00 am, and cools down from a molten state over the next several hours. The oceans form and the asteroid bombardment diminishes. Very primitive single celled life appears very quickly, before 4:00 am, and photosynthetic organisms appear before 6:00 am. Right around noon, the atmosphere becomes oxygen rich. By 1:00 pm (13:00 h) the single-celled eukaryotes have arrived. By 5:00 pm (17:00 h) the first multicellular forms appear. The first aquatic animals don't arrive until after 8:00 pm. Plants colonize land at 9:30 pm and land animals follow at 10:00 pm. The dinosaurs are the life of the party for about an hour; from 10:40 pm to 11:40 pm. Human ancestors split off from the rest of the hominids at only two minutes to midnight, and modern humans arrive as the clock strikes midnight.

In other words, if we view the entire history of our planet as having taken place in one day, then at that scale, the dinosaurs arrive at about 10:40 PM.

But we've noted that the oldest real radiocarbon dates we have for dinosaurs are around 40,000 years. That says that you'd multiply 40,000 by 24 and then divide by 4/3 and you get a number around 720,000 years.

That ASSUMES that the establishment science people at least got their ratios right but that seems reasonable enough on the face of it and the 720K number seems intuitively plausible enough, particularly compared to the 5K – 10K estimate for Venus which we know is reasonable from the Thunderbolt group's studies.

Somebody who wanted to be safe and give the evolutionists every possible benefit of a doubt might want to double that number (1,440,000 years), but I can't think of a reason to want to triple or quadruple it. Nonetheless, even if you were to multiply that number by 10, then you're still talking about less than 10 million years.

That then would be our version of a reasonable guess as to the age of the earth: somewhere between a few hundred thousand and a few million years but not even tens of millions of years much less the hundreds of millions or billions of years which you normally read about.

Aside from that, the history of our planet is divided into periods by changes in our cosmic environment. The first such period was the Purple Dawn age which Troy McLachlan describes in his "Saturn Death Cult" (www.saturndeathcult.com). This was the main age of dinosaurs, Neanderthals and other hominids, and the myriad other creatures (lemurs, tarsiers, owls...) with the huge dark world eyes needed for that environment; an age in which purple light from the dwarf star to the celestial North bounced off of the interior of the plasma heliosphere of the dwarf star and irradiated all points on earth, Mars, and other bodies of that Saturnian system.

You might also want to divide that purple period into two segments i.e. before and after the near-capture event during which Cro-Magnon humans transferred to Earth.

The second main age was the so-called "Golden Age" or classical antediluvian age that you read about in antique literature. During that period, Saturn, still more of a dwarf star rather than a gas giant planet, had begun to glow with a golden rather than a purple light.

There followed the flood and then a brief period called a "Silver age" in classical literature during which earth had been passed off to Jupiter/Janus.

Finally, there is the present age during which earth orbits our present sun directly rather than being aligned with any dwarf star.

Thanks largely to the work of scholars following in the footsteps of Immanuel Velikovsky, we now have a fairly reasonable picture of the history of earth beginning a couple of thousand years or so before the flood. We can deduce a picture of human life within our system some tens of thousands of years back from the present investigation of Ganymede and of the

relationships between human groups. Nonetheless, there is a vast span of time between those first human saltations on earth and the classical antediluvian age.

Saturn may have flared on one or more occasions prior to any history that we know much of anything about. There may have been one or more bright periods prior to the classical Golden age. We are beginning to find megalithic ruins beneath the waves in waters close to Cuba and Okinawa, and in other sites. There is no way to know how many times civilizations may have risen and fallen on earth in that vast stretch of time between that first human saltation, and the Golden age.

Or if you prefer pictures, the history of our planet looks sort of like this:



In that image, the deep purple part is the primeval condition of our world and the Southern (Saturn, Neptune, Mars, Earth) system; the change to lighter purple is the near-capture event during which Cro-Magnon humans transferred to Earth; the golden area is the “golden age” that classical authors describe prior to the flood during which Saturn had lit up on a quasi permanent basis; the silver part is the post deluvian age during which Earth had been passed off to Zeus/Jupiter for a less lengthy period, and the yellow part is our present age.

Part II Mars in Past Ages and Now

This Book is about human origins within our solar system and, thus, primarily about Jupiter's largest moon, Ganymede. Why then should such a book contain a section dealing with Mars? The answer is that Mars is easier to get a handle on than Ganymede and that some of the points the book tries to make are more easily grasped in the case of Mars than in the case of Ganymede. In particular, we have satellite images from Ganymede but no rolling probe images such as we have for Mars. The information that we have indicates that there was a multi-planetary civilization within our system very recently in the past, and that reality is most easily grasped by examining the last 45 years worth of those probe images.

There are now a baker's half dozen or so facebook groups entirely dedicated to going over NASA/JPL Mars images pixel by pixel, and that is not because Mars has always been a Dead world:

<https://www.facebook.com/groups/1184954461586455/>

<https://www.facebook.com/groups/224983881216688/>

<https://www.facebook.com/groups/TheMarsReality/>

<https://www.facebook.com/groups/30366699041/>

<https://www.facebook.com/groups/MarsMoonSpace/>

<https://www.facebook.com/groups/580723088722616/>

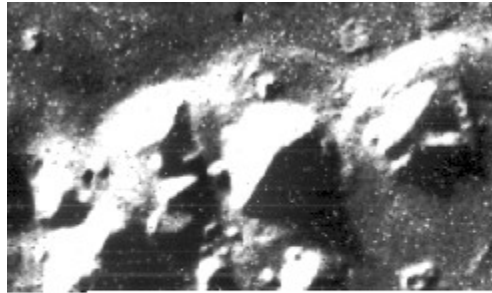
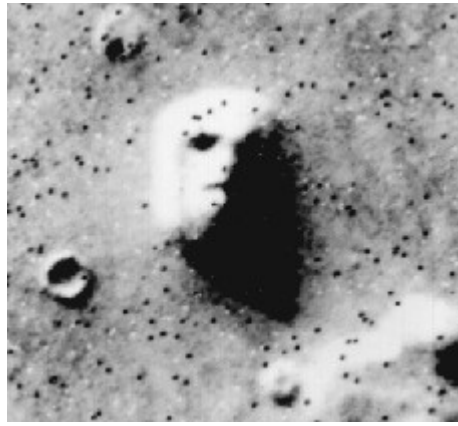
<https://www.facebook.com/groups/exclusive.mars.images/>

<https://www.facebook.com/groups/378586116362926>

The probe images indicate an advanced technological civilization on Mars in the recent past. As we've noted above, neither Earth nor Mars can be viewed as an original human home world within our system; we assume that the past civilization on Mars indicated by the probe images had been transferred to Mars from an original human home world.

Cydonia

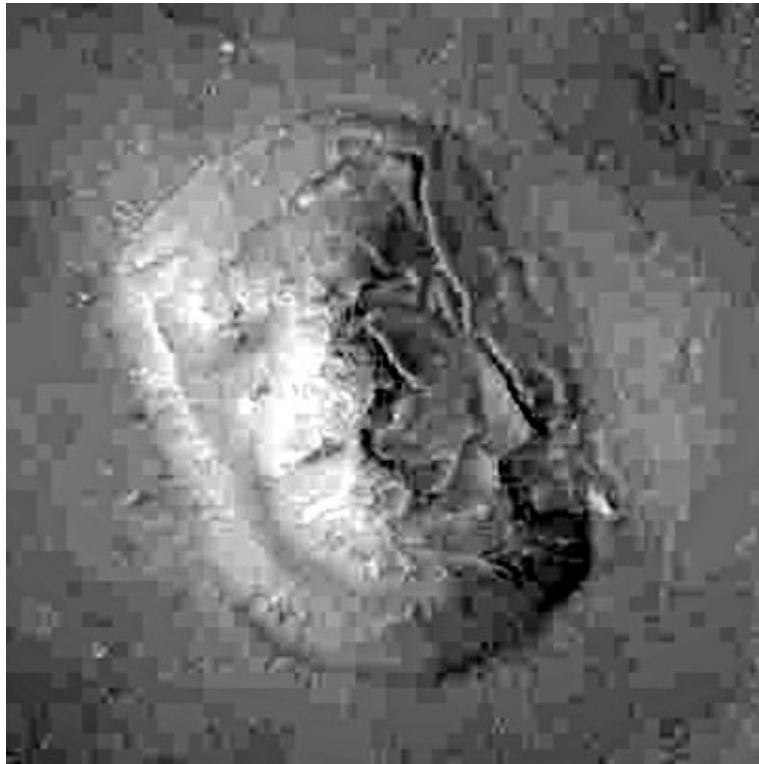
The Viking probe of 1976 sent back images of a region of Mars called Cydonia, which included the familiar "Face on Mars" as well as images of pyramids and other seemingly artificial structures, all megalithic in nature and apparently intended to be seen from off-planet.



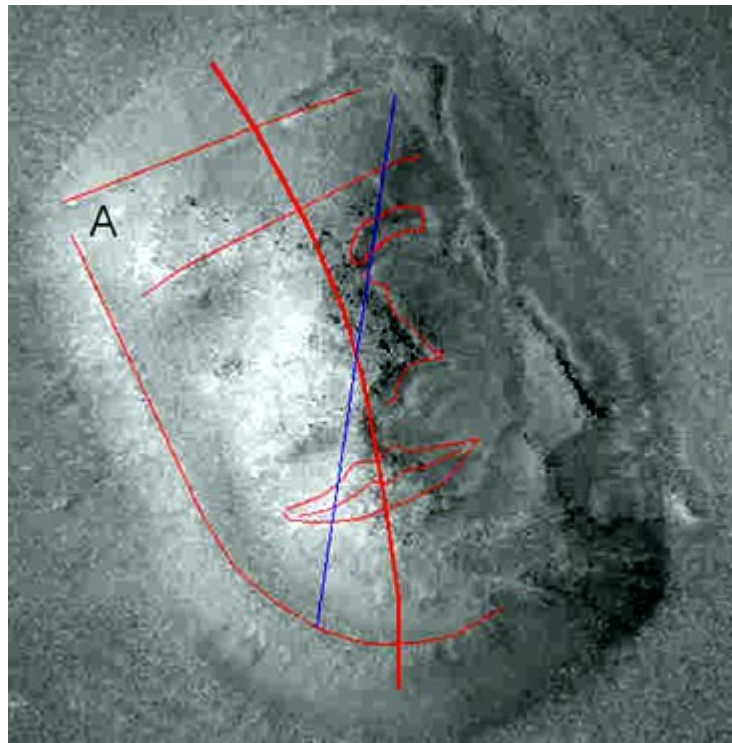
These images also included a gigantic and seemingly five-sided pyramid:



But the image called the “Face on Mars” was the big bone of contention between 1976 and the early 2000’s. NASA went on proclaiming the face to be a natural mesa formation producing a pareidolia effect involving tricks of light and shadow but, ultimately, pressure from outsiders forced them to re-image the Cydonia region with much higher resolution cameras culminating in the release in May of 2001 of this image:



Nature of course does not do straight lines and Bezier curves on a three mile scale. Several things are clear. First and most obvious is that anybody still trying to claim that this thing is a mesa or any other kind of natural formation is delusional. We notice several things, as have indicated in the marked-up image below



First is that there is only one possible way to build such a thing, i.e. to pile up stones into the rough shape you need, large stones on the bottom and then progressively smaller ones, and then put some sort of a hard facing over the entire thing. You can see how this has been done in the image. On the left side from which wind and sand come, the facing is almost entirely eroded and, even where the underlying stone shows, everything has been worn smooth. On the right side, we can see that part of the facing remains, much of it having fallen off to the side in heaps. We can see the cutout in the facing for the left eye, and we can see where the facing fell and broke away from the nose, which is what you would expect. We can also see the rough stones of the nose area, which have not all been worn smooth.

Second is that the megalith is heavily damaged and has suffered more than one kind of damage. My guess is that the entire rock plate on which the megalith sits was picked up and slammed down, and that the megalith was deformed in the process. You can see the places where the hard casement has been pulled apart on the right side. The megalith has been compressed along the axis from lower left to upper right which I have marked with the blue line, and stretched along the other axis from lower right to upper left. The angle A between the line of the headdress on the left side and the line along the top is thus less than the original 90 degrees. The line through the center of the face has been deformed from the original straight line to the curved line. The basic shape of the mouth is still there, albeit

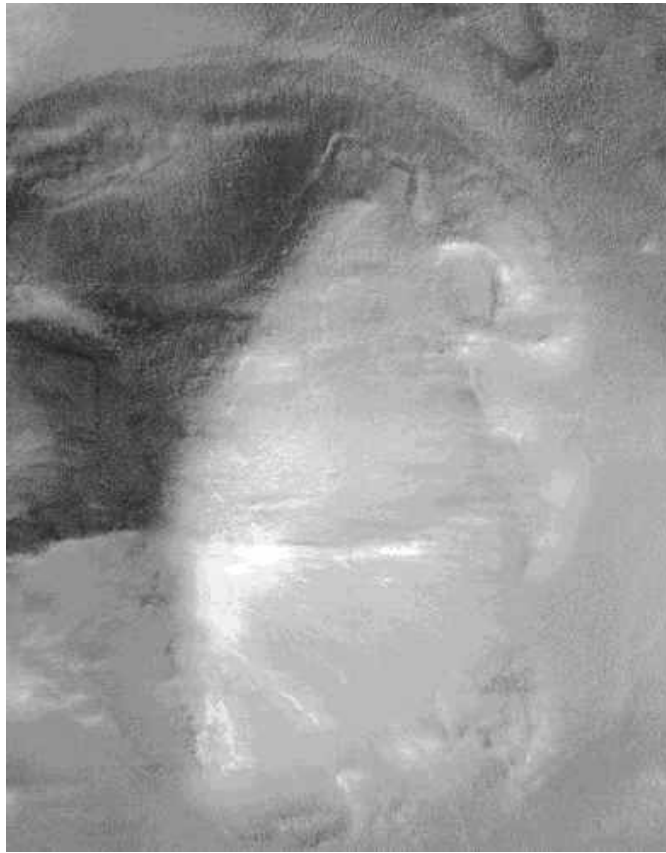
moved to the left. You can see where the outer casing has broken away from part of the outline of the mouth on the right.

You can see the ridge along the eyebrows, you can see the indentation for the right eye and the outline of the left eye cut into the facing and still in reasonably good shape. You can see the rise for the nose as well as the area where the casing broke away from the nose on the right, and part of the remains of nostrils, and you can see the basic lines of the mouth.

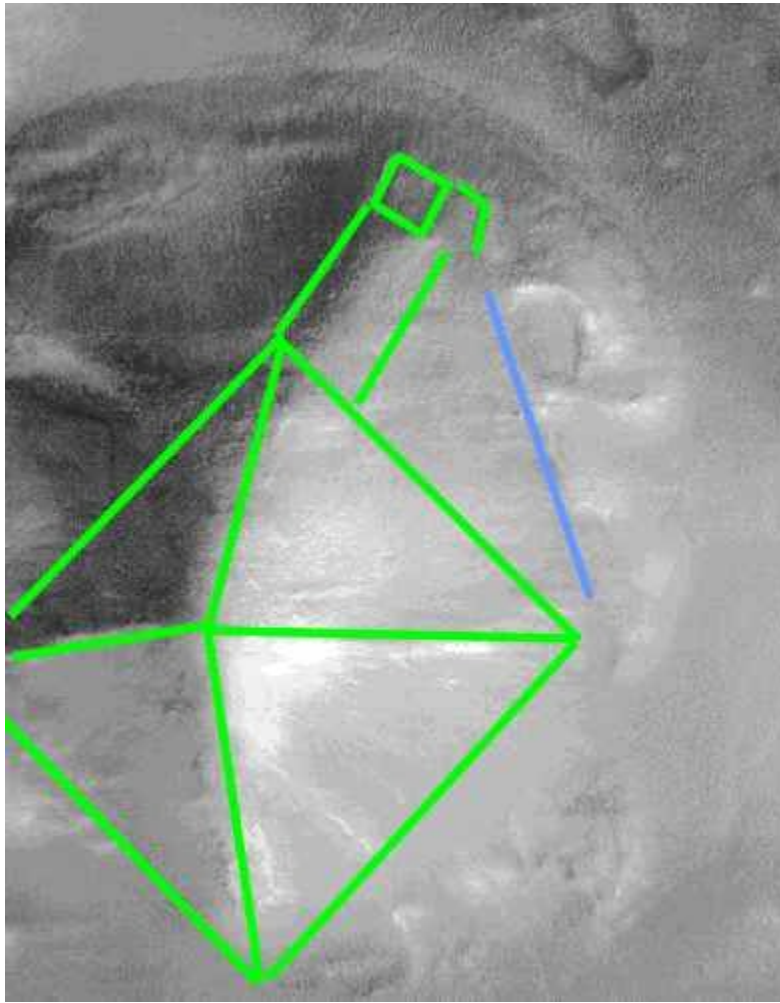
There are now also higher resolution images of the gigantic five-sided (D&M) pyramid at Cydonia:



The images from 2001 also included an image of the main pyramid in the ring of pyramids to the left of the face which should have immediately ended all controversy over the question of artificiality:



This pyramid appears to be four sided and the four triangular sides are clear enough, and are marked below with green lines. The other part of the image seems to amount to some sort of an enclosed corridor or causeway leading out from one corner of the pyramid, and then two funny and nearly rectangular features at the end of that causeway, which may be doors or some sort of adjunct buildings or something. There also seems to be a line going from the Eastern corner of the pyramid to the two doors or whatever, marked with a blue line, but is most likely just an edge of sand being blown up into a sort of an apron abutting the pyramid, and that the hollow between the pyramid and the corridor would naturally trap sand. In particular, if you didn't look at the whole thing closely enough, the line (blue) from the Eastern corner to the two doors might cause you to think that the whole structure was irregular enough to be a natural formation but, again, a closer look seems to forbid that.



Nonetheless, there was little or no mention in the press of this new pyramid image.

Early pioneers in publicizing these kinds of images included Richard Hoagland who is fairly well known and also the late Dr. Thomas Van Flandern, a director of the Naval Observatory who had this to say about the Cydonia megaliths:

“The odds of the anomalous items imaged in the Cydonia region of Mars being of Natural Origin are one thousand billion, billion to one against this theory. In other words, the possibility that these objects occurred naturally has been ruled out beyond a shadow of a doubt.”

<http://owstarr.com/2008/05/05/tom-van-flandern-and-mars-a-lecture-that-could-change-what-you-believe-about-everything/>

“In 2002 [Dr. Tom van Flandern](#), a PhD in Astronomy and formerly the Chief of the Celestial Mechanics Branch of the Nautical Almanac Office and the US Naval Observatory, gave a lecture that sent shockwaves through the field of astronomy ripples of controversy created by

this lecture continue right up through today. Rarely do people with credentials such as Dr. Van Flandern's, who come from typically conservative fields such as the science of astronomy, make strong personal statements about their beliefs, especially when those beliefs are diametrically opposed to that held by the majority of such an individual's contemporaries. Nevertheless, with his statement:

“The odds of the anomalous items imaged in the Cydonia region of Mars being of Natural Origin are one thousand billion, billion to one against this theory. In other words, the possibility that these objects occurred naturally has been ruled out beyond a shadow of a doubt.”

that is exactly what Dr. Van Flandern did.”

The images we've discussed so far are indicative of a past civilization on Mars and most of them are a couple of decades old. The images which have been turning up over the past twenty years or thereabouts tell a tale of cosmic disaster and overwhelming destruction. The Gigapan images show scenes such as you might expect had the entire planet simply been picked up and shaken the way a dog shakes a rat, with rock layers and pieces of things lying around at all angles catawampus and in heaps. More than anything else, the enormous profusion of such images showing anomalous things amounts to an ironclad 100% case for the claim that Mars once was home to an advanced civilization and culture. Those images show:

- Clear remains of cities and villages, with roads, bridges, buildings and other urban infrastructure.
- Remains of large-scale infrastructure.
- Remains of walls with fitted stones.
- Remains of the foundations of buildings.
- Remaining trees and vegetation.
- Water both flowing and standing. Such pools and streams are frequently seen in near proximity to artifacts of past habitation.
- Mechanical junk and debris strewn across the sands. Most of those kinds of items are obviously artificial but of unknown usage but occasionally you see something easily recognizable, gear wheels and cogs, tires, axles, funnels, padlocks and similarly common items.

- Obvious gateways and portals to underground areas.
- Controversial images which some claim indicate continued present habitation by humans and small animals. At present, there is no way to verify such claims, either pro or con.

There is no shortage of things on Mars which look like rocks because they **ARE** rocks but there are also huge quantities of things which look like rocks only on first glance because they've been sitting around being encrusted with the pervasive orange-brown dust for millennia. Claims that everything anomalous on Mars amounts to pareidolia are ill founded. The quantity of seemingly anomalous items is so vast that it is fairly easy to show only the top 5% or whatever of undeniable items and still have an overwhelming case for past habitation. A person needs to go over one or two of those FaceBook group pages and websites mentioned above to get any sort of a feeling for the enormity of this body of evidence at this point in time, but a few examples here might provide a flavor of it.

Cities and villages

The claim you read on the Internet is that NASA and the ESA are required to publish these images went for some time trying to smear them using Photoshop tricks so as to eliminate traces of the “good stuff” and have such areas appear to be sandy deserts. In order to convince ourselves that the people making such claims haven't simply been smoking too much reefer, we've gone to the trouble to download the base ESA images for two such areas and go through the process of converting to grey-scale and fiddling with brightness and contrast. What turns up is entirely as Joseph Skipper describes:

<http://www.marsanomalyresearch.com/evidence-reports/2005/084/hale-civ-evidence.htm>

Image as provided by NASA:

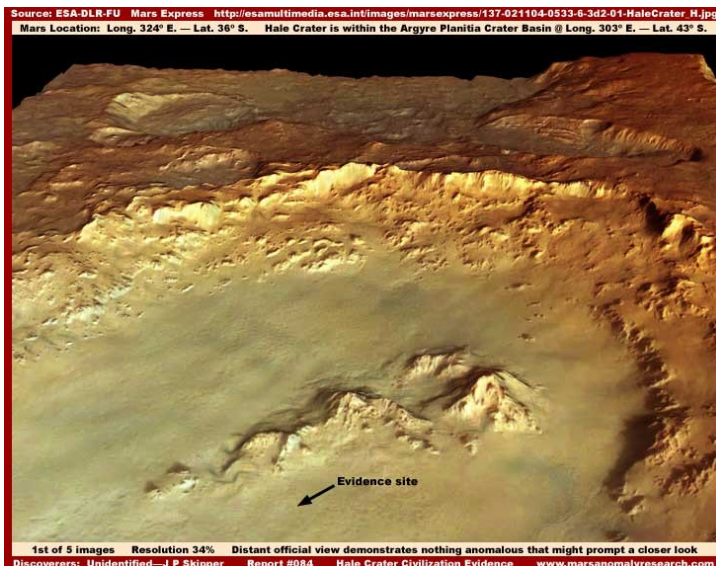
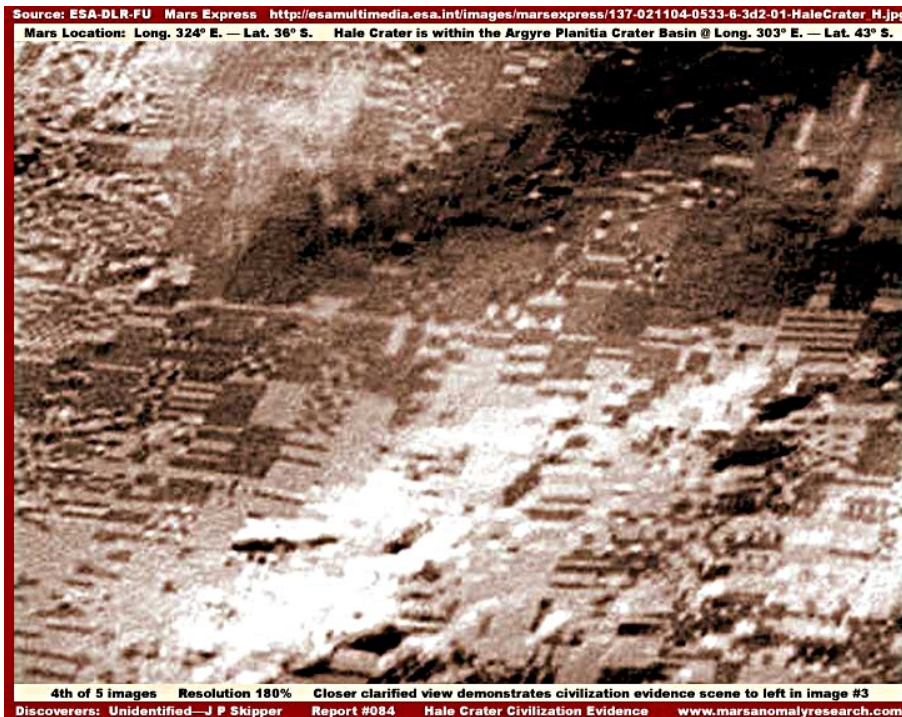
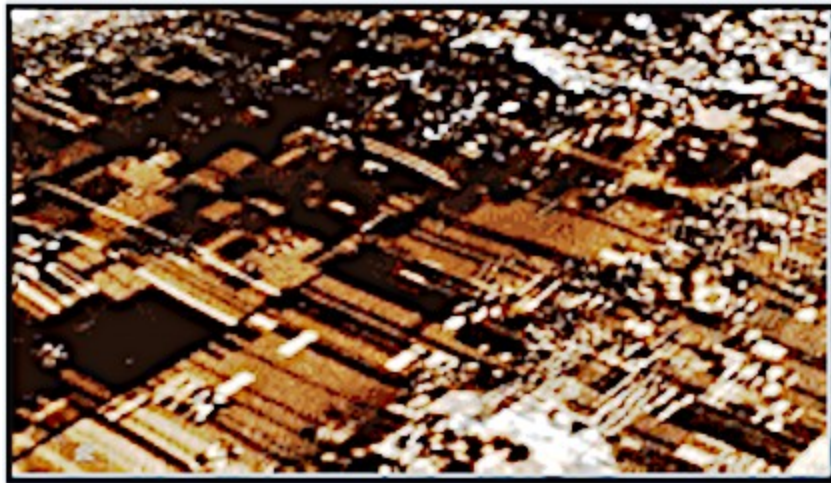


Image with contrast/brightness adjusted i.e. de-monkeyed image:



There is no way to claim that image is any sort of a jpeg compression artifact. Jpeg compression spreads noise over an image evenly, which is what makes jpeg steganography so difficult to even detect, much less decode.

Another ESA image area that can be retrieved from showing a desert area by adjusting color hues:



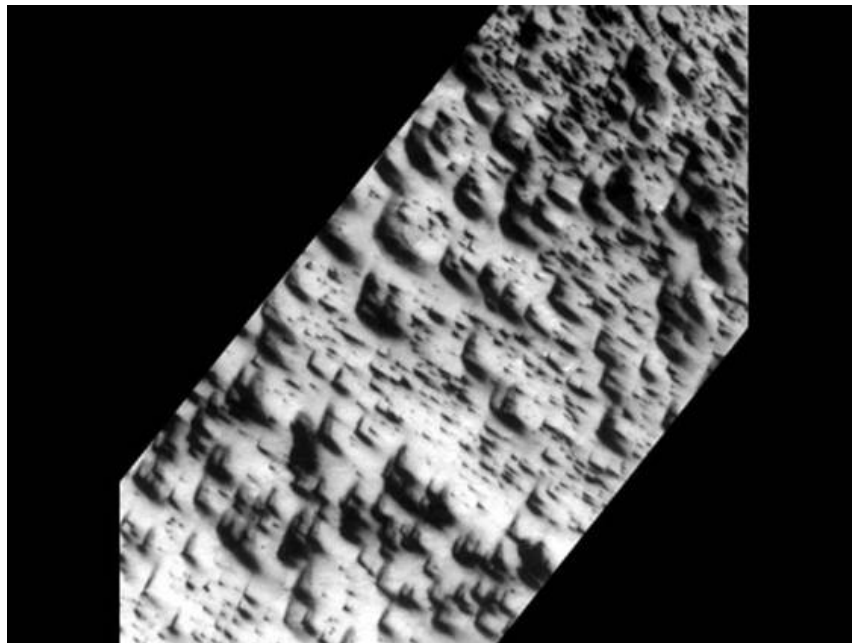
An explanation of the derivation of this image is available on Youtube.¹

A more thorough discussion of the Hale Crater area can be found on the Mars Anomaly Research site².

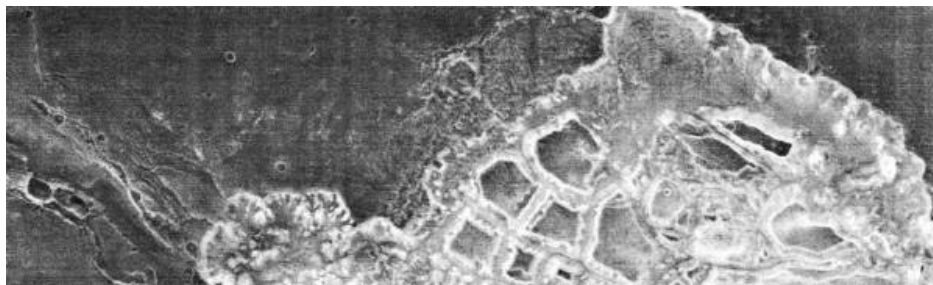
¹ http://www.youtube.com/watch?v=2DoZHWi1_oA

² <http://www.marsanomalyresearch.com/evidence-reports/2005/084/hale-civ-evidence.htm>

The slides for the press conference mentioned above which Dr. Thomas Van Flandern conducted in 2001 contains an image of a village with clear terracing and rectangular buildings whose sides are weathered to the windward side and reasonably close to straight on the leeward.



Other images show city/suburban block type structure, e.g. the Hydroates Chaos region:



Walls and fitted stones

The inhabitants of Mars built with stone and concrete or something like concrete. You see the remains of walls with fitted stones and foundations of things all over.



Mechanical junk and debris

A few samples of mechanical junk and debris strewn across the sands...





Gear wheel...



Ornate box....

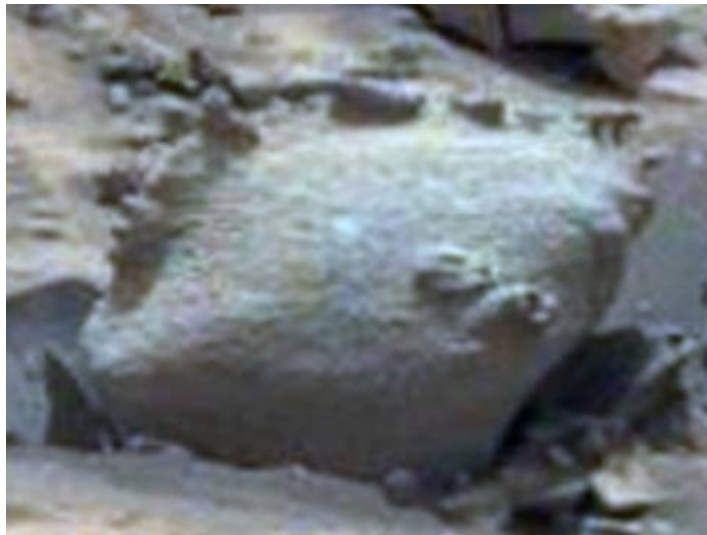
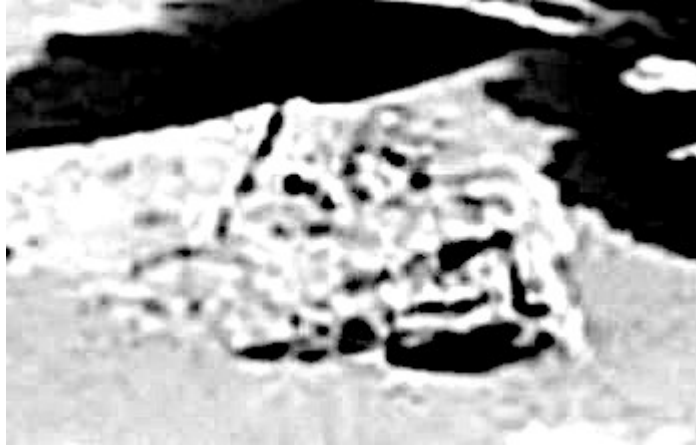


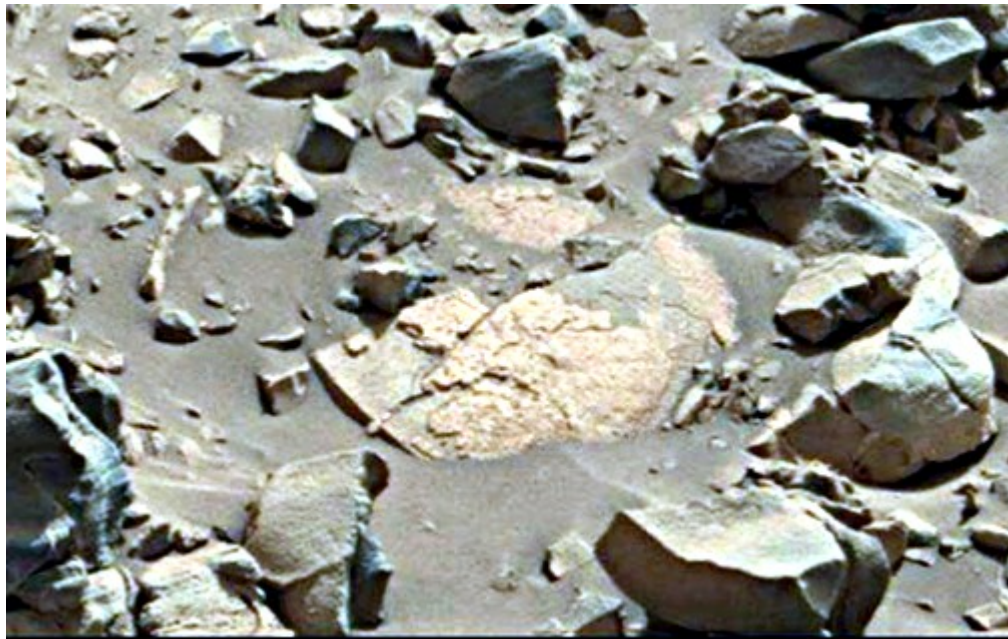
Metallic item...



Possibly a piece of furniture of some kind.

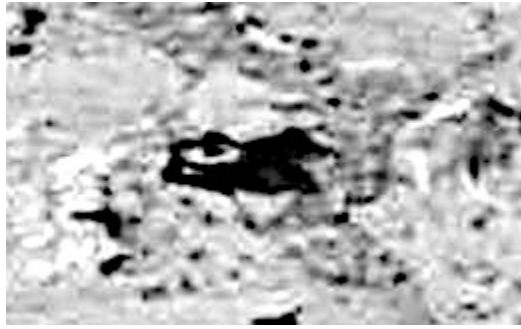
Assorted other nondescript:





Most mechanical things which the images show lying about are nondescript. Occasionally however you see ordinary things, whose purposes are easily understood.

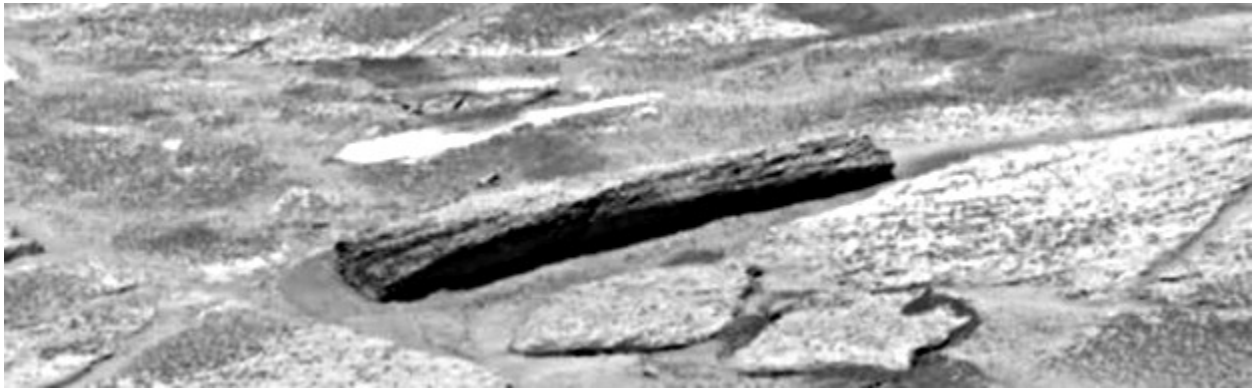
Apparently a padlock...



Funnel?



Fan blade or Ship propeller

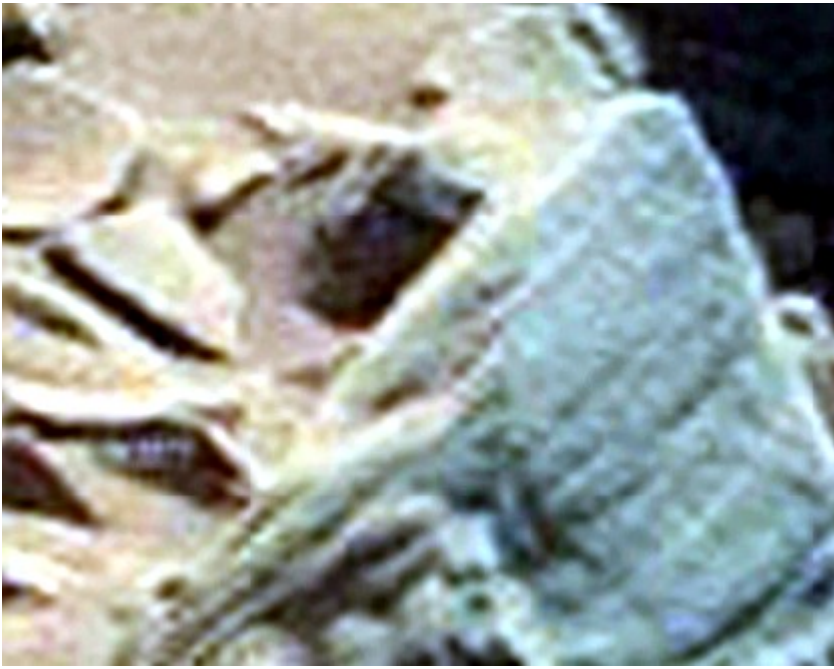


Wood beam.

Gateways to Subterranean areas.

You find numerous entrances to underground facilities in the new images:





From Curiosity SOL 712.

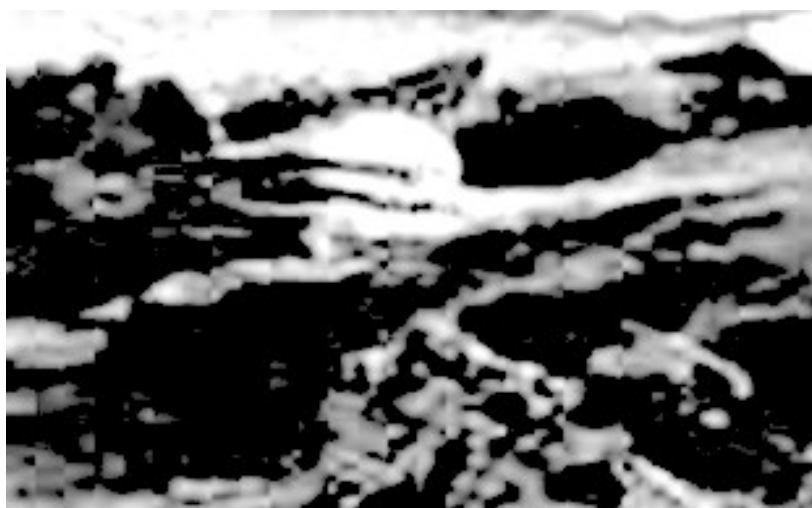




SOL 840

Structures





http://mars.jpl.nasa.gov/msl-raw-images/msss/01197/mcam/1197ML0054560590503006E01_DXXX.jpg



Martian Sphinx (SOL 787)

http://mars.jpl.nasa.gov/msl-raw-images/msss/00787/mcam/0787ML0034320000400491E01_DXXX.jpg

Raw area shows remains of either a statue or a sphinx-like construction as well as a structure with an obvious rectangular door, some distance behind it:



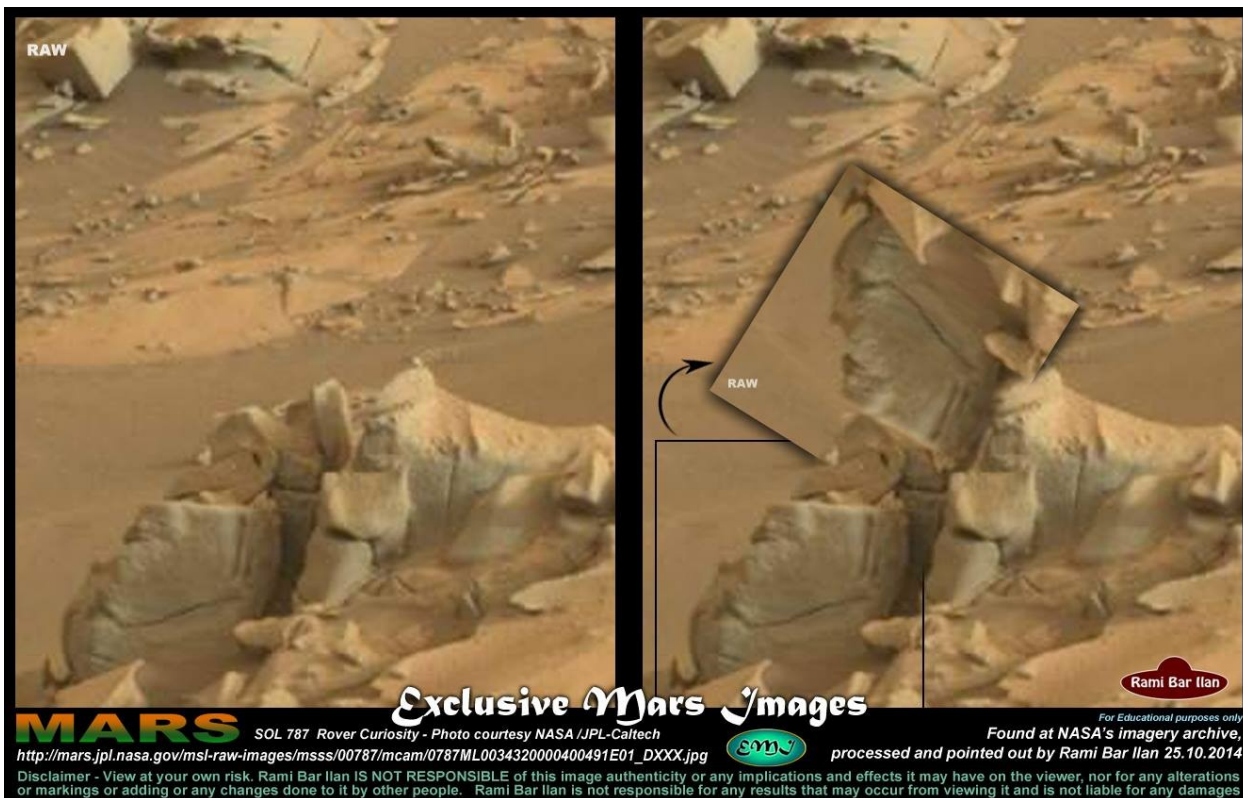
With color levels auto-adjusted and global unsharp-mask filter (GIMP):



Background structure magnified:

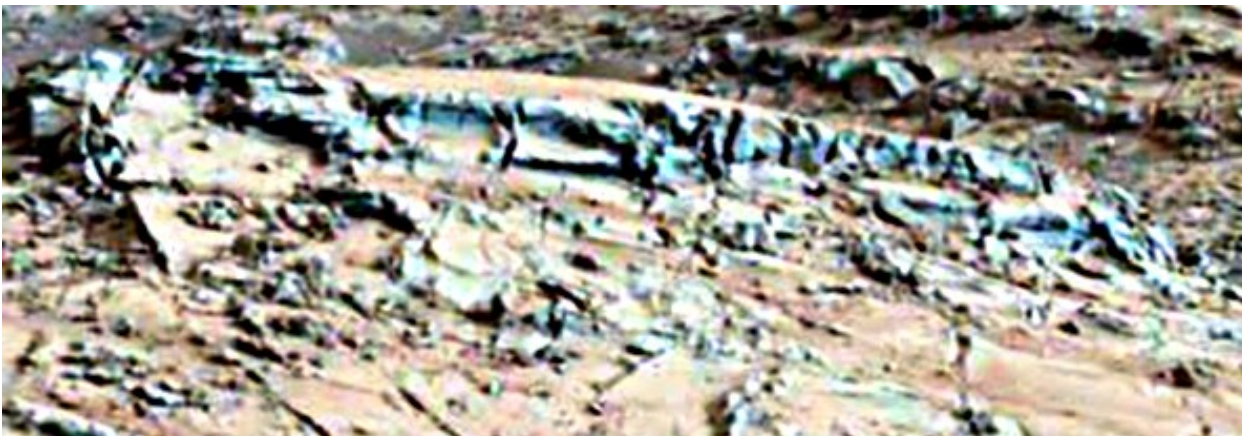


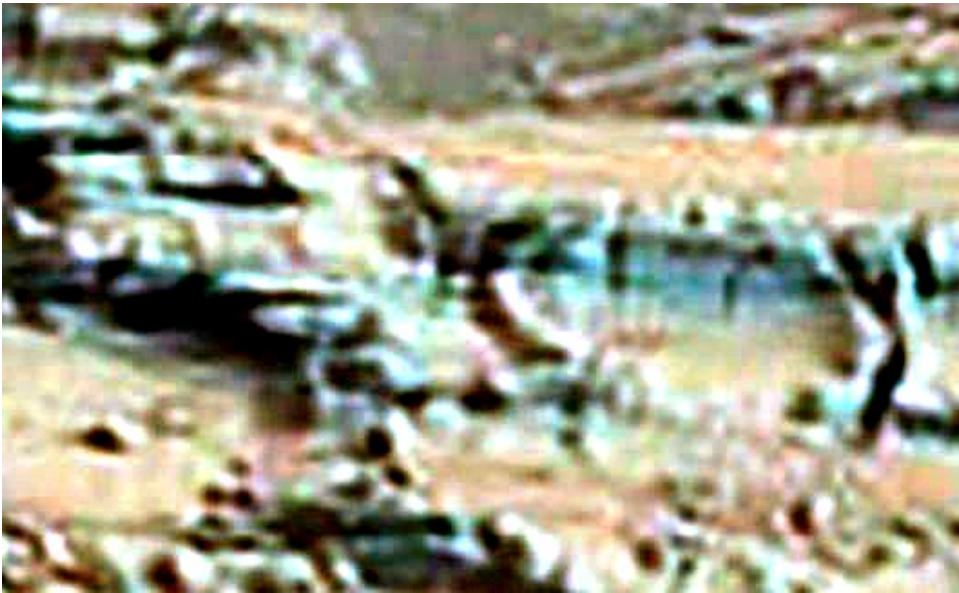
Rami Bar Ilan believe that the statue was a sphinx-like structure. The head is clearly broken off but you can use image software to turn the head around and restore it.



One might as easily picture the whole thing having been an upright/standing statue.

Large structure... (<http://gigapan.com/gigapans/165653>)





Detail, from Gigapan of Curiosity SOL 803 image, standing water in foreground



Leftmost two frames of the gigapan for SOL 803, 34mm camera, standing water foreground and structure in background.

Phobos

Recently, color images of Mars' little moon Phobos have been published, and a Google search on "Phobos HIRISE" will turn up these 2008 HIRISE project images from the University of Arizona:



Real moons are supposed to be made out of dirt and rocks; they are not supposed to be reflect light all over creation. The thing appears to be metallic and it doesn't take the world's best imagination to picture it being artificial, a colossal ancient space station of some sort.

Google searches on "Phobos anomaly" will turn up images of a sort of a vertical structure, which might be construed as a docking tower rising from the surface, also obviously artificial:



Conclusions regarding Mars

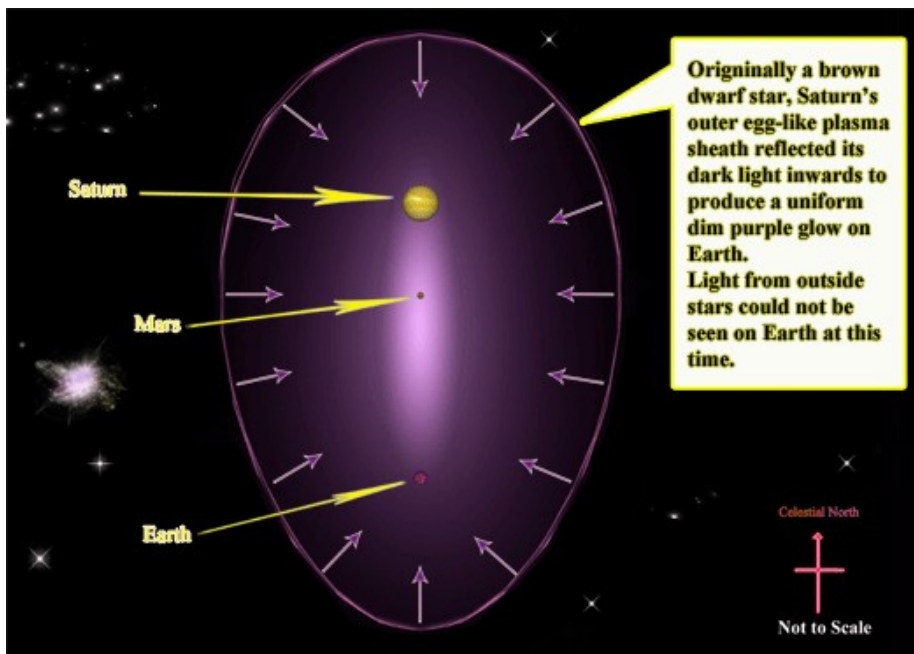
While claims of continuing habitation of Mars are controversial and could not be defended in a scientific manner, claims of an advanced civilization on Mars in past ages appear to be very solidly based.

Nonetheless because Mars would have been in the same Purple-Dawn/Saturnian environment that Earth was in, in past ages, it is not possible to picture Mars having been the original home world for modern humans within our system.

Part III Ganymede in Past Ages

This section of this work is contributed by Troy D. McLachlan

Again as we noted earlier... Given pretty nearly any theory of how solar systems like ours might form, you would expect the spin axes of the bodies in that system to all be roughly perpendicular to the plane of the system, that is, for the axis tilts to all be near zero. At least originally. That, of course, is not what we find. We have two bodies (Venus and Uranus) with oddball axis tilts, each with its own separate little story; a northern group (sun, Jupiter, Mercury) with axis tilts near zero; and a southern/Saturnian system (Saturn, Neptune, Mars, Earth) with the same roughly 26° axis tilts. The most obvious inference to be drawn is that the bodies with the roughly 26° axis tilts were captured as a group. That indicates that there was a very recent time when our system was a dual system. That is, our system consisted of a northern group (sun, Jupiter, Mercury), two oddball bodies (Venus, Uranus) which were somewhere or other, and a southern group (Saturn, Neptune, Mars, Earth). The northern group would have been very bright, the southern group very dark (the Purple Dawn environment).



We noted also that the creatures indigenous to earth during the Purple Dawn age (dinosaurs, hominids, owls, lemurs, tarsiers etc.) all had the same kind of huge eyes, while humans and dolphins have the smallest relative eye sizes advanced creatures. And, despite the massive evidence of past civilization on Mars, we also note that Mars was within that same Saturnian

Purple Dawn environment. That means that neither Earth nor Mars could have served as a plausible home world for modern humans or dolphins.

All that really leaves in the way of plausible home world for modern humans within our system would be something within that sun/Jupiter/Mercury ancient northern system. But what exactly? There is no particular reason to picture Mercury being closer to habitable in past ages than it is now. What about Jupiter's large moons, the so-called "Galilean moons", Io, Europa, Ganymede, and Callisto, and particularly Ganymede, the largest of them?

The Antique Solar System

The Sun and its Planets Before the Arrival of Saturn

The capture of an interloping system of Saturnian planets¹ by the Sun begs the question as to what the Solar System looked like before Saturn's calamitous arrival. Just how would our current Solar System have once appeared sans the planets Venus, Earth, Mars, Saturn, Uranus, and Neptune?

The pithy answer would be that only Mercury and Jupiter, and possibly Pluto, would remain as the Sun's original native collection of planets. There is also a possibility of a now shattered remnant of a planet whose debris currently makes up the asteroid belt.² However, that would not fully answer the fundamental question as to what the arrangement and orbital

¹ In this work Saturn Theory is largely defined as the concept of the planet Saturn originally being a lone extra-solar free-floating body accompanied by a number of satellites, generally positing at minimum two known satellites of the system: Mars and Earth. The emergence of Venus was a later effect of the system's catastrophic entry into the Sun's electrical sphere of influence. However, there are substantive grounds to also include the gas giants Uranus and Neptune as originally part of what is called the Saturnian System (see chapter titled "DISCOVERING THE ANTIQUE SOLAR SYSTEM"). In such a scenario, Uranus and Neptune would have remained hidden behind Saturn from the Earth's perspective, thus accounting for little, if any, mythological reference to these two bodies regards earthbound observations of the primordial proto-Saturn sphere; the latter object designated by comparative world mythology to have sat primarily at Earth's celestial north for the duration of such a configuration.

Given a 'polar' configuration, or axial alignment (as demanded by mythology), for this Saturnian line-up of planets, we have the following possible north-to-south axial arrangement: **Uranus/Neptune/Saturn(sub-brown dwarf)/Mars/Earth**. The latter addition of **Venus** would place that newly formed planet between Saturn and Mars sometime after the Saturnian system's capture by the Sun and its eventual breakup.

² Scientists in the 20th century called this hypothetical planet Phaeton.

characteristics of these original planets would have been in relation to the Sun. Given the circumstances, it's fair to assume that these original planets would not necessarily have been in the positions they currently occupy. Their orbits, and even their physical appearance, could be expected to have been noticeably different to what is observed today.

How so?

For a more in-depth answer to this question, we can turn to some of the recent discoveries involving extra-solar planets, or exoplanets as they are called, found to be circling other sun-like stars,³ particularly those planets found to be orbiting their parent star in the so-called 'habitable zone.' The results have generally been seen to clash with most mainstream theories of planetary formation, particularly the Solar Nebular Disk Model (SNDM). That model requires planetary systems to conform to accepted gravitational accretion theories and reflect the general orbital sequences and arrangements of the various planetary types we see in our own solar system.

When the discovery of exoplanets was first confirmed,⁴ it was natural that there would be a sampling bias towards finding large, gas-like giants since their enormous physical size made them easier to detect than smaller sized terrestrial-type planets like Earth. What was not anticipated, however, was that these huge gas giants, some many times the mass of Jupiter, would be found circling in extremely close orbits around their host stars. This fact is completely at odds with the accepted SNDM notion of planetary formation. The gravitational-based nebular model for the formation of a solar system calls for gas-giant planets to inhabit the system's outer edges, while smaller terrestrial planets are expected to take up the innermost orbits. When Jupiter-sized planets, or 'hot Jupiters' as they were subsequently called, started appearing where Earth-like planets should be, journalists covering mainstream science started talking about going back to the drawing board:

"As astronomers discovered the first extra-solar planets, it quickly became obvious that the formation theories that we'd built on our own Solar System were only part of the story. They didn't predict the vast number of hot Jupiters astronomers found nearly everywhere. Astronomers went back to the drawing board *to put more details into the*

³ A 'sun-like' star is currently assumed/defined as a main-sequence star of spectral classes late-F, G, or early-K and is without a close stellar companion; see G. Marcy; Butler, R. Paul; Fischer, Debra; Vogt, Steven; Wright, Jason T.; Tinney, Chris G.; Jones, Hugh R. A. *Observed Properties of Exoplanets: Masses, Orbits and Metallicities*, (2005), see [arXiv:astro-ph/0505003](https://arxiv.org/abs/astro-ph/0505003)

⁴ Canadian astronomers Bruce Campbell, G. A. H. Walker, and Stephenson Yang announced in 1988 the first discovery of an exoplanet orbiting the star *Gamma Cephei*. This was subsequently fully confirmed in 2003. The 1992 discovery of two planets circling the pulsar *PSR 1257+12* is generally recognized as the first fully confirmed discovery of an extra-solar planetary system.

theory, . . .”⁵ (Emphasis ours)

The above quote highlights the tendency of mainstream researchers to try to force-fit new and inconvenient data into increasingly untenable theories (“*put more details into the theory*”). This illustrates the weakness of the accepted SNDM paradigm in the area of prediction. An American textbook on planetary science goes even further in stating:

- Nebular theory predicts that massive Jupiter-like planets should not form inside the frost line (at $\ll 5$ AU)
- Discovery of “hot Jupiters” has forced re-examination of nebular theory ⁶

The following observation (correspondence) from Jno Cook is also worth noting:

“The uniformitarian astronomers point to the spacing of the asteroid belt objects as proof that Jupiter has always been located at 5.2 AU. But interestingly, the gaps closer to the Sun (away from Jupiter) are much better defined than the gaps closer to Jupiter. If Jupiter has been at 5.2 for billions of years, the reverse would be true.

Could the same asteroid belt gaps be produced by a different location of Jupiter, closer to the Sun? I tested a number of instances. 0.7 AU looked good. This location would also work to form a plasmasphere intersection which could move Jupiter and all the Saturnian planets into the far reaches of space on spiral orbits, to where the tangential velocity eventually matches the requirements of Kepler's third law.”

With gas-giant exoplanets now regularly discovered within 1 – 2 AU⁷ of their host stars, we now have growing data pointing to the common existence of gas-giants within the habitable zone of far-off distant sun-like stars - gas-giants not unlike our own Jupiter. It would not then be untoward to suggest that, given the then absence of the other major planets seen today, the Sun's sole and original gas-giant, namely Jupiter, would most likely have been found in a much closer orbit to the one it currently holds, as seems to be the norm elsewhere. If such an

⁵ Jon Voisey, *Rocky, Low-Mass Planet Discovered by Microlensing*, June 17, 2011, Universe Today.com; <http://www.universetoday.com/86841/rocky-low-mass-planet-discovered-by-microlensing/>

⁶ Bennett, Donahue, Schneider, and Voit; *The Cosmic Perspective*, 5th Edition, Chapter 13.3, pdf. See: <http://burro.astr.cwru.edu/Academics/Astr201/>

⁷ 1 AU = 1 Astronomical Unit, i.e. the distance of Earth from the Sun; 149,597,870,700 meters (92,955,807.273 miles).

orbit were within 1 – 2 AU of the Sun (where Earth is now), then it is reasonable to also suggest that Jupiter's three currently ice covered moons, Europa, Ganymede, and Callisto, would have enjoyed liquid water environments spectacularly conducive to the existence of aquatic-based life had they also borne substantive atmospheres.

But we get a little ahead of ourselves. . .



Jupiter and its Galilean moons. All four moons are candidates in the current search for extraterrestrial life forms. Image courtesy of NASA.

So, an antique solar system consisting of the Sun and only one gas-giant, the planet Jupiter and its moons, and the tiny, almost inconsequential planets Mercury and Pluto, begins to look remarkably similar to the systems being observed around other far-off stars. Taking this into account, this would conceivably place Mercury in a close, moon-like relationship with the Sun. Jupiter would possibly display aspects in keeping with a former sub-brown dwarf star (more on this later) while enjoying a binary relationship with its main-sequence yellow dwarf host star. That Jupiter today shows enough signs of being a failed sub-brown dwarf are added indications pointing to that planet's possible former life as a binary sub-stellar companion to the Sun.

The idea that Jupiter may have once been a star-like object in its own right is not new. As the largest object in our solar system after the Sun, Jupiter continues to defy standard models attempting to account for its formation from an inert nebular disk of dust and gas. Observations of Jupiter have established that it sheds more heat than it absorbs and that it is the most electrically active planet in the Solar System — features to be expected more in a star-like object, and another unexpected contradiction to the accepted SNM theory of planetary formation. The giant planet operates like a mini-solar system in its own right, with sixty-seven confirmed satellites. The largest of these is Ganymede, a moon bigger than Mercury and almost three-quarters as large in volume as Mars.

Then there are also the more direct electrical elements proposed by the Electric Universe (EU) model to be factored into the Jupiter equation.⁸ It has the largest magnetosphere (initially an electrically-created property according to EU principles) in the Solar System and, despite its massive size, rotates faster than any other planet (10 hours), a feature not unlike the much more enormous Sun, which rotates fully within the relatively speedy period of 25.6 days. The relatively recent discovery, that Jupiter has its own set of rings, has prompted the conclusion that they are electrically charged.⁹ It has also been long known that Jupiter is a copious source of x-rays¹⁰ and radio emissions, all tell-tale signs pointing to Jupiter as former a sub-brown dwarf star as opposed to an electrically inert ball of accreted stellar dust.

Another interesting point in assessing the Sun and Jupiter's relationship in our proposed antique solar system is that Jupiter exhibits a near non-existent axial tilt (only 3.13°), making it the most upright body in the Solar System, second only to the Sun itself, and an indication that both share a common origin. Contrastingly, and as discussed in a previous chapter, of the afore mentioned planets that are postulated to have made up the later interpolating Saturnian system, all but Uranus and Venus exhibit axial tilts between a narrow range of 24 and 27 degrees,¹¹ again indicating a different origin for these planets compared to Jupiter.

⁸ It should be born in mind that the Electric Universe (EU) model basically dismisses gravity as the single most important force in the universe and recognises the presence of electrical currents in space (plasma cosmology) as the foremost force in shaping the observable universe – including stars. Under this paradigm, all stars, including brown dwarfs, are an electrical discharge phenomenon in space conforming to basic electrical principles, and *not* controlled hydrogen fusion reactions as the standard nuclear model of the sun insists. For a review of the EU model's application to stars, see: Wallace Thornhill, *Our Misunderstood Sun*, March 2010, <http://www.holoscience.com/wp/our-misunderstood-sun/>; Also see Donald E. Scott, *The Electric Sky*, Mikamer Publishing, Portland, Oregon, 2006.

⁹ **“Jupiter's Shadow Sculpts Its Rings,” NASA news release, 30 April, 2008. see <http://www.nasa.gov/topics/solarsystem/features/galileo-20080430.html>**

¹⁰ See Gladstone *et al*, ‘A pulsating auroral X-ray hot spot on Jupiter,’ Nature magazine, Feb. 28, 2002.

¹¹ Uranus virtually, and bizarrely, lays spinning on its side with its geographical poles roughly pointed along its orbital plain, the undoubted result of a catastrophically huge disruption to its motion and the possible result of the Saturnian system's initial entry into the Sun's electrical influence. Venus, on the other hand, has a retrograde rotation, making it unique in the Solar System. This retrograde spin cannot plausibly be primordial. It has to have arisen via interaction with another body in the system and the curious phase-lock between Venus and Earth (showing observers on Earth the same face at inferior conjunctions) indicates that the body in question was Earth.

Having now proposed a possible ancient pre-Saturnian relationship between the Sun and Jupiter based on current observations of extra-solar planetary systems, it remains for us to speculate on the life of Jupiter as a possible former sub-brown dwarf enjoying a close-orbit binary relationship with the Sun. The first question then is: Do such binary relationships exist today between recognized brown/sub-brown dwarf stars and sun-like stars?

While the short answer is ‘yes,’ a more complete answer turns out to be problematic. This is because, while extra-solar ‘hot-Jupiters’ and even super-Jupiters are seen to enjoy close-in orbits around their parent stars, *most* confirmed brown dwarfs in binary relationships seemingly prefer a much wider orbit with their sun-like host. I have emphasized the word *most* because, as we shall see shortly, there are always exceptions to the rule. But for the moment, here is the consensus view:

“Dozens of brown dwarfs have been discovered orbiting normal stars. But astronomers have always wondered about the paucity of close-in brown dwarfs: While many giant planets have been found in small orbits, whirling around their sunlike stars in just a few days, the more massive brown dwarfs appear to shun these intimate relationships.”¹²

The article quoted above goes on to explain that a brown dwarf, a more massive sub-stellar object than a gas-giant planet, would probably find itself swallowed up by its parent star if it came in too close. This assumption is based entirely on what is called a ‘brown dwarf desert’, the currently observed absence of brown dwarfs in close-in orbits around sun-like stars.

“Planetary scientist Tristan Guillot of the Côte d’Azur Observatory in Nice, France, has an explanation for this “brown dwarf desert.” At the meeting [220th meeting of the American Astronomical Society], he argued that brown dwarfs in tight orbits get devoured by their sunlike parent stars. “Some fall into their stars very quickly,” he says.”¹³

And yet, we have a plethora of Jupiter-sized and larger bodies enjoying close-in orbits without them seemingly in danger of imminently falling into their parent star. With brown dwarfs and Jupiter-sized planets being almost indistinguishable in volume, would it not be likely that the currently observed close-in ‘hot Jupiters’ may actually be the *less massive* remnants of full-blown brown dwarfs that have drifted in closer?

Furthermore to this question, are there any examples of a *brown dwarf* orbiting its parent star in what could be termed a ‘close-in’ orbit despite the so-called ‘brown dwarf desert’? Of course, the close-in orbits of hot Jupiters are usually indicative of orbits closer than 1 AU,

¹² Govert Schilling, *Brown Dwarfs Being Gobbled Up by Parent Stars*, Science Now, 14 June, 2012, see: <http://news.sciencemag.org/sciencenow/2012/06/brown-dwarfs-being-gobbled-up-by.html>

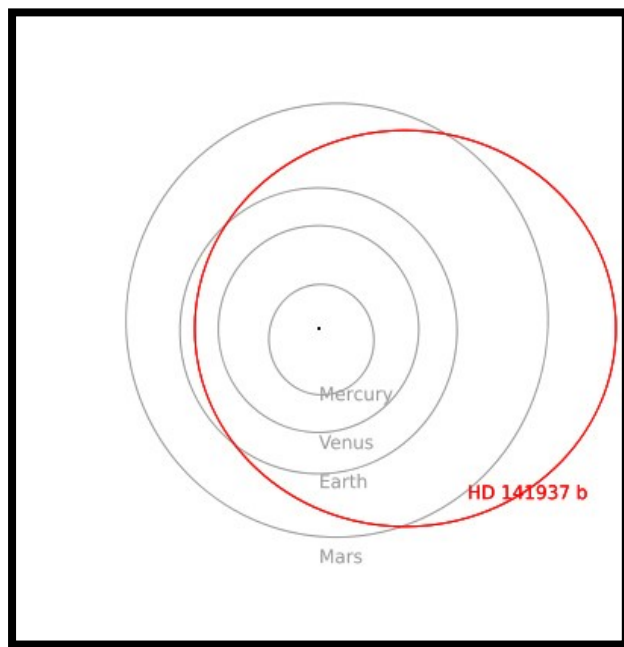
¹³ Ibid.

hence their extremely high surface temperatures due to their close proximity to their star. Ideally, for the sake of the case we are building here, it would be sufficient to find a brown dwarf in the habitable zone of 1 – 2 AU distance from its star. So, is there such an object?

The Strange Case of ‘HD 141937 b’

As usual, there is always the exception to the rule. In the case of the supposed ‘brown dwarf desert’ as discussed above, we may not have a recognized brown dwarf situated closer than 1 AU to its host star, but we do have one enticingly located within the habitable zone of its host star. That object is the suspected *sub*-brown dwarf designated *HD 141937 b*, a currently designated exoplanet with a 9.7 times mass of Jupiter circling a star 109 light-years away in the constellation of Libra.

However, *HD 141937 b* is most likely a brown dwarf because its currently calculated mass is its estimated minimum and any subsequent upward revision to its mass would place it firmly in the category of a low-mass brown dwarf.¹⁴ But more importantly for our purposes, it is *HD 141937 b*’s eccentric orbit that is of most interest. In this case, we have a suspected brown dwarf placed well inside its host star’s habitable zone for a significant part of its orbit. The following diagram demonstrates this, with our own sun’s planets plotted with *HD 141937 b* for comparison:



Suspected sub-brown dwarf HD 141937 b orbit comparison with our own Solar System. The habitable zone is roughly between Earth and just outside Mars’ orbit. Courtesy of the Visual Exoplanet Catalogue.

¹⁴ See: *The CORALIE survey for southern extra-solar planets*, A&A 390, 267-279 (2002) DOI: 10.1051/0004-6361:20020685, Copyright ESO 2002 Published by EDP Sciences, http://www.aanda.org/index.php?option=com_article&access=standard&Itemid=129&url=/articles/aa/full/2002/28/aa2416/aa2416.html

If *HD 141937 b* is a *sub*-brown dwarf, then there is the possibility it has its own terrestrial-type satellites, or moons, that would be sufficiently warmed for habitation by the low temperature glow of *HD 141937 b* itself during the small period of time it was outside its host star's habitable zone. This would make life on any of its satellites a possibility despite the bizarre and extreme seasonal variations they would encounter orbiting their sub-brown dwarf host as they circled the system's main star.

We have now come to the point where we need to discuss what exactly a brown dwarf or a *sub*-brown dwarf is, and just how likely it is that Jupiter may have once been such an object. It is important to establish this understanding because determining what type of object Jupiter might have been in our postulated Antique Solar System will also determine what its relationship to the Sun was and, not least of all, any possible life-giving effect Jupiter may have had on its native moons.

Ancient Jupiter as a Glowing Sub-Brown Dwarf Star

The confirmation of the existence of brown dwarf stars is almost as recent in the history of astronomy as the confirmation of exoplanets.¹⁵ Now they are thought to be more plentiful than regular sun-like stars, but still very difficult to detect from Earth with optical technologies.

One of the difficulties experienced by astronomers in differentiating a brown dwarf from a gas giant planet is that brown dwarfs have roughly the same radius as Jupiter. It is therefore not a major surprise that confirmation of the existence of brown dwarfs and exoplanets occurred almost simultaneously.

“The term “brown dwarf” was coined in 1975 by Jill Tarter (1975) to describe substellar-mass objects (SMOs), but astronomers had to wait 20 years before the announcement of the discovery of the first unimpeachable example, Gliese 229B (Oppenheimer et al. 1995). That same day, the first extrasolar giant planet (EGP1) was announced (Mayor and Queloz 1995) and it *startled the world by being 100 times closer to its primary than Jupiter is to the Sun.*”¹⁶ (Emphasis ours)

(Again, we see reference to the startling and unexpected discrepancies with accepted mainstream planetary theory that is provoked whenever a gas-giant planet is found close to its host star.)

Amongst brown dwarf stars there is only, on average, a 10 – 15% difference in their radii, making their volume virtually indistinguishable from gas-giants like Jupiter. However, what

¹⁵ <http://en.wikipedia.org/wiki/T-dwarf#History>, Brown dwarfs, a term coined by Jill Tarter in 1975, were originally called black dwarfs, a classification for dark substellar objects floating freely in space that were too low in mass to sustain hydrogen fusion.

¹⁶ Adam Burrows, W.B. Hubbard, J.I. Lunine, James Liebert, “The Theory of Brown Dwarfs and Extrasolar Giant Planets,” 2001, arXiv:astro-ph/0103383v1, PDF, page 6

marks the difference between a gas-giant planet and a brown dwarf is the *mass* of the object in question. In conventional thinking, a sub-stellar object needs to have at least thirteen times more *mass*¹⁷ than Jupiter to qualify as a brown dwarf. An object with a *mass* lower than thirteen Jupiters, yet more *massive* than Jupiter itself, can be said to be a *sub*-brown dwarf.

With *mass* then being a prime determining factor in identifying a brown dwarf, mainstream thinking then turns to the presence of lithium as another deciding element. It is the presence of lithium that helps scientists separate low-mass brown dwarfs from gas-giants and any high-mass brown dwarfs from low-mass stars¹⁸. Because it is believed that true stellar objects, like our sun, run on nuclear fusion, the heat within such stellar objects apparently burns up and gets rid of lithium quickly. This means, then, that the continuing presence of lithium in a sub-stellar object more massive than Jupiter should indicate that it is a type of brown dwarf.

“Though SMOs [substellar mass objects] are characterized by the fact that they don’t generate sufficient power by thermonuclear processes to balance their surface radiative losses, they can have thermonuclear phases, however partial or temporary. Objects more massive than $\sim 13 M_J$ [Mass of Jupiter] will burn deuterium via the $p+d \rightarrow \gamma+{}^3\text{He}$ reaction and objects more massive than $\sim 0.06 M_\odot$ ($\sim 63 M_J$) will burn lithium isotopes via the $p+{}^7\text{Li} \rightarrow 2\alpha$ and $p+{}^6\text{Li} \rightarrow \alpha+{}^3\text{He}$ reactions.”¹⁹ (*Authors’ note - the equations are included purely for academic accuracy.*)

This brings us to the existence of low-end, or *low-mass* brown dwarfs, a sub-class of sub-stellar objects thought to be incapable of initiating the kind of fusion that can burn lithium quickly, or even fuse deuterium for that matter. These are the class of objects referred to as *sub*-brown dwarf stars. Differentiating these sub-types of brown dwarfs from a gas-giant planet is particularly difficult.

There are, of course, other supposed tell-tale signs distinguishing a sub-stellar object as a brown dwarf from a gas-giant planet. X-ray and near-infrared spectral analysis can contribute to detecting the low heat glow associated with brown dwarfs — a heat signature that is typically too low to make the object a low-mass star and too high for it to be a planet. Depending on how much a brown dwarf glows and the composition of whatever is supposedly

¹⁷ In scientific use, the term *mass* should never be confused with weight or the amount or density of matter. From Wikipedia: In physics, mass (from Greek [μᾶζα](#) "barley cake, lump (of dough)"), more specifically inertial mass, is a quantitative measure of an object's resistance to acceleration. In addition to this, gravitational mass is a measure of magnitude of the gravitational force, which is exerted by an object (active gravitational mass), or experienced by an object (passive gravitational force) when interacting with a second object.

¹⁸ http://en.wikipedia.org/wiki/Brown_dwarf

¹⁹ Adam Burrows, W.B. Hubbard, J.I. Lunine, James Liebert, “The Theory of Brown Dwarfs and Extrasolar Giant Planets,” 2001, arXiv:astro-ph/0103383v1 , PDF, page 6

feeding that glow, a brown dwarf will be categorized either as L-class, T-class or Y-class object. If Jupiter had once been a brown dwarf, it would most likely have been a T-class brown dwarf, simply based on the present chemical composition of Jupiter and its large moons as per Wikipedia's "brown dwarf" entry on T-class dwarfs, particularly concerning sodium, potassium, and methane.

According to a standard rundown on what constitutes a brown dwarf, presented below and most probably originally lifted from Wikipedia's brown dwarf entry, it really all boils down to how much the sub-stellar object in question 'glows' as to whether it is a brown dwarf, sub-brown dwarf, or a gas giant planet:

"The strongest spectral emission of brown dwarfs is in the infrared and that is how present day astronomers study them. *Old brown dwarfs will accumulate methane in their atmosphere*, a compound often taken to indicate active organic molecule kinetics. *Atmospheric temperatures of brown dwarfs range from 2500K to 750K.*"²⁰ (*Emphasis ours*)

The above quote is helpful in two ways:

1. It identifies methane as a component in an *old* brown dwarf's atmosphere and;
2. It tells us that brown dwarfs should put out heat at a temperature somewhere between 2,500 Kelvin and 750 Kelvin.

Interestingly, Jupiter has methane in its atmosphere — supposedly a trait of an *old* brown dwarf, as noted. We also know that Jupiter, like Saturn, puts out more heat than it receives from the Sun . . . another indicating factor pointing to a star-like past for the current gas-giant. Jupiter also pumps out X-rays and radio emissions and is surrounded by a massively strong magnetosphere. The EU model views this as an indication of high-powered inter-stellar and inter-planetary electrical activity,²¹ and not just a by-product of internal convection and gravity. In fact, radiation from Jupiter today is still so intense that it renders the idea of human colonization of Jupiter's moons virtually impossible (except for the moon Ganymede, which has its own protective magnetosphere, but more on that later).

²⁰ merlynn6, *Are Jupiter and Saturn Brown Dwarfs, Not Planets?* See: <http://www.environmentalgraffiti.com/sciencetech/brown-dwarfs-are-neither-stars-nor-planets/5140#DvI6lX3EvQsGwZ6A.99>

²¹ Refer back to footnote 8 of this chapter.

Brown Dwarfs as Heavenly Water Carriers

Yet another intriguing aspect of brown dwarfs is their apparent abundance of water. Some of the cooler brown dwarfs are actually speculated to possess cloudy atmospheres full of water.

“Central topics of SMO [substellar mass object, i.e. brown dwarfs] theory are atmospheric chemistry, thermo-chemical databases, and the molecular abundances of the major atmospheric constituents. For solar metallicity, near and above brown dwarf/EGP photospheres the dominant equilibrium form of carbon is CH₄ or CO, that of oxygen is H₂O, . . . (emphasis ours)

“. . . The corresponding SMO mass below which a H₂O cloud can form within a Hubble time is ~30-40 M_J. Hence, we should expect to discover many brown dwarfs capped with H₂O clouds. *Such objects (“water cloud” dwarfs) would constitute another spectroscopic class after the T dwarfs.*”²² (Emphasis ours)

Water, water everywhere it would seem! As noted earlier, the type of brown dwarf that Jupiter may have been corresponds to the spectroscopic T-class of brown dwarf, or lower — a very wet beast indeed. If Jupiter was once a *sub*-brown dwarf with a copious cloud of water drifting around it, then maybe this is an indication as to where all the ice came from that currently covers three of its four major moons. It would be entirely plausible for Jovian water to have misted about inside Jupiter’s magnetosphere and down onto its satellites during any speculated phase in which Jupiter might have been a *sub*-brown dwarf.

So, is there any sign of water in Jupiter’s atmosphere today?

“There may also be a thin layer of water clouds underlying the ammonia layer [of Jupiter’s atmosphere], as evidenced by flashes of lightning detected in the atmosphere of Jupiter. This is caused by water’s polarity, which makes it capable of creating the charge separation needed to produce lightning. These electrical discharges can be up to a thousand times as powerful as lightning on the Earth. The water clouds can form thunderstorms driven by the heat rising from the interior.”²³

²² Adam Burrows, W.B. Hubbard, J.I. Lunine, James Liebert, “The Theory of Brown Dwarfs and Extrasolar Giant Planets,” 2001, arXiv:astro-ph/0103383v1, PDF, pages 6 – 7.

²³ Wikipedia, “Jupiter”, see <http://en.wikipedia.org/wiki/Jupiter#Atmosphere>. References employed for quoted exert: Elkins-Tanton, Linda T. (2006). *Jupiter and Saturn*. New York: Chelsea House., Watanabe, Susan, ed. (February 25, 2006). "Surprising Jupiter: Busy Galileo spacecraft showed jovian system is full of surprises". NASA. http://www.nasa.gov/vision/universe/solarsystem/galileo_end.html, and Kerr, Richard A. (2000). "Deep, Moist Heat Drives Jovian Weather". *Science* **287** (5455): 946–947. doi:10.1126/science.287.5455.946b. <http://www.sciencemag.org/cgi/content/full/287/5455/946b>.

What this means is that Jupiter does currently exhibit enough traits identifying it as having possibly once been *at least* a *sub*-brown dwarf star. There are even grounds to consider it as having once been a possible “water cloud” dwarf, if that classification ever catches on. If this had been so, then it remains for us to determine what Jupiter’s heat output may have been and if this may have contributed to habitable conditions on any of its major moons. This is something that will be looked at in more detail in a later section of this chapter.

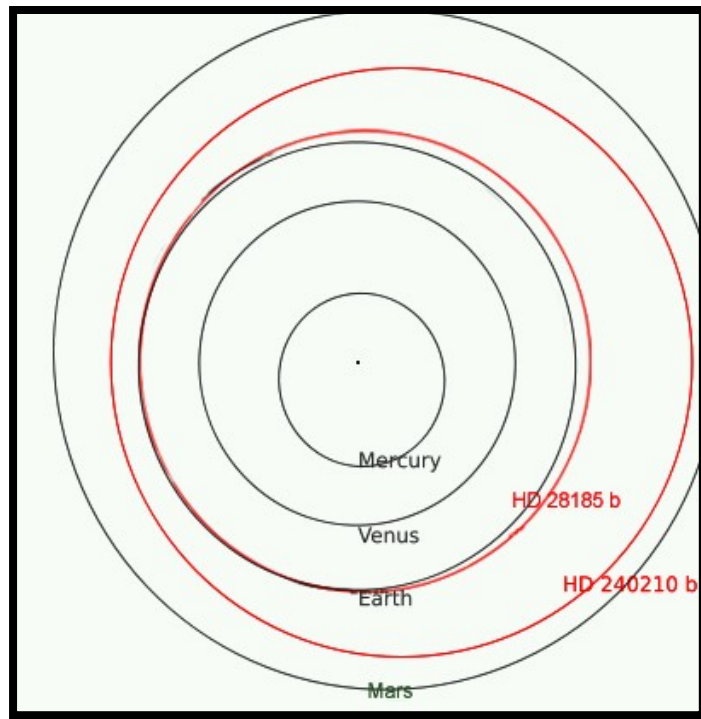
So, to summarize thus far, what we have learned is that the more massive full-blown brown dwarf stars in binary relationships with sun-like stars are unlikely to be found orbiting closely to their parent stars. . . unless they are suspected *sub*-brown dwarf stars like the aforementioned *HD 141937 b*. However, what we also know is that *sub*-brown dwarf stars are almost indistinguishable in their volume-size from Jupiter-sized planets . . . and many of these Jupiter-sized planets, or ‘hot Jupiters,’ *are* found orbiting closely, with some found within the habitable zones of their parent stars. It therefore follows that there is a possibility that many of these so-called ‘hot Jupiters’ may be a form of *sub*-brown dwarf in a close-in binary relationship with their host stars.

We claim, therefore, that Jupiter’s place in our postulated Antique Solar System, sans the six Saturnian planets, would have seen it assume an orbit more in keeping with what is currently being observed in the cases of the so-called ‘hot Jupiters,’ as well as some *sub*-brown dwarfs currently seen circling other sun-like stars. This then presents us with a question: Was Jupiter once the original ‘hot Jupiter’ or *sub*-brown dwarf of our proposed Antique Solar System?

Other ‘Jupiters’ that show how our Jupiter Might Once Have Been

Before attempting a full assembly of our proposed Antique Solar System, there are two other extra-solar systems with Jupiter-like planets positioned in the habitable zone that bear mentioning. One is the exoplanet *HD 28185 b*, which is about 138 light-years away in the constellation of Eridanus, and the other is *HD 240210 b*, a hugely massive planet circling a star in the constellation of Cassiopeia. Both have calculated minimum masses that could elevate them at a later date to *sub*-brown dwarf status — both are definitely gas-giant planets at a minimum.

Below is a composite diagram adapted from data provided by the *Visual Exoplanet Catalogue* that plots just how ideally placed these two exoplanets would be within our own Solar System’s so-called habitable zone.



Both exoplanets HD 28185 b and HD 240210 b would orbit neatly within our Solar System's habitable zone, which is roughly between Earth and just outside Mars' orbit.

What this tells us, conclusively, is that stars like our own sun can, and most definitely do, support Jupiter-sized planets at orbits within the desired habitable zones. What we also know is that planets of these sizes are more than likely to support large terrestrial-type moons — remember that Jupiter has four large moons of its own. Is it possible then that exoplanets like *HD 28185 b* and *HD 240210b*, and suspected sub-brown dwarfs like *HD 141937 b*, may be the perfect harbors for extraterrestrial life on any moons they might support?

Is it then also possible that our own huge gas-giant, the massive Jupiter, once enjoyed an orbit in our sun's habitable zone and might have also been a safe haven for life on at least one of its four largest terrestrial satellites: the so-called famous Galilean moons of Jupiter?

Basking in the Warmth of a Sub-Brown Dwarf Star

It should be noted that subsequent to the release of the 1st edition of 'Cosmos in Collision', subsequent discussions with leading EU theoreticians have highlighted the criticism that once a theoretical sub-brown dwarf Jupiter had entered into the electrical field of the Sun, its status as a sub-brown dwarf star would have been electrically altered to the point that Jupiter would no longer would have technically qualified as a sub-brown dwarf star. However, the authors of this work contend that Jupiter's transition to gas giant planetary status would have been gradual and that a residual warmth and glow on a par with a sub-brown dwarf star would have been evident for a significant period of time, possibly up to and including the later capture of Saturn. That Saturn as a sub-

brown dwarf is believed to have glowed ‘sun-like’ at Earth’s celestial north well into its own capture by the sun bolsters this position. The authors therefore see no reason to change any of the following statements and suggestions with regard to this criticism.)

Had Jupiter once been large enough to have once qualified as a brown dwarf, then its surface temperature could have been as high as 2,000 Kelvin. While only putting out a mere 112 – 165 Kelvin today, as a *sub*-brown dwarf, Jupiter’s surface temperature would have probably been at the low end of brown dwarf stars; about 750 – 1,000 Kelvin. In its current orbit this would have been warm enough to increase temperatures on its two innermost terrestrial Galilean moons, the icy Europa and the volcanic Io. The two outer Galilean moons, Ganymede and Callisto, would still be fairly inhospitable places.

However, what this does not take into account is the EU understanding of a *sub*-brown dwarf as an electrically charged body moving through an electrical field. Had Jupiter been a *sub*-brown dwarf then it would be entirely expected to have developed its own cocooning plasma sheath, a kind of protective electric bubble that encapsulates all charged celestial bodies moving through electrical fields in space.²⁴ In fact, Jupiter has an enormous active plasma sheath even today, as was seen when comet Shoemaker-Levy 9 slammed into the planet back in 1992.

“On 7 July 1992, SL-9 grazed past the giant planet Jupiter a mere 20,000 km above the cloud tops. It had penetrated deep into Jupiter’s *huge plasma sheath*. As it switched suddenly from the Sun’s electrical environment to that of Jupiter, it would have experienced extraordinary internal electrical stress. Unsurprisingly, it broke up.”²⁵
(Emphasis ours)

Satellites inside this plasma sheath could be expected to have received an intensified boost from Jupiter’s warming effects had it once been a *sub*-brown dwarf. The plasma sheath would have assisted by reflecting back much of Jupiter’s own stellar energy, acting like a kind of blanket. It’s then possible that the outer Galilean moons would have been warm enough for abundant liquid water. Otherwise, as is theorized by observers today, liquid water may have only existed on these moons as a subterranean ocean beneath deep icy crusts.

²⁴ In the field of plasma cosmology a plasma sheath is otherwise known as a Langmuir sheath. This is the double layer (DL) sheath that Irving Langmuir discovered was created by plasma as a way of isolating electrically one section of itself from another. Charged celestial bodies moving through the vast electrically charged realms of space will form a DL, or plasma sheath, which acts like a kind of cocooning bubble against foreign intruders. It should not be confused with magnetospheres.

²⁵ Wallace Thornhill and David Talbott, *The Electric Universe*, Mikamar Publishing, page 108.

One thing we can say about this protective plasma bubble-like sheath surrounding our proto-*sub*-brown dwarf Jupiter is that it would not have been opaque, but as transparent as it is today, mostly due to the Sun's overwhelmingly positively charged presence. While other *sub*-brown dwarfs floating freely in space tend to display opaque plasma sheaths, Jupiter's own sheath would have been electrically equalized to the Sun's electrical field, a feature of it being inside the Sun's own giant plasma sheath, the heliosphere. This would have been the case no matter how far out its orbit was. As long as Jupiter remains inside the Sun's plasma sheath,²⁶ its own plasma sheath will remain transparent. Nonetheless, as a *sub*-brown dwarf, Jupiter would have radiated much more intense warmth within its plasma sheath than anything we see emanating from the planet today.

Also worth taking note is that the actual appearance of Jupiter's warm *sub*-brown dwarf glow to human visual perception would be as deep coal tar magenta. The below comparison of the different classes of brown dwarf as seen by the human eye will help illustrate this more clearly:



*Left to right - Sun, M-class brown dwarf, L-class brown dwarf, T-class brown dwarf, Jupiter. This is how these objects would appear to the human eye. Jupiter as a sub-brown dwarf would probably look more like the T-class object, which glows a dim magenta mostly due to its lack of light in the green portion of the spectrum due to absorptions by sodium and potassium atoms. **ARTWORK CREDIT:** Dr. Robert Hurt of the Infrared Processing and Analysis Center*

If we then apply the observed orbital models of extra-solar Jupiter-like planets and place Jupiter in the Solar System's habitable zone, all kinds of interesting possibilities begin to present themselves. The most obvious of these is that Jupiter's three major ice-covered moons, Europa, Ganymede and Callisto, would see a radical change to their physical environments — liquid water, not ice, would become the dominant feature defining their surfaces (as long as there was a thick enough atmosphere). These former barren-looking satellites would

²⁶ The Sun's plasma sheath is often referenced as its 'heliosphere'. A more accurate reference would be to what is called the Sun's 'heliopause'.

undoubtedly be transformed into brightly lit, saturated water worlds fully capable of supporting aquatic life.

In fact, life on Jupiter's moons, ensconced as it were in their host *sub*-brown dwarf's protective plasma sheath and luxuriating in the added warmth of the Sun's radiant splendor, would find itself basking in an environment not unlike the fabled fictional world of Tatooine,²⁷ complete with its famous twin suns — except things would be much, much wetter.



Fog lifting on a two-sun daybreak. Artist's impression of Jupiter as a T-class sub-brown dwarf looking east from on high latitude on Ganymede's orbit-facing hemisphere. Ganymede is phase-locked to Jupiter like the moon is to Earth, so the same side is always facing Jupiter. Europa can be seen transiting Jupiter just above the horizon while Io is a small black dot almost lost in the corona of a much closer Sun. Small pumice rafts/bergs with vegetation dot the satellite's global oceanic seascape.

The Radiation Issue

However, there would still be the problem of Jupiter's intense radiation, a feature of the great planet that is still with us today and can be relied upon to have been just as intense in the past had Jupiter once been a sub-brown dwarf. The Sun's own intense solar radiation, particularly its frequent flared outbursts, has long been a source of anguish for would-be inter-planetary space travelers looking to spend time out and away from Earth's protective magnetosphere.

Protected as we are on Earth by our planet's substantial magnetosphere, exposure to the Sun's solar radiation in deep space can prove fatal, especially if caught in one of the Sun's C-class or X-class flares. The same thing applies when travelling through Jupiter's own electrical environment, especially if it were functioning as a *sub*-brown dwarf. Brown dwarfs of all sizes are fully capable of flaring with the same deadly effects seen emanating out of our sun.

²⁷ Tatooine is the fictional home planet for the characters Luke Skywalker and Anakin Skywalker of *Star Wars* fame.

Satellites in orbit around a close-in Jupiter would be subject to threats of intense flares spewing deadly radiation out into space from both the Sun and Jupiter.

A good protection against solar radiation, whether from the sun or Jupiter, is to envelope yourself in water. It has been a long-standing, if impractical solution for space travelers to seek ways to surround themselves with their craft's water tanks as a shield against solar radiation outbursts and flares. Aquatic life forms on Jupiter's three water saturated moons, Europa, Ganymede and Callisto, could theoretically enjoy this kind of protection from Jupiter's intense radiation. A decently thick atmosphere would also help, but more on that in another chapter. However, the best defense, and possibly the only reliable defense, is to have your own intrinsic magnetosphere. Of the water world moons of Jupiter, only one has the required intrinsic magnetosphere to ensure the safety of life on its surface . . . the ice-entombed moon called Ganymede.

In the next couple of chapters we will take a closer look at Jupiter's largest moon and assess its capacity to support life in a postulated Antique Solar System where Jupiter and its satellites orbit the Sun within the habitable zone. In doing so we will argue a case for Ganymede as not only the most likely place in the Antique Solar System for the emergence of life, but possibly the most likely place for the emergence of human life!

Summary and Takeaways from this chapter

Part II of this work is launched with the hypothetical question of how an Antique Solar System might have looked before the postulated arrival of a captured sub-brown dwarf star called Saturn and its accompanying satellites. (The subject of Saturn's arrival and its relationship to Earth is discussed at length in Part I of this work in the chapters "Discovering the Antique Solar System" and "Mankind's Purple Dawn").

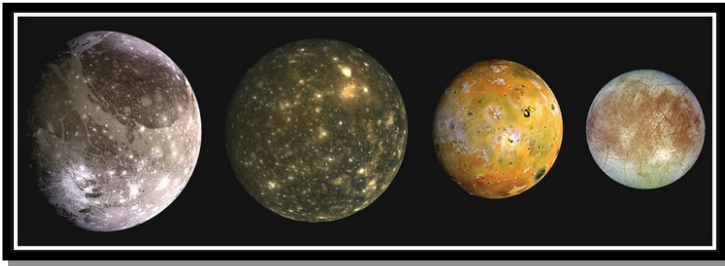
- According to our scenario in answer to the above question, ancient Jupiter is elevated to having once been a sub-stellar body in the T-class category of sub-brown dwarf stars. After its capture by the sun, Jupiter's sub-brown dwarf characteristics would have persisted for a protracted period of time with Jupiter then enjoying a much tighter orbit around the sun within the latter's so-called 'habitable zone'. This revised orbital relationship is arrived at after assessing recent exoplanet data that shows growing numbers of Jupiter-like planets and suspected brown dwarfs in similar orbits around other sun-like stars. The data, we suggest, points to close orbiting Jupiter-like planets being the norm throughout the universe; this fact supports our hypothesis while contradicting currently accepted notions for gas-giant planet formation according to the accretion dictates of the Solar Nebular Disk Model (SNDM).
- The postulated ancient orbit of Jupiter within the Sun's habitable zone forces us to focus our attention on the effects this would have had on the four terrestrial Jovian moons referred to as the Galilean Moons. Three of these four satellites are currently designated as ice moons, a condition that would have dramatically changed them to that of being liquid water moons had any of these Jovian satellites supported an atmosphere while that close to the Sun. This immediately suggests at least three ancient celestial objects that might have been capable of sustaining life as we know it. Importantly for our

unfolding hypothesis, it should also be noted that these moons would have also been *bright* terrestrial worlds due to their close proximity to the Sun.

- Jupiter's reclassification as a former T-class sub-brown dwarf also provides a solution as to where all the water currently locked up as ice on the Galilean moons came from. Brown dwarf stars are known carriers of water and the misting and shedding of this water within a brown dwarf's plasma sphere can be expected to settle on any rocky satellites orbiting within. It is precisely this scenario that we suggest for the origins of the vast amounts of water ice found on the Jovian satellites.
- Finally, any suggestion of Jupiter's moons having once being capable of supporting life needs to address the issue of the substantial and destructive Jovian radiation that permeates the space taken up by the current orbits of the Galilean moons. One moon in particular, Ganymede, surprisingly provides the ideal defense against the deadly Jovian radiation by deploying its own intrinsic magnetosphere, the only known moon in the entire solar system to do so. Had Ganymede ever boasted an atmosphere too, then the suggestion is that Ganymede would have been the perfect place in our postulated Antique Solar System to sustain life as we know it — thoughts that are further developed in the next chapter.

Ganymede: Third Rock from Jupiter

We have been to see them up close, yet we still know very little about the moons that circle the Solar System's largest planet. Unmanned space probes have regularly made Jupiter and its moons a stopping-off point on their travels, the most recent one being the highly successful *Galileo* probe, which returned some of the best pictures to date of these enigmatic satellites. These probes have helped confirm that three of Jupiter's major moons are covered in thick icy crusts that hold out the potential for microbial life. If this proves to be the case, then the existence of life beyond the Earth would become a fact, something that would herald in a new understanding of our position in this vast universe.



The Galilean moons. From left to right, in descending order of size: Ganymede, Callisto, Io, Europa. Image Credit: NASA.

Back to the Jovian Moons

NASA's 2003 conceptual study dubbed Human Outer Planets Exploration (HOPE) identified the Jovian moon Callisto as the best place in our Solar System to build a habitable base aimed at facilitating further outer exploration of the Solar System.²⁸ It was chosen largely on the basis that Callisto was well outside Jupiter's

²⁸ See: Patrick A. Troutman (NASA Langley Research Center) et al., "Revolutionary Concepts for Human Outer Planet Exploration (HOPE)".

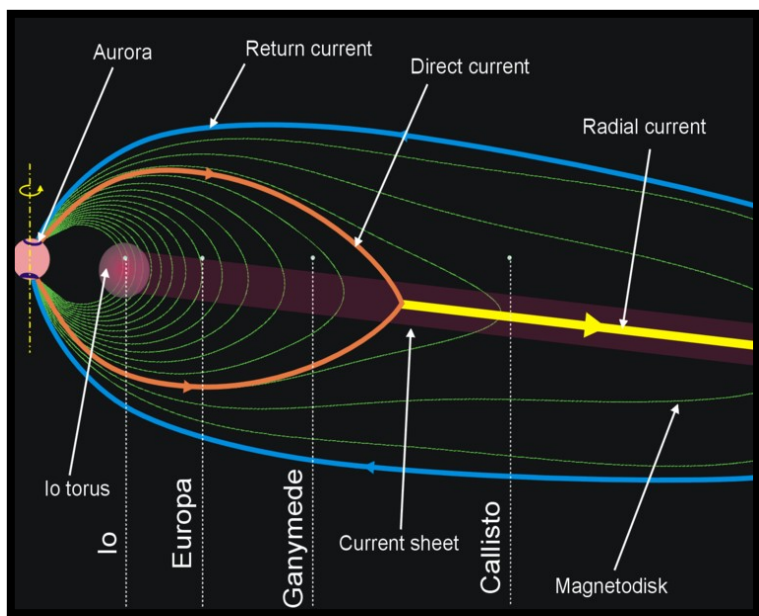
dangerously powerful radiation belt. On this moon, it was reasoned, human colonists would not be subject to the lethal effects of radiation poisoning suffered by the other Jovian moons. This scenario is, of course, predicated on the assumption that humans will have figured out how to deal with the high solar radiation levels that would be experienced by interplanetary travellers on their way to Callisto. And, in any case, Callisto is still subject to solar radiation bursts, as is the Earth's moon, due to its lack of an intrinsic magnetosphere. The study concluded it would probably be as late as the 2140s before such a project could become a reality.

Of the four so-called Galilean moons,²⁹ the innermost two, Io and Europa, are massively affected by Jupiter's intense radiation output. This is especially true of Io, which receives up to 3,600 rems³⁰ per day, hugely more than the 75 rems needed to induce radiation poisoning in a human.

²⁹ Galileo Galilei discovered Jupiter's four major satellites on January 7, 1610, and since then they have been referred to as Jupiter's Galilean moons.

The naming of the moons was a fraught affair, with Galileo intent on first naming them after the children of his patron, the Florentine banker de Medici. However, Simon Marius, who had discovered the four moons independently at the same time, prevailed in having the satellites named according to a suggestion by Kepler after the lovers of Zeus; Io, Europa, Ganymede and Callisto. In a fit of pique Galileo refused to use these names and instead developed the numbering system in which he designated each moon from the closest outwards I, II, III, IV. This system was used right up until the 20th century until the discovery of lesser moons around Jupiter, at which point Marius' names came into general use.

³⁰ A rem is a unit measure of the radiation dose called a Sievert (Sv). 1 Sv = 100 rem. Exposure of to about 75 rems for a few days can cause radiation poisoning, while 500 rems over a few days is fatal.



The magnetic field of Jupiter and co-rotation enforcing currents. Callisto's inclined orbit takes it outside the main current sheet of radiation, as does Ganymede's orbit. The 'Io torus' is a particularly heavy area of radiation within Jupiter's magnetosphere making exploration and colonization of Io extremely challenging. Image credit: RuslikO at Wikipedia.

Io is believed to be volcanically active, so much so that it has been claimed as the most volcanically active place in the Solar System.³¹ This volcanism is ascribed to tidal heating, the effect of Io being pulled gravitationally by both Jupiter's gravity, and the gravity of the other Galilean moons. Under Electric Universe (EU) models, much of this volcanism can also be attributed to an intensely active electrical connection between Io and Jupiter, the plasma-rich Birkeland currents that exist between most of the planets and the Sun and between large gas-giants and their satellites.³² In the meantime,

³¹ E.g., http://www.planetaryexploration.net/jupiter/io/volcanism_on_io.htm
1

Io orbits inside a particularly intense torus of radiation making it all but impossible for human colonization.

Europa is not that much better for human habitation, itself receiving up to 540 rems of radiation per day. But Europa has a thick crust of ice, and the presence of this shell of solid water has sparked all kinds of speculation on the possible existence of microbial life deep under the ice in a suspected hidden interior liquid ocean. Exciting as this may seem, the radiation issue, along with an extremely low gravity, still poses a significant barrier to the establishment of a human colony on Europa.

However, Europa's problems didn't stop a group called the Artemis Project from proposing a plan in 1997 for the colonisation of Europa.³³ To combat the severely cold conditions on Europa's surface, the Artemis Project proposed that the colonists drill down to under the icy crust to establish a base nearer to where liquid water might be. Here they would be shielded by the ice from the radiation, yet possibly remain warm enough to survive the frigid environment. Supposedly they could then set about settling in with any microbial neighbours for the long term, especially since there appears to be sufficient oxygen on Europa to support life.

Fascinatingly, in his science fiction novels *2010: Odyssey Two* (1982) and *2061: Odyssey Three* (1988), Arthur C. Clarke explores the idea of an intelligent alien species kick-starting Jupiter's transformation into a star, which then transforms Europa into a tropical ocean world from which humans are banned (the story seems to reflect a particular bias within the space exploration establishment towards the investigation of Europa when it comes to

³²

http://www.planetaryexploration.net/jupiter/io/io_plasma_torus.html

³³ Kokh, Peter; Kaehny, Mark; Armstrong, Doug; Burnside, Ken (November 1997). "Europa II Workshop Report". *Moon Miner's Manifesto* (110).

the Jovian moons, a theme that has been reflected in science fiction for some time.)

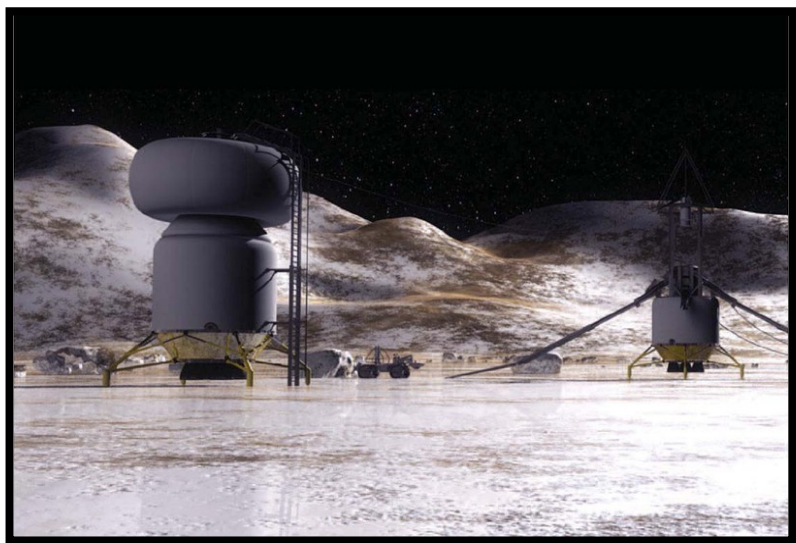
Skipping past Ganymede to Callisto for the moment, Jupiter's outermost Galilean moon does indeed appear an enticing destination for human colonisation — if it were not for the fact that it is so incredibly cold. Safely out of Jupiter's troublesome radiation zone, Callisto is another potential water world where microbial life may exist. However, this moon's meagre atmosphere is mostly made up of carbon dioxide, not the best mix for human habitation. While microbial life and flora would flourish in such an atmosphere, the lack of oxygen would be problematic for long-term human colonization.

The potential for microbial life on Callisto seems slim, mostly due to the extremely low temperatures currently experienced on its surface. According to accepted mainstream theory, Callisto's surface belies its ancientness with supposed impact craters testifying to a long history of periodic and intense cosmic bombardments.

“The ancient surface of Callisto is one of the most heavily cratered in the Solar System. In fact, the crater density is close to saturation: any new crater will tend to erase an older one. The large-scale geology is relatively simple; there are no large Callistoan mountains, volcanoes or other endogenic tectonic features.”³⁴

³⁴ Wikipedia entry for “Callisto”, see [http://en.wikipedia.org/wiki/Callisto_\(moon\)#Surface_features](http://en.wikipedia.org/wiki/Callisto_(moon)#Surface_features), This entry cites; Zahnle, K.; Dones, L. (1998). "Cratering Rates on the Galilean Satellites" (PDF). *Icarus* **136** (2): 202–222. Bibcode 1998Icar..136..202Z. doi:10.1006/icar.1998.6015. PMID 11878353. http://lasp.colorado.edu/icymoons/europaclass/Zahnle_etal_1998.pdf; and Bender, K. C.; Rice, J. W.; Wilhelms, D. E.; Greeley, R. (1997). *Geological map of Callisto*. U.S. Geological Survey. <http://astrogeology.usgs.gov/Projects/PlanetaryMapping/DIGGEOL/galsats/callisto/jcglobal.htm>.

With Jupiter believed to be acting as a giant gravitational vacuum cleaner for the Solar System, the chances of future bombardments remain high, especially since Callisto is so far outside Jupiter's massive magnetosphere. This would point to a tenuous existence for any human colony established on Callisto's surface.



Artist's impression of a future human base established on Callisto. Here they could supposedly mine for the fuel needed to supply spacecraft being sent on to the furthest reaches of the Solar System. Credit: NASA

This brings us back to Ganymede, the largest of the four Galilean moons, and indeed the largest moon in the Solar System. Bigger than the planet Mercury and at about three quarters the size of Mars, Ganymede would provide the best gravitational environment for humans of the Jovian satellites. It enjoys a meager oxygen-rich atmosphere and is absolutely saturated in water, which currently forms a global ice crust encapsulating its entire surface.

As noted in the previous chapter, Ganymede also enjoys the protection of its own intrinsic magnetosphere, the only moon in the Solar System to have one. Despite being inside Jupiter's substantial

and highly dangerous magnetosphere, Ganymede's native magnetosphere significantly cuts down the Jovian radiation to an entirely manageable 8 rems per day.³⁵ This is still high compared to Mars, for example, which experiences levels of up to 20 rems per year (.06 rems per day). However, even without the protective properties of an atmosphere, humans with adequately shielded apparel and vehicles could travel about on Ganymede's icy surface with little concern for the long-term effects of Jovian radiation.³⁶

The cause of Ganymede's magnetosphere is still a mystery to mainstream planetary scientists, who continue to look to variations on the internal 'dynamo' theory where convection within a planet or moon's inner core area is posited as the source of the electrical energy needed to establish a permanent and intrinsic magnetosphere. Advocates of the EU model merely point to Birkeland currents as the source of this electrical energy in providing magnetism in all its forms, wherever it is found in the Solar System and beyond.³⁷

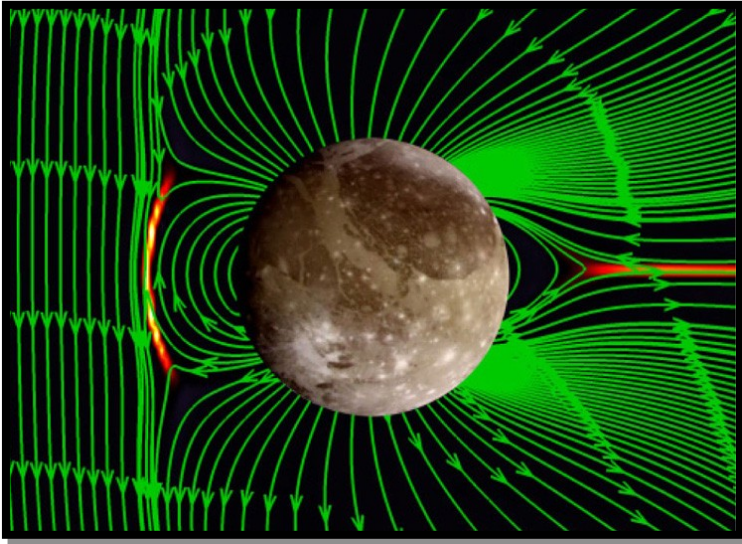
³⁵ Frederick A. Ringwald (2000). "SPS 1020 (Introduction to Space Sciences)". California State University, Fresno.

³⁶ NASA limits its astronaut's direct exposure to cosmic radiation to 600 rem for their career, a maximum of 300 rem per year, and a maximum of 150 rem per 30 days. A year on Ganymede would amount to exposure in the realm of approx.. 2,900 rem, a total well beyond NASA's current safety limits. The 1991 SIMM class decided on a limit of approx. 50 rem/year, which matches the US' National Council on Radiation Protection and Measurements (NCRP) recommendations. Obviously, in the absence of a protective atmosphere, human habitation of Ganymede would still require advanced radiation shielding to be viable over the long term. For details on NASA radiation limits for astronauts see: <http://people.ee.duke.edu/~chappell/mars/radhuman.html>

³⁷ Norwegian scientist Kristian Birkeland discovered the concept of large electrical currents flowing into the Earth from space over a hundred years ago. In his famous terrella experiments,

Birkeland was able to demonstrate at the laboratory level how aurora effects are created by directing electrical currents through metallic balls suspended in a vacuum. The sheer inability of scientists of his day to perceive where this electrical current could come from severely restricted the impact of Birkeland's ground-breaking experiments in suggesting an outside source for the Earth's magnetic field. Plasma physicists such as Hannes Alfvén have subsequently identified Birkeland currents as the source of the necessary electrical currents needed to establish magnetic fields. A common refrain of the Electric Universe model is that electrical current is always needed to initially create magnetism and that the copious magnetic fields known to exist in space are merely the ashes of vast electrical currents that have once flowed, or continue to flow in space.

See: Wallace Thornhill, "Alfvén Triumphs Again (& Again)", May 9, 2011, <http://www.holoscience.com/wp/alfven-triumphs-again-again/>



Ganymede's intrinsic magnetosphere is engulfed in Jupiter's massively larger and more powerful magnetosphere, yet manages to cut Jovian radiation levels down to 8 rems on the satellite's surface. The Electric Universe model points to large and electrically active Birkeland currents flowing between the satellite and Jupiter as the true source of Ganymede's magnetosphere. Credit: NASA/European Space Agency.

Interestingly, of the four ice-covered Galilean moons, Ganymede has received the least amount of interest as a possible future human colony for continued outer solar system exploration. Even layman-type wiki websites aimed at the general public and devoted to discussing various scenarios for the colonization of space have little to say on the subject.³⁸

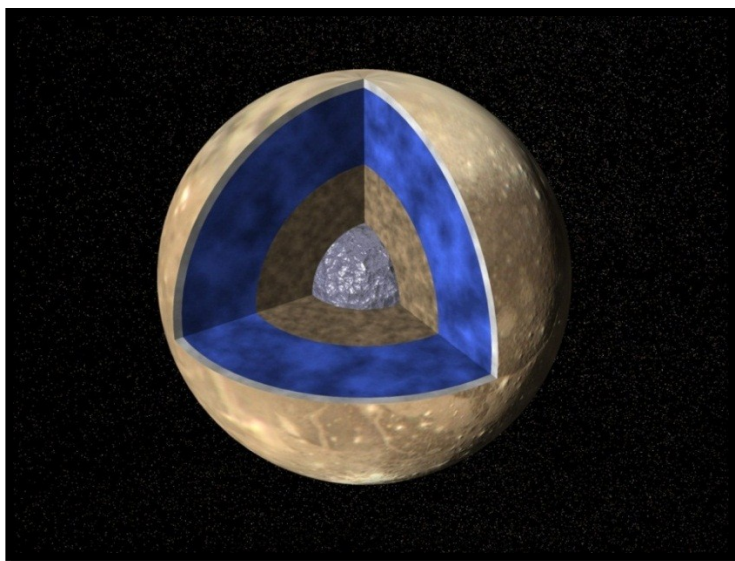
A possible reason for this may be the perception that Ganymede is what is called a 'highly differentiated body'. Being a differentiated body means that Ganymede's composition is believed to be made up of distinctly separate layers; an iron core at its center surrounded by a rocky silicate core, and then a huge watery/icy mantel layer that is encapsulated by an extremely thick crust of ancient ice. While such

³⁸

See for example:

http://spacecolonization.wikia.com/wiki/Colonization_of_Ganymede

a large layer of water may hold out hope for microbial life, the appeal of the moon as a future base for essentially land-based creatures like humans seems uncomfortably limited.



The mainstream consensus view of Ganymede's structural composition. An iron core makes up the central part of the moon and is wrapped in a silicate outer core. The next layer (blue layer) is a hugely deep icy mantel with a possible deep water ocean trapped between it and a thick icy crust, that forms Ganymede's surface. Image credit: NASA

Another reason for this reticence in considering Ganymede as a future destination for human colonization is that Ganymede's differentiated composition contrasts it sharply with Callisto and Europa, both of which have been considered candidates for mining operations. Ganymede's supposedly 800 – 1000 kilometre thick ice mantel seems to offer little in the way of mining potential, especially in accessing the important types of minerals and fuels needed by projected deep space missions. Furthermore, speculations of a liquid ocean between Ganymede's icy crust and its ice mantel give this

tentative body of water depths of up to 200 kilometres³⁹ — an impossible depth for known mining technologies to plumb in the search of materials essential for the sustaining of life on such a forbidding body.

The origin of this perception of Ganymede as a highly differentiated body comes from the data sent back by space probes making fly-bys of the Jovian satellite. In particular, the *Galileo* craft seemed to confirm that Ganymede had an almost impossibly low moment of inertia, making it the most centrally condensed body in the Solar System.⁴⁰ It is this low ‘moment of inertia’ that has led scientists to develop the compositional model for Ganymede that has it internally separated into such distinctly different layers. However, as we shall see, there may be an alternative interpretation as to why Ganymede has this extremely low moment of inertia, one that still points to Ganymede as a water world, but not with the supposed extreme depths of ice and oceans as proposed by the mainstream model.

The Enigma of Ganymede’s Moment of Inertia

“Ganymede is about the lowest I/MR^2 [i.e., moment of inertia] conceivable for any solid object in the Solar System.”⁴¹

The best way for the layman to understand what is meant in physics by the term ‘moment of inertia’ is to visualise an ice skater spinning on the spot — the more they pull their arms in the easier it is for

³⁹ Solomonidou, A., Coustenis, A., Bampasidis, G., Kyriakopoulos, K., Moussas, X., Bratsolis, E., Hirtzig, M., “Water Oceans of Europa and Other Moons : Implications For Life in Other Solar Systems,” *Journal of Cosmology*, 2011, Vol 13. 4191-4211, see: Introduction, paragraph 4.

⁴⁰ [http://en.wikipedia.org/wiki/Ganymede_\(moon\)](http://en.wikipedia.org/wiki/Ganymede_(moon))

⁴¹ See online Caltech course: “Ge 131: Planetary Structure and Evolution -- Spring 2012”, Textbook PDF, chapter 11, page 124. <http://www.gps.caltech.edu/classes/ge131/>

them to spin faster. What they are doing is centralising their mass around the axis of their spin, or, in other words, condensing their mass inwards to pack it as tightly and densely as they can at the centre of their spin. By doing this they don't *have* to spin faster, but it certainly makes it easier to spin faster if they want to. Ganymede is the space equivalent of an ice skater who has pulled in his/her arms while going into a spin — it would be much easier, energy-wise, to increase Ganymede's spin rate than that of any other body in the Solar System.

Put technically, a body's moment of inertia is a property of the distribution of its mass in space that measures its resistance to rotational acceleration about its axis. It was the fly-bys of the space probe *Galileo* that confirmed Ganymede's moment of inertia exists at an almost impossible 0.3105. By calibrating the gravitational effect on *Galileo* as it swooped past Ganymede, scientists were able to determine this exceptionally low number. In comparison, the similar sized moon Callisto enjoys a moment of inertia of about 0.359, much higher than Ganymede.⁴²

This has led scientists to proclaim that Ganymede has most of its heaviest and densest matter or material packed into its inner core. As noted above, iron has been identified as being at the center of the core with a separate rock silicate forming an outer core or mantel, the two forming the bulk of Ganymede's 'density.' Wrapped around this is whatever fills out the rest of the moon till it reaches its observed volume size. This is believed to be mostly water in the form of ice, a belief that has led to proclamations that an ocean may have been discovered under Ganymede's icy crust.⁴³

Whatever this outer mantel is made of it has to be far less dense than the inner two cores in order to give Ganymede its low moment of

⁴² Ibid. page 125.

⁴³ M. G. Kivelson, K. K. Khurana and M. Volwerk, "The Permanent and Inductive Magnetic Moments of Ganymede", PDF, *Icarus* 157, 507–522 (2002), doi:10.1006/icar.2002.6834

inertia. Water is the low-density substance favored by accepted theories, mainly because, if the water is salty, it would possibly also serve as an adequate inductor contributing to Ganymede's observed intrinsic magnetosphere. According to this thinking a silicate-based rock-like outer mantel would be too dense and heavy to account for Ganymede's low moment of inertia while also making for a poor conductor for electrical induction.

“Ganymede's internal structure appears to include a metallic core, a rocky mantle, and an icy outer layer, a model inferred from measurements of the gravitational moments (Anderson *et al.* 1996) and magnetic data (Schubert *et al.* 1996, McKinnon 1997). *An inductive response could be present if the icy layer contains electrically conducting paths as, for example, in regions of partial or complete melt of sufficient thickness.*”⁴⁴ (Emphasis ours)

The above quote brings up an important point, i.e., the electromagnetic conductivity of whatever Ganymede's supposed massively deep icy mantel is made of. Salt water is the prime candidate because of its known conductive properties. Add to this its compatible density, which conforms to Ganymede's low moment of inertia, and it seems obvious that it is indeed salty water that constitutes this outer mantel. But, as we shall soon see, there is another compound that can substitute for salt water, a solid rock-like compound just as potentially conductive and, actually, less dense.

But first, it should also be noted that the presence of a huge mass of water also seems to conform to accepted concepts of how planets and moons in general supposedly evolve. But the seemingly absolute separation of each of Ganymede's layers contrastingly and actually poses a real problem to this model. Under the accepted thermal cooling principles of planetary formation, the outer layers of any given body in the Solar System should cool quicker than the

⁴⁴ Ibid, page 2.

inner layers. However, Ganymede's highly differentiated layers implies that its cooling period has not behaved in the way most thermally-based evolution models would suggest, a process that would normally produce much more mixed layers than is believed to exist on Ganymede. In summary then, Ganymede's low moment of inertia seems to pose more problems to the accepted model of planetary and moon formation than most would probably care to admit. For example, Michael Thomas Bland has noted in a dissertation on the subject:

“Jupiter's satellite Ganymede is one of the Solar System's great enigmas. Gravity data indicate that it is the most centrally condensed solid object in the Solar System, suggesting a high degree of differentiation (Anderson et al., 1996). Additionally, the satellite is one of only three solid bodies in the Solar System that produces an internally driven magnetic field. Finally, its surface bears the scars of vigorous tectonic activity that were likely created in the middle of the satellite's geologic history. Furthermore, all these features occur on a satellite that currently receives no tidal heat and whose “twin” (in size and bulk composition) Callisto is only partially differentiated (Anderson et al. 1997b) and dominated by impact cratering. ***Scenarios for Ganymede's thermal evolution that assume secular cooling of the satellite over the age of the Solar System have difficulty explaining the***

observations described above (e.g. Freeman, 2006).”⁴⁵
(Emphasis ours)

When it comes to the assumptions and methods employed by mainstream science in determining the composition of other bodies in the Solar System, EU physicist Wallace Thornhill has this extra caveat from an EU perspective to add to the discussion about the masses involved in making up celestial objects:

“We conceal our ignorance of any underlying physical mechanism by tolerating dimensional constants. If mass is an electrical variable, G [gravity] cannot be constant. Assuming G to be universal as well gives rise to calculated masses and densities of celestial bodies that lead to further conjectures cantilevered upon the already dubious assumptions. *Stellar and planetary structure and composition are based upon this erroneous conviction.* For example, by using G , measured on Earth, the planet Saturn appears to have a lower density than water!”⁴⁶ (Emphasis and underlining ours)

There is something obviously different in the way Ganymede was formed when it is compared to other moons and planets in the Solar System. So, the question must be asked: is there any other possible internal composition that could explain Ganymede’s highly differentiated layers, yet extremely condensed centre? Is there yet

⁴⁵ Michael Thomas Bland, “The Tectonic, Thermal and Magnetic Evolution of Icy Satellites”, *Phd dissertation submitted to the Faculty of the Department of Planetary Sciences, The University of Arizona*, page 20. See Google books:
http://books.google.co.uk/books?id=--FdM9ep6coC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

⁴⁶ Wallace Thornhill, “Newton’s Electric Clockwork Solar System,” [April 21, 2009](#).

another substance that can account for Ganymede's seemingly low-density outer mantel that explains its low moment of inertia?

We believe the answer lies in the formation of a solid silicate-based substance that is formed at high temperatures, yet can assume a density far less than water. It is a rock, and this rock's name is *pumice*.

A Ball of Pumice Wrapped Around an Iron Core

The suggestion that Ganymede's outer mantel may consist of pumice with an icy crust sitting on top of it would elicit a number of obvious objections from mainstream scientists, the least being that pumice is generally a low-density rocky product born of volcanic activity. It is therefore highly improbable that an 800 – 1,000 kilometre layer of pumice could be formed purely by volcanic eruptions. The other Jovian moon Io, as noted, is the recognised champion of volcanism, and we do not see an 800 kilometre layer of pumice on that moon. Unfortunately, Ganymede's outer mantel needs to approach these 800 kilometre depths to account for the satellite's low moment of inertia — so what gives with the idea that it's made of pumice?

On Earth, “. . . pumice is created when super-heated, highly pressurized rock is violently ejected from a volcano. The unusual foamy configuration of pumice happens because of simultaneous rapid cooling and rapid depressurization. The depressurization creates bubbles by lowering the solubility of gases (including water and CO₂) that are dissolved in the lava, causing the gases to rapidly exsolve (like the bubbles of CO₂ that appear when a carbonated drink is opened). The simultaneous cooling and depressurization freezes the bubbles in the matrix.”⁴⁷

⁴⁷ Wikipedia entry on “Pumice,” See: <http://en.wikipedia.org/wiki/Pumice>

It's these bubbles frozen into the rock that makes pumice so light and buoyant in water. Immense thin rafts of pumice with area sizes larger than the state of Israel have formed in the Pacific after major eruptions.

“Pumice is composed of highly microvesicular glass pyroclastic with very thin, translucent bubble walls of extrusive igneous rock. It is commonly, but not exclusively of silicic or felsic to intermediate in composition, . . . but basaltic and other compositions are known. . . . It forms when volcanic gases exsolving from viscous magma nucleate bubbles which cannot readily decouple from the viscous magma prior to chilling to glass.”⁴⁸

From the above quote then, we know that heat, and not just any heat, but super heat is needed in the formation of pumice and that pumice can be produced from a number of different super-heated rock types. Therefore, if a planetary body the size of Ganymede was originally made up of an iron core wrapped in a larger silicate rocky mantel, then we would need a huge portion of that rocky mantel to be super-heated to a great depth on a global scale to produce an outer layer of pumice. Clearly, internal volcanism within Ganymede could not account for such a condition. The question then remains if there is a mechanism where a whole moon's outer mantel can be super-heated to create an 800 kilometre layer of pumice?

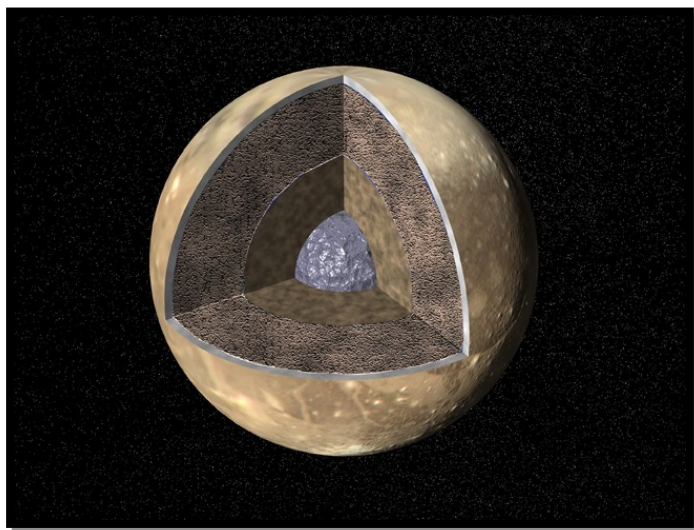
Plasma in arc mode can produce the kind of heat we are talking about. The Sun, a star engulfed in plasma crackling in arc mode, regularly ejects flares and plasma filaments with temperatures far in excess of that needed to melt rock. This, then, opens up a number of possibilities when we factor in the idea of Jupiter having once been an electrically active sub-brown dwarf, as discussed in the previous chapter. Could Jupiter have once emitted an enormous and sustained super-heated electrical flare or electrical current that engulfed

48

Ibid.

Ganymede in a global plasma fireball capable of rendering Ganymede's original outer rocky mantel into pumice?

The scenario suggested in the above question would call for Jupiter to have experienced an electrical overload capable of initiating an extreme discharge approaching that of a nova event. Such events, especially X-ray flares,⁴⁹ are entirely plausible in the lives of brown dwarfs, especially under the tenets of the EU model. In fact, the EU concept of planet birthing calls for exactly this type of scenario, and it would adequately account for not only Ganymede's unique internal characteristics, but also for the dichotomy seen in the different structures of Jupiter's four Galilean moons. But more on that shortly. . .



A revised model for the interior for Ganymede showing the outer mantel as a deep layer of low-density pumice encapsulating an inner core of iron and an

⁴⁹ See: "First X-ray Flare from Brown Dwarf Observed," *News Release, July 11, 2000*, Office of Public Affairs, UC Santa Barbara. Also, see: "Brown dwarfs do form like stars (12/6/2008)," *Astronomy Report*, http://www.astronomyreport.com/Research/Brown_dwarfs_do_form_like_stars.asp

outer core of silicate. Such a layer comprised of pumice would account for Ganymede's low moment of inertia just as easily as a deep icy ocean.

Ganymede's Electrical Conductivity: It's in the P-Holes

One final component worth mentioning, since the conductivity of salt water plays a major part in the mainstream identification of Ganymede's outer mantel as salt water ice, is the growing acceptance in the geologic sciences of a concept called p-holes. P-holes are linked to the plasma-like phenomenon of earthquake lights and are said to be the means by which electricity can flow through rock to produce these mysterious lights.

“The best theory of earthquake lights comes from mineral physicist Friedemann Freund, who took a frustrating fact [rocks samples conducting electricity along their surface in the lab] and made it the cornerstone of a new hypothesis. Under the conditions of most earthquake faults, lab experiments show that rocks are electrical insulators. But the experiments are very frustrating because rock samples conduct electricity well along their surfaces. This swamps the effects being looked for, unless the samples are first roasted in vacuum. But at that point you don't have realistic rocks.

“Freund realized that mineral grains in ordinary rocks are naturally full of flaws; specifically, oxygen atoms in imperfectly ionized states. There are millions of oxygen atoms in every piece of silicate mineral with one electron short, bound together in peroxy bonds. When such a bond is broken for whatever reason, the result is a pair of "holes" of positive charge, or p-holes. Anyone who knows the physics of semiconductors knows about holes. They carry charge, in their way, just as effectively as electrons do.”⁵⁰

⁵⁰ Andrew Alden, “Earthquake Lights,” *About.com Guide*, first published 5 May, 2006. see:

Pumice is full of holes thanks to its unique formation — that is what makes it lighter than water. Though there are no confirmed tests on pumice itself concerning the presence of p-holes in the substance, it is inconceivable that pumice would not also exhibit this p-hole effect during its formation and therefore act in a similar way to salt water in the conducting of electrical currents. If so, then pumice is as complementary to the formation and preservation of Ganymede's magnetosphere as salt water is thought to be.

An Electrifying Scenario: The Birth of Jupiter's Moons

Within the EU model the birthing of planets takes place when a star, defined as an electrical discharge phenomenon, is electrically overloaded by the galactic current, which then results in stress fractures to its internal heavy element iron core. This leaves two positively charged pieces of the core at the centre of the star, with the lesser piece being forcibly ejected/repelled by the like-charged (magnetised) larger piece. The smaller piece of iron core then finds itself outside its star's interior where it assumes an orbit. It is now a planet and the dusty debris of the star's circumstellar disk will soon be attracted to the smaller piece's existing magnetic field, which begins the process of forming layers. That is how mantels are constructed according to this theory.

Had Jupiter once been a sub-brown dwarf star, it can be expected that its four major moons were produced in this manner. While we are not saying that all four moons were ejected at the same time, it is conceivable that the first moon to find itself in orbit around Jupiter would have been severely affected by the birth of any subsequent moon, both gravitationally and electrically.

Accordingly we can now envisage the birth of, let's say Io and Europa, as having initiated huge super-heated Jovian jets and flares

<http://geology.about.com/od/earthquakes/a/EQlights.htm>

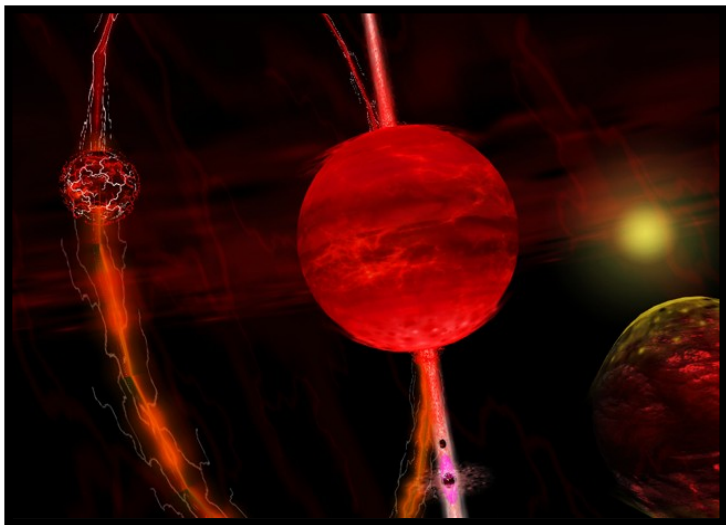
of plasma capable of literally incinerating an existing close-orbit moon, let's say Ganymede. Any Birkeland current connecting Ganymede to Jupiter during this proposed process would also go into electrical arc mode and contribute significantly to the super-heating of Ganymede's outer rock mantel. Then, in the instant that Jupiter's electrically charged environment reverted to glow mode as the nova event subsided, Ganymede's super-heated outer mantel would suffer simultaneous rapid cooling and rapid depressurization leading to the formation of an outer pumice mantel.

The above scenario would then see a former solid rock-like moon reduced to being an iron ball wrapped in a silicate mantel with an outer, deep layer of pumice. Large pieces of pumice at the surface would be fractured off the outer surface where they would lay like so much gigantic and light-weight rubble within the surface's residual dust. In time, water from Jupiter's sub-brown dwarf atmosphere would mist out into the confines of Jupiter's plasma sheath and ultimately mist down onto Ganymede. Eventually, as more water vapour collected and condensed on Ganymede's surface under a developing atmosphere, a liquid ocean would rise, and with it the buoyant pieces of fractured pumice littering the moon's landscape. Free-floating pumice islands of many different sizes would then drift across a global ocean forming giant archipelago-like rafts.

Concurrent with these developments, Ganymede's size would give it the role of an internal virtual cathode to Jupiter's encompassing electrical anode glow as part of Jupiter's overall sub-brown dwarf electrical circuit. The existence of both an anode and a virtual cathode occupying the same region within the Jovian electrical circuit would result in the electrolysis of the Jupiter's existing water vapour. This process would separate Jupiter's H₂O molecules into hydrogen and oxygen. The oxygen molecules would be drawn to and accumulate within Jupiter's anode glow region, while the hydrogen molecules would be drawn to the cold cathode of interstellar space (i.e. in the time before Jupiter's capture by the Sun). Due to its virtual cathode role within Jupiter's protective anode glow and encapsulating magnetosphere, Ganymede would be immersed in literal waves of freshly electrolysed oxygen molecules that would eventually

accumulate on its surface to form an oxygen-rich atmosphere. Ganymede's growing oxygen atmosphere would ultimately provide the needed atmospheric pressure to form liquid water on Ganymede's surface. A climate would develop in due course and soon, possibly quickly, the existence of life under Jupiter's dull glowing core could be considered. By the time Jupiter itself was fully captured and transformed from an anode into a cathode by the Sun's more powerful electric field, Ganymede's oxygen and water-rich atmosphere would have matured enough to provide life-giving protection against both Jupiter's residual radiating glow and the Sun's harsh, yet warming rays . . .

But that is for another chapter.



The birth of Io and Europa and the super-heated electrical baking of Ganymede.

In the distant past the sub-brown dwarf Jupiter (center) brightens while undergoing a nova-like flaring event, which produces violent polar jets that eject two solid bodies from Jupiter's interior – the new moons Io and Europa (dark dots seen in Jupiter's southern polar jet). Flaring plasma filaments super-heat Jupiter's circumstellar disk and engulf the orbiting Ganymede (at left of frame)

— as does the intense electrically arcing Birkeland current connecting Ganymede to Jupiter, turning Ganymede into a super red-hot ball of molten rock being baked through. This may have gone on for weeks or months, and then stopped as suddenly as it started. With the subsidence of Jupiter's electrical flaring, Ganymede would have experienced a rapid cooling and depressurization

leading to the formation of an outer mantle of pumice.

Callisto, a much older moon seen in the foreground at bottom-right of frame, is orbiting far enough out not to be affected as badly as Ganymede, but still experiences intense aurora effects and possible bombardments. The event is depicted as happening during the primordial Antique Solar System epoch when Jupiter is conjectured as having been in a much closer orbit to the Sun. The Sun, seen in the distant background, is about 155,000,000 kilometers away (96,300,000 miles).

Image not to scale.

Summary and Takeaways from this chapter

Jupiter's famous Galilean moons have been assessed in this chapter as places of interest within our solar system in the search for life beyond Earth. While mainstream science favours Europa for the potential existence of microbial life and Callisto for its potential as a future human outpost in the exploration of the outer solar system, we find Ganymede to be the true dark horse contender in the search for evidence of extra-terrestrial life. Ganymede's unique and intrinsic magnetosphere means this moon most closely resembles Earth in terms of the ability to provide a safe haven for life from the damaging effects of Jovian, solar and galactic cosmic radiation.

- While a mystery to mainstream science as to how Ganymede sustains its own magnetosphere, we point to the Electric Universe model and its recognition of current carrying Birkeland currents as the solution to how Ganymede powers its intrinsic magnetosphere. Ganymede's electrical relationship with an electrically active Jupiter is responsible for this unique feature, a feature that is analogous to Earth's own electrical relationship to the Sun in producing Earth's magnetosphere.
- Ganymede's almost impossible low 'moment of inertia' has lead mainstream planetary scientists to conclude that Ganymede is a highly differentiated body with a mantle that is believed to be almost exclusively made up of icy water to a depth of over 800 kilometres. Our suggestion is that Ganymede's mantle is actually comprised of lightweight pumice-like silicate created when Ganymede was electrically baked in the course of a flaring episode during Jupiter's sub-brown dwarf phase. A pumice mantle, being lighter than water, would more than adequately account for Ganymede's low moment of inertia.
- While mainstream consensus believes Ganymede's ability to maintain its magnetosphere is due to a conductive saltwater mantle, we suggest the phenomenon of electrically conductive 'P-holes', now being confirmed in rocks, as the more likely solution to Ganymede's mantle

being conductive. Pumice, by its nature, is full of holes, and this feature makes it extremely susceptible to being a harbour for electrically conductive P-holes. A predominately pumice-like mantel on Ganymede provides a solution for both its conductivity in sustaining Ganymede's intrinsic magnetosphere while also accounting for its low moment of inertia.

- During the ancient formation of its pumice-like mantel by electrical discharges thrown out by an unpredictable and flaring Jupiter (then in close orbit with the Sun), Ganymede's surface would have come to be littered by the debris of broken shards of pumice and copious amounts of silicate dust. As water from Jupiter eventually condensed on Ganymede, along with oxygen molecules produced by electrolysis of Jupiter's water vapour, an atmosphere and ocean would have arisen on Ganymede's surface. The left over dust and broken shards of pumice would have risen with the rising global ocean to form free-floating island land masses.

What Happened to Ganymede?

There is a tendency in modern planetary science to believe that planets are where they are, and how they are, because that is where they were originally formed. The same reasoning is applied to planetary moons and satellites. But how reliable is this train of logic? And how can it be applied to what we see today on the surfaces of planetary bodies and their moons?

The process by which Ganymede's surface became a thick icy crust grooved and sputtered with seemingly innumerable impacts and segmented into distinct light and dark zones is assumed by mainstream consensus to have been the result of billions of years of exposure to roughly the same orbital environment that Ganymede currently now enjoys. Added to this is the assumption that the non-impact features seen on Ganymede's surface must surely be the result of some form of long-term internal tectonic activity affecting the satellite's thick icy crust. For example:

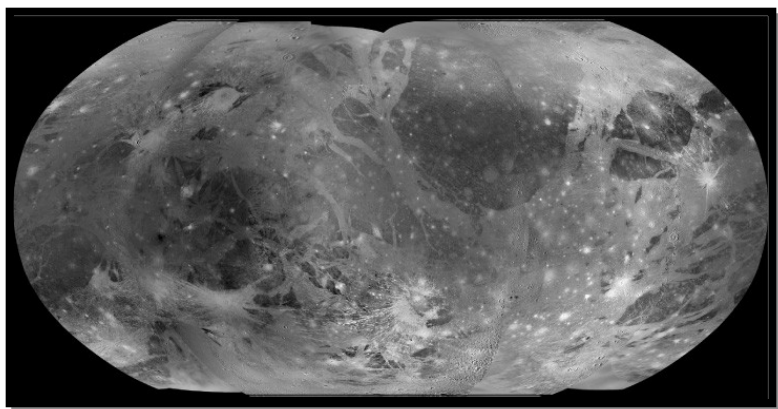
“Ganymede has fascinating and diverse surface geology. Its relatively young bright "grooved terrain" is shaped by Earth-like tectonism, with faults and fractures that deform its surface ice. Icy volcanism may have paved its smoothest terrains. Its ancient cratered "dark terrain" shows a complex geological history. The dark terrain probably dates from the earliest days of the Galilean satellite system and offers the best promise for unravelling its cratering history.”⁵¹

Currently, the internal forces and tidal forces needed for this tectonic activity seem to be subdued almost to the point of being non-existent. There is little evidence of this type of activity taking place on Ganymede. Planetary scientists have thus countered by suggesting that Ganymede must have once experienced periods of

⁵¹ R. T. Pappalardo, K. K. Khurana, and W. B. Moore, “THE GRANDEUR OF GANYMEDE: SUGGESTED GOALS FOR AN ORBITER MISSION,” Brown University (Dept. Geological Sciences, Providence RI 02912-1846; 2UCLA (Los Angeles, CA 90095-1567), 4065.pdf, see:

<http://www.lpi.usra.edu/meetings/outerplanets2001/pdf/4065.pdf>

huge internal tidal effects caused by previous unstable orbital resonances produced over time by its evolving relationship to the other three Galilean moons. But can this really account for all the features seen on Ganymede?



A flattened projection of Ganymede's surface. The darker areas are considered to be the Jovian satellite's more ancient terrain while the lighter areas represent newer resurfacing by supposed tectonic activity. The bright speckled spots are believed to be impact craters with a few larger supposed impact craters showing extensive radial patterns. Credit: NASA.

An interesting feature of the three innermost Galilean moons is that they share the so-called Laplace resonance of 1:2:4. That basically means that for every completed orbit of Ganymede, Europa will complete two orbits and Io will complete four. It is theorised that whatever may have brought these three moons into this resonance may have also have been responsible, via extreme tidal kneading, for creating the internal forces at Ganymede's core capable of producing the supposed evidence for tectonic activity on Ganymede's surface. These generated tidal forces, suggested to have been 'pulsed' as Ganymede, Europa, and Io eventually settled into their current resonance over an extended period of time, were also supposedly responsible for heating Ganymede's iron core to the point where the satellite's intrinsic magnetosphere could be generated (something absent in Io and Europa despite both also being subject to the same tidal forces). Currently, evidence of tidal forces at work within

Ganymede are now negligible, in stark comparison to Io and Europa, begging the question of what force now sustains Ganymede's supposedly internally heated dynamo that is supposedly currently powering its intrinsic magnetosphere?

Added to the above scenario for the shaping of Ganymede's surface are the assumed various impact and bombardment events from assorted meteorites, asteroids and other debris left over from the primordial Solar System's theorised nebula accretion disk. These are thought to have provided the majority of silicate, mineral and organic materials now locked into the ice of Ganymede's crust. The constant spluttering of Ganymede's surface by charged particles originating from Jupiter's irradiating magnetosphere are also considered to be a surface changing factor and most responsible for releasing gas molecules from the icy surface to form Ganymede's very thin oxygen atmosphere.

There is also the almost unique geological-like concept of cryovolcanism to add into the mix. This is the belief that volcanic-like activity can occur through the upwelling of 'warm ice' through the icy crusts of satellites like Ganymede. Upon reaching the surface, these percolating plumes of warm ice are thought to be partially responsible for the creation of so-called ice calderas, ice geysers, and other associated quasi-volcanic features. However, in relation to Ganymede, this is a very tentative theory, an ad hoc response borrowed from other ad hoc explanations for the observed geysers of steam and water vapour seen on icy satellites like Saturn's Enceladus. Regarding any observable presence of it on Ganymede, cryovolcanism as a whole is still a debatable concept.

“While strong evidence supports the notion that cryovolcanism can occur on icy satellites, the mechanisms by which water, with its higher density, can be erupted through lower density ice are only partially understood. . .”⁵²

⁵² Michael Thomas Bland, “The Tectonic, Thermal and Magnetic Evolution of Icy Satellites”, page 20

Ganymede shows little in the way of active cryovolcanism, something that could only be fully expected in the presence of tidal forces, of which there are virtually none currently affecting this Jovian satellite. In summary then, the mainstream view of how Ganymede came to look like it looks today is:

“Its surface displays an array of geologic features spanning a wide range of ages, which record evidence of the internal evolution of a large icy satellite, dynamical interactions with the other Galilean satellites, and the evolution of the population of small bodies impacting the surfaces of the satellites.”⁵³

But does it?

Here we have another example of mainstream scientific consensus struggling to fit the available data into preconceived models. If Ganymede accreted in its current orbit, as the accepted model demands, then current thermal models of planetary formation have no way of explaining why Ganymede currently has a hot molten iron core — and that includes factoring in the supposed past effects from discordant orbital-induced tidal forces. Ganymede’s currently negligible internal tidal activity should have seen the satellite cool down hundreds of millions, if not billions of years ago to such a degree that it would not be able to generate the supposed heat convection needed to support the internally driven dynamo the consensus says is needed to power its known magnetosphere.

Because of these problems, many of mainstream science’s most cherished planetary beliefs actually face almost insurmountable problems in explaining Ganymede. Add to this the belief that the Galilean moons of Jupiter all supposedly accreted out of the same

⁵³ Geoffrey C. Collins, et al, “Ganymede science questions and future exploration,” *Planetary Science Decadal Survey Community White Paper*, PDF, see Introduction section, <http://www.lpi.usra.edu/decadal/opag/GanymedeScience.pdf>

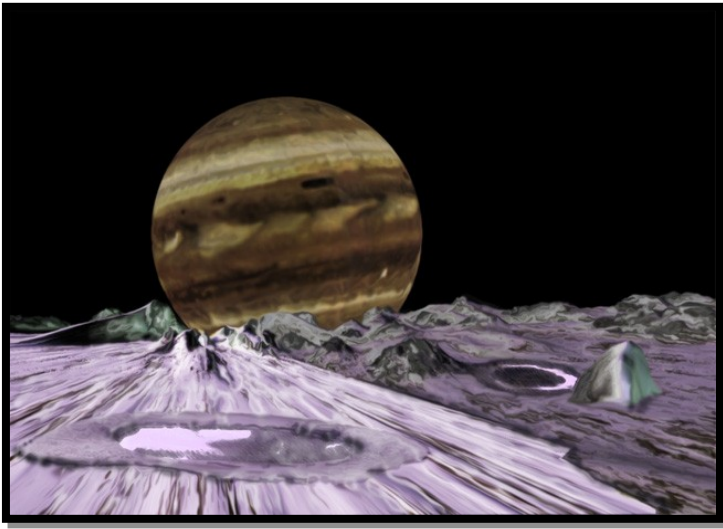
dusty disk surrounding a primordial Jupiter, yet are radically different in both their compositions and surface features, and you start to understand why we are left with an increasingly confused and illogical picture regards the mainstream consensus view of how the Jovian system formed.

Frozen Remnants of an Antique Solar System

In the previous chapter, we proffered that Ganymede's uniquely low moment of inertia was more likely due to its outer mantel being composed of pumice rather than ice. This was created, we have suggested, by the extreme electrical heating of Ganymede during a flaring of Jupiter as Jupiter underwent a nova-like event. After the subsidence of this flaring event, Ganymede's 'pumiced' outer mantel became an electro-magnet for the accumulation of vapour from Jupiter's huge clouds of water until an ocean rose globally across Ganymede's surface, an ocean populated by the floating shattered shards of pumice split off from the outer mantel's main bulk. Subsequently, Ganymede became a liquid saturated moon orbiting the dull glow of a sub-brown dwarf safely inside the Sun's warming habitable zone.

For how long this persisted, we don't know. Did life come to exist on such a world? . . . Possibly, but we don't know for sure as yet.

However, what we can surmise is that something changed on Ganymede. . . and changed dramatically!



Artistic impression of the surface of Ganymede today. The Pentagon building in Washington DC would fit neatly into the crater in the foreground.

Whatever pushed Jupiter out into its current orbit was responsible for the icy globe that Ganymede has become today. The main culprit, it is suggested by this work, was another free-floating *sub-brown dwarf* ensnared by the Sun. That *sub-brown dwarf* came with its own collection of satellites, the arrival of which triggered massive electrical discharges throughout the now overpopulated Solar System and caused the subsequent catastrophic rearrangement of the Sun's old and new planets into the current order we see today.

The *sub-brown dwarf* responsible for this calamitous re-ordering of the Solar System was destined to become the gas-giant planet called Saturn, and with it came the planets Earth, Mars, Venus, Neptune and Uranus. For the Jovian system of worlds, retreat into the cold outer regions of the Sun's influence spelled doom for any life that may have existed on its four Galilean moons. Gradual or sudden, such a shift inevitably froze over Jupiter's former water worlds while Jupiter itself sputtered spectacularly from *sub-brown dwarf* to gas-giant, incapable of continuing to provide the warming glow so necessary for the prolongation of any possible life on the surfaces of

its former liquid-covered satellites. The Ganymede we see today is thus an icy tomb preserving the last vestiges of whatever world may once have existed there during the epoch we have dubbed the Antique Solar System.

However, the dying throes of Jupiter under electrical assault due to the arrival of Saturn would have seen a last flurry of breath-taking planetary electrical activity. These events would have burned themselves into the memory of any who might have witnessed them.⁵⁴ Mythology tells us the inhabitants of the newly arrived Earth did indeed witness enhanced electrical activity on and around the planet Jupiter, events that have etched their memory into the collective human psyche in the form of that most awesome of mythological archetypes; the Jovian thunderbolt! One can only imagine what might have been occurring on Ganymede at any time these thunderbolts were unleashed. It is perfectly plausible that Ganymede would have borne the full brunt of Jupiter's dying electrical spasms as the old Antique Solar System gave way to the new.

Do we see evidence of Ganymede having suffered such violence?

The Electrical Scarring of Ganymede

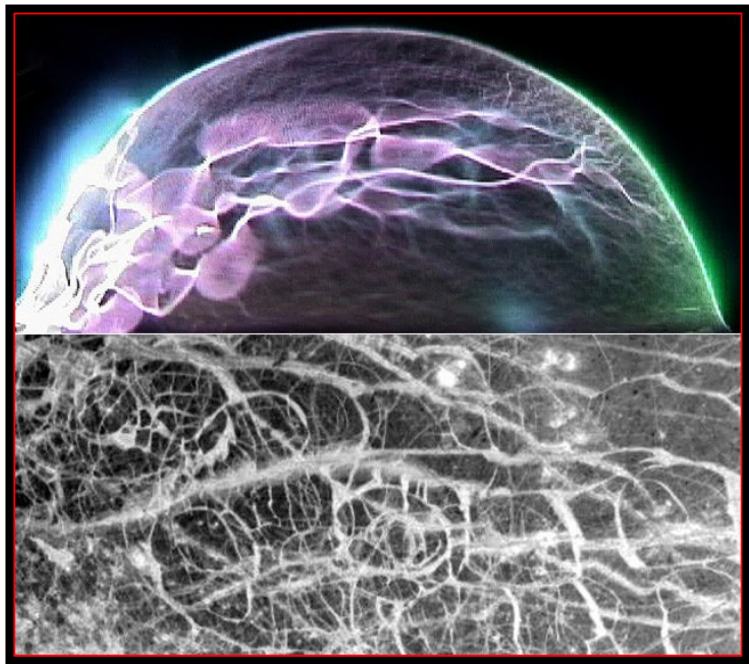
More than evidence for tectonic activity or cryovolcanism, Electric Universe (EU) adherents see copious evidence for the scarring effects of atmospheric electrical discharge on the moons of Jupiter. Europa's surface in particular shows distinct signs of dramatic electrical strikes on a vast scale, far larger than the puny lightning bolts experienced here on Earth.

“Europa displays a frozen record of strikes by Jupiter's thunderbolts in the recent past. Just as lightning looks for the easiest path to ground, Jupiter's thunderbolts preferred to run across the surface of Europa rather than through the near vacuum of space. The result is a filamentary pattern of

⁵⁴

E.g., Dwardu Cardona, “Primordial Star”, pp 345 - 346

superimposed furrows running this way and that for hundreds and thousands of kilometers across the face of the moon.”⁵⁵
(See images below)



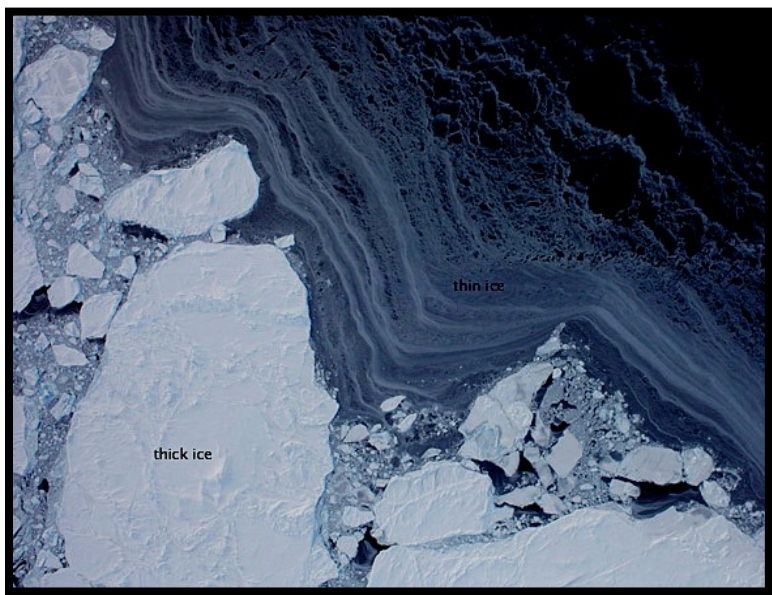
A comparison of electrical filaments in a plasma ball (top) to surface features on Europa (bottom). The icy surface of Europa seems to have perfectly preserved the electrical scars of a Jovian thunderbolt as it passed over its surface. Picture credits: Top image, Wallace Thornhill; bottom, NASA.

The standard take on this type of surface feature is that it is somehow similar to what we see occurring at our own polar ice sheets here on Earth.

⁵⁵ “Picture of the Day (POTD), December 14, 2005,”
Thunderbolts.info, see:
<http://www.thunderbolts.info/tpod/2005/arch05/051214europa.htm>

“We also know that it’s [Europa is] covered in thousands of cracks that look very much like the type we see in ice floes floating on liquid water here on Earth.”⁵⁶

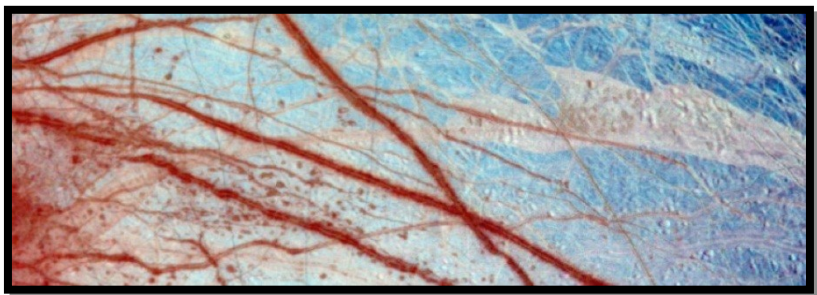
By ‘ice floes floating on liquid water here on Earth,’ it is assumed what is meant is something like the following image:



Arctic ice sheet at the ocean's edge. Supposedly a comparative phenomenon to what is seen on Europa. Image credit: NASA.

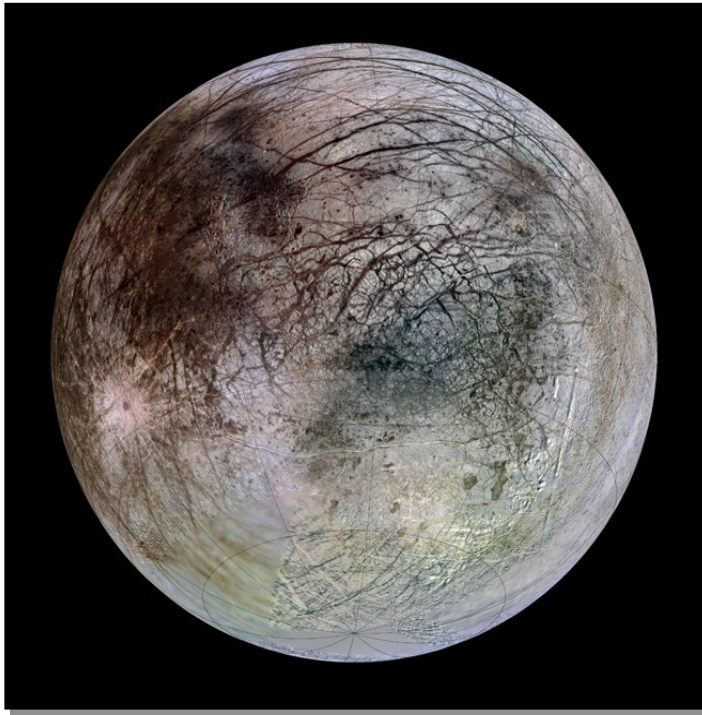
To actually compare the two supposedly similar phenomena, below is another shot of Europa’s own supposed ice floe-like surface features:

⁵⁶ Phil Plait, “Huge lakes of water may exist under Europa's ice,” *discovermagazine.com*, *Bad Astronomy*, November 17, 2011.



The supposed ice floe-like cracking of Europa. Image credit NASA.

The crisscrossing flowing nature of Europa's dominant and wide dark lines somehow *don't* evoke images of the arctic ice cap, yet this doesn't stop mainstream science from seeing what it wants to see. The colour differentiation should in itself be a warning that all is not well with an Arctic/Europa ice sheet comparison. While we completely agree that it is ice that we are looking at, the bizarre maze of lines seen on the ice of Europa must surely have another explanation to it simply being a form of ice floe cracking (see next image).



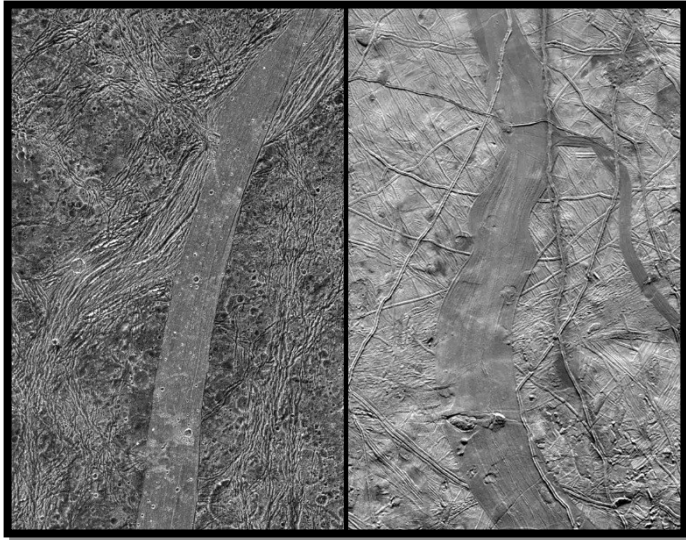
Jupiter's moon Europa clearly displays an electrically scarred surface. Image credit NASA.

Ganymede's own surface is testament to similar scarring patterns, but it is the remarkable differences between the lighter and darker parts of Ganymede's terrain that may demonstrate the true nature of destruction suffered by Ganymede in the dying days of the Antique Solar System. The lighter areas of Ganymede are thought by mainstream opinion to have come about as a result of what planetary scientists call resurfacing. Typically, these areas display long groove patterns in stark contrast to the more crater sputtered dark areas.

“Heavily cratered dark terrain, which has similarities to the surface of Callisto, covers one third of the surface of Ganymede. The other two thirds of Ganymede has been resurfaced to form light terrain, much of which has been tectonically modified by structures known as “grooves.”

Whether the primary mode of resurfacing is tectonic or cryovolcanic is still an outstanding question.”⁵⁷

So, if, as according to the above quote, the mode of resurfacing is ‘still an outstanding question,’ then why are we then confidently assured that much of the light terrain has been ‘tectonically modified’? Is there a chance that other forces may have been at work in carving out these distinctly differently shaded areas of Ganymede?



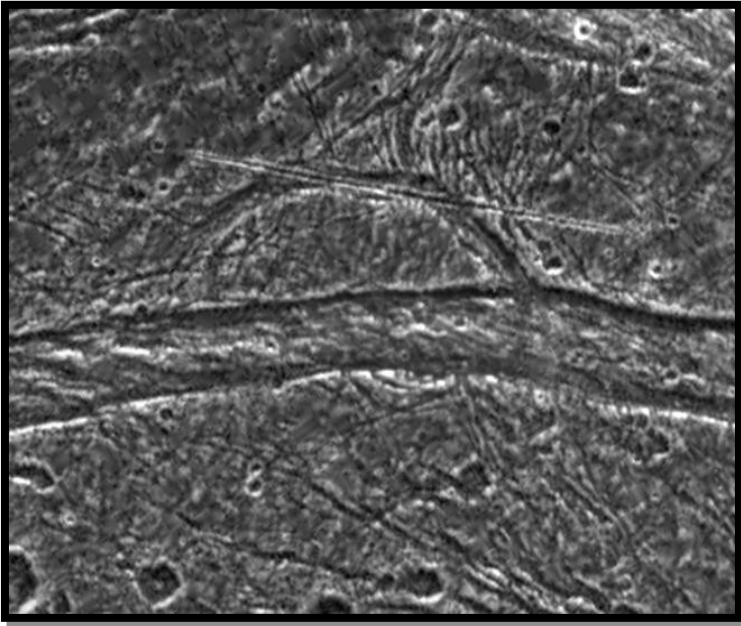
“This image, taken by NASA’s Galileo spacecraft, shows a same-scale comparison between Arbela Sulcus on Jupiter’s moon Ganymede (left) and an unnamed band on another Jovian moon, Europa (right). Arbela Sulcus is one of the smoothest lanes of bright terrain identified on Ganymede, and shows very subtle striations along its length. Arbela contrasts markedly from the surrounding heavily cratered dark terrain.” Exert from original caption released with image: Image Credit: NASA/JPL/Brown University

⁵⁷ Geoffrey C. Collins, et al, “Ganymede science questions and future exploration,” *Planetary Science Decadal Survey Community White Paper*, PDF, see Surface Geology section, <http://www.lpi.usra.edu/decadal/opag/GanymedeScience.pdf>

The similarity of features seen in the preceding image clearly shows that both Ganymede and Europa were subjected to similar surface shaping forces, yet we are told that both moons are remarkably different in internal composition, with Ganymede being ‘highly differentiated’ compared to Europa. On Ganymede it is thought that its crust is completely decoupled from its outer ice mantle by a liquid ocean. This would, therefore, provide a huge buffer to any heating or tectonic forces deriving from the Ganymede’s deeper silicate outer core. Accordingly, if Ganymede’s internal composition is so different to that of Europa (Europa’s surface not being decoupled from its outer mantle), then how is it that both moons are affected the same way by supposedly the same internally driven tectonic forces?

Electrical scarring on a cosmic interplanetary scale offers a far better explanation for the surface features we see etched in the ice of the Jovian moons today. This fits neatly with the theory that these two moon’s host planet, Jupiter, was catastrophically disrupted and moved at some point in its history, subsequently subjecting both moons to similar electrical discharges on a massive scale. In this way we do not need to reconcile the same observable surface results on entirely differently composed satellites by appealing to disassociated internal tectonic forces.

While mainstream consensus assures us that Ganymede’s surface features are comparable to those seen on Earth, they are simply stumped by some of the other seemingly inexplicable features found on Jupiter’s largest satellite. For example, the following image has geologists at odds on how to explain the nature of the ‘tectonic’ features seen when compared to known geological processes observed on Earth.



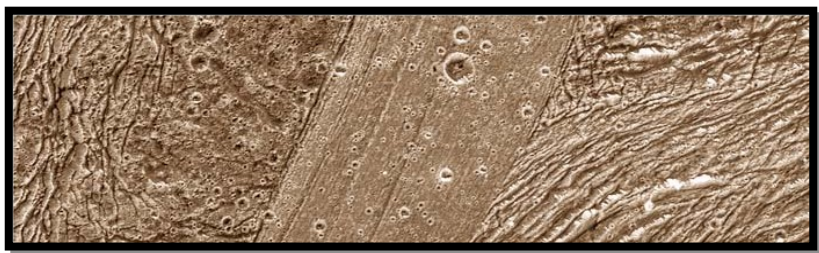
*This part of Ganymede contains many complex supposed tectonic structures, with small fractures crisscrossing the image. The image covers an area approximately 80 kilometres (50 miles) by 52 kilometres (32 miles) across.
Image credit: NASA/JPL/Brown University*

At issue amongst geologists in the above image is the almost perfectly straight ‘fracture’ crossing the looping ‘fault’ line that seems to branch out from a major so-called fault line bisecting the image from left to right.

“This image is centered on an unusual semicircular structure about 33 kilometers (20 miles) across. A 38 kilometer (24 miles) long, remarkably linear feature cuts across its northern extent, and a wide east-west fault system marks its southern boundary. *The origin of these features is the subject of much debate among scientists analyzing the data.* Was the arcuate structure part of a larger feature? Is the straight lineament the result of internal or external processes? Scientists continue to

study this data in order to understand the surface processes occurring on this complex satellite.”⁵⁸ (Emphasis ours)

What should be kept in mind when viewing these images of Ganymede’s surface is that the predominant material involved is ice. From this we are told that certain features are a result of ice flowing like lava and that these ‘ice lava flows’ are what form some of the more interesting regions of contrast seen on Ganymede. Like some kind of perfectly straight glacier, these enormous rivers of ice are said to have originated from under Ganymede’s crust to emerge through the uncertain process of cryovolcanism. Once on the surface, the upwelling warm ice from the icy outer mantel below then supposedly began its long and often very straight journeys across Ganymede’s surface.

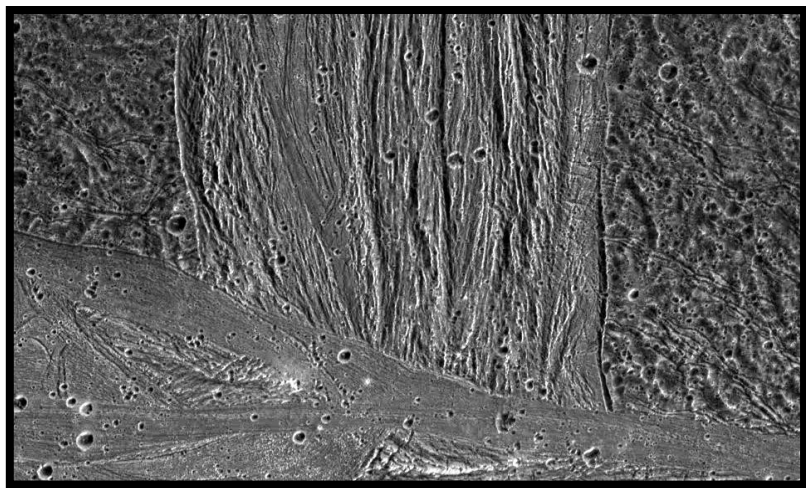


Close-up of the Nicholson Regio and Arbela Sulcus area of Ganymede shows the stark contrasts between many of the diverse terrain types found on the satellite’s surface, all believed to be caused by tectonic forces, or by straight-flowing so-called ice lava. Credit: NASA/JPL.

For example, in the following image from Ganymede’s surface released by the Jet Propulsion Laboratory it is said that:

⁵⁸ Jet Propulsion Laboratory, Photojournal, “PIA01087: Geological mysteries on Ganymede,” excerpt from original caption released with image, NASA/JPL/Brown University, see <http://photojournal.jpl.nasa.gov/catalog/PIA01087>

“The relatively smooth appearance of Sippar Sulcus [bottom portion of the image] hints that icy volcanism once paved over the area.”⁵⁹



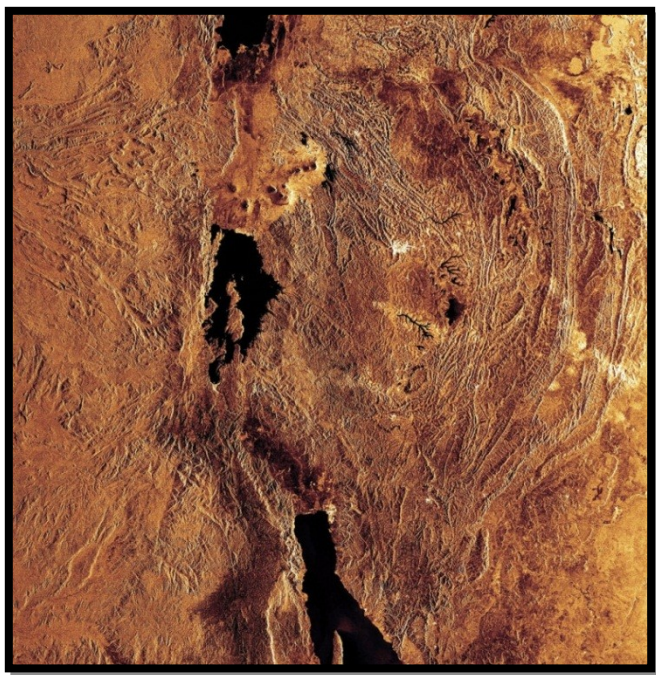
The truncated termination of the long-grooved Erech Sulcus region by the brighter, smoother terrain of the Sippar Sulcus (bottom), the latter a supposed example of cryovolcanic ice lava flow re-paving over Ganymede's darker regions.

As noted previously, the mechanics for so-called cryovolcanism are only partially understood at best. What is often not stated is that there are no clear origin points on Ganymede for these supposed ice lava flows; no obvious volcanic craters or calderas have been positively identified as producing these ice lava flows. Yet, we are somehow expected to believe this mechanism can produce ice lava flows capable of re-paving sections of Ganymede up to hundreds of kilometres long. Surely, once on the surface, this upwelling of ‘warm ice’ would be as much subject to the chilling temperatures of Ganymede’s exposed topside as the rest of the ice covering the

⁵⁹ Ibid, see image “PIA01615: Swaths of Grooved Terrain on Ganymede”, <http://photojournal.jpl.nasa.gov/catalog/PIA01615>

surface. So how did it continue to flow in its supposed warm state for hundreds of kilometres? Why didn't it just build up into mounds like we see molten rock lavas doing on Earth, and even on Ganymede's sister moon Io?

Other explanations for the image seen on Ganymede's surface have led to it being compared to fault lines seen in the East African Rift where the land is being pulled apart by Earth's own tectonic forces. It's believed a similar tectonic process (during the theorised period of settling into the Laplace resonance) pulled apart areas of Ganymede's crust and the ensuing rift was filled in with warmer and much fresher ice from below. Again, we are struck by the straight lines involved in this proposed tectonic process on Ganymede, yet a look at the East African Rift region from space shows the comparison to be strained at best.



*The lakes region of the East African Rift. The distinctive straight-edged demarcations between regions as seen on Ganymede are completely lacking here.
Image credit: European Space Agency.*

The comparison is further strained because; on the one hand we are dealing with ice on Ganymede, and on the other silicate-based land on Earth. Comparisons between the behaviour of two completely different materials should be viewed as suspect to start with, yet the above view of the East African Rift from space clearly emphasises the marked differences in these two geologically shaped surfaces from different parts of the Solar System.

At this point in the narrative enough has been said to cast doubt over conventional geological theories regards the formation of Ganymede's distinctive ice surface features. Sudden and catastrophic freezing of Ganymede's global ocean followed by an immense amount of scarring from electrical discharge remains our preferred explanation for what came to shape Ganymede's frozen crust of water. As stated, Ganymede's icy crust is believed to have been formed when Jupiter was removed from the Sun's habitable zone, along with its satellites, to its current frigid orbit. That Ganymede's surface is a preserved testament to extreme electrical events at this time also points to the sheer destructiveness of Jupiter's displacement. If so, then, what are we to make of Ganymede's surface as evidence for it having once been a warm water world populated with pumice bergs and rafts and possible organic life?

In the following chapter we will speculate on what kind of water world Ganymede had been during the Antique Solar System epoch and look to see if there is evidence buried in its icy surface alluding to this time. What we will find is that, not only is there significant evidence for fixed and floating land features on Ganymede, but there are strong indications that organic substances inhabited these land forms. We will find that, frozen in the vast ice crust tomb of Ganymede's surface, there are the tell-tale signs that life itself once possibly teemed across Ganymede's surface, both above and below the surface of its global ocean.

Summary and Takeaways from this chapter

In this chapter we have questioned the standard geologic, tectonic, cryovolcanic, meteor impact, convection and tidal explanations for the surface features observed on the ice encrusted Jovian moons. An electrical explanation is offered instead, especially for both Europa and Ganymede, in which the striated and pock-marked surface regions of both moons are attributed to intense electric discharge events coming from an electrically active Jupiter at the close of the Antique Solar System epoch, a period that saw Jupiter catastrophically displaced by the arrival of Saturn outwards to its current wider and colder orbit.

- The evidence for dramatic electrical scarring on the surfaces of both Ganymede and Europa suggests a catastrophic end to the once liquid worlds of ancient Jupiter's moons. The rapid cooling and subsequent icing over of these moons served to capture and preserve the effects of destructive electrical discharges in the shaping of their surfaces as seen today.
- The accretion model for the formation and evolution of the Jovian moons is discredited in light of the increasingly contradictory data concerning the internal and thermal properties of these satellites. Current observations simply do not support the consensus model of internal mechanisms being the foremost forces in the formation of Ganymede and Europa's icy surface features — especially in the case of Ganymede. Electrical forces and extreme discharge events are a far better explanation for the diverse internal compositions and surface features found on these very different, yet very close Jovian neighbours.
- On closer inspection, the icy surface features of both Ganymede and Europa in no way correspond at the macro level in either shape or form to the ice cracking found at Earth's polar regions, nor do they correspond to Earth's tectonic rift regions. The concept of cryovolcanism as a mechanism for some of the ice features found on Ganymede is to be treated with caution due to no actual observations of this hypothesised thermal process having been recorded; it remains to be fully understood, if at all ever understood.
- While it is accepted that Ganymede, Europa and Callisto offer completely different internal compositions, mainstream consensus fails to explain why the same tectonic and cryovolcanic forces are said to occur on such completely different composited bodies. Again, cosmic scale electrical scarring of the Jovian moons' rapidly iced-over surfaces, caused by Jupiter's catastrophic displacement at the end of the Antique Solar System epoch, is our favoured alternative explanation for

the shared surface features found on the differently composited ice moons of Jupiter.

- The thick icy crusts of Ganymede and the other Jovian ice moons serve to entomb the changes and consequences of whatever catastrophic events overtook these satellites in their ancient past. Had these moons, especially Ganymede, once been liquid water worlds, then it is expected that their now ice encrusted surfaces will have preserved evidence of their former warm liquid states pointing to the distinct possibility that life once existed on these bodies.
- It is suggested that evidence for concentrations of pumice-supported organic materials will be preserved in the icy depths of what was once Ganymede's global liquid ocean, another leading indicator that life may have once thrived on this moon.

Club Ganymede: The Antique Solar System's Tropical Paradise

Science fiction heavyweight Arthur C. Clarke wrote three sequels to the hugely successful *2001: A Space Odyssey* in which an alien species is depicted as having ignited Jupiter into a star that then transforms the moon Europa into an oceanic tropical paradise. This is done ostensibly to help in the evolution of a new sentient species called the *Europans*. However, the possibility that a Jovian moon could have provided the conditions for harbouring life in the distant past has led us in previous chapters of this work to focus on Ganymede as the most likely contender for a similar scenario — minus the god-like aliens and their evolutionist projects.

In building a case for Jupiter as having once been a sub-brown dwarf that orbited the Sun within its habitable zone, we have also discussed how Ganymede's unique possession of a protective magnetosphere, plus its probable liquid ocean (now an ice crust) and its indications of a past oxygen-based atmosphere could have provided the ideal habitat for life as we know it. We have addressed the issue of Ganymede's perplexingly low moment of inertia and come to the conclusion that the satellite's outer 800 kilometre thick-plus mantel is not a massively deep, salty and icy ocean, as is currently thought, but one made of pumice, the result of the super-heated electrical baking of the entire moon during a nova-like flare event in Jupiter's distant past.

What this has left us with is a speculative picture of a warmed Ganymedian surface covered in a liquid global ocean, the depth of which may have been anywhere between 15 – 40 kilometres deep. Such a worldwide ocean would likely have been dotted with the floating fractured shards of pumice that would have been split off from its outer pumice mantel. These pumice fragments would then possibly provide Ganymede with variable floating land masses that we will now refer to as *pumice bergs*.

While it is entirely plausible that there would be some peaks jutting up from the pumice mantel itself, it is likely that these would be rare fixed islands in a sea of giant floating pumice bergs, the latter of which would eventually drift together to form haphazard rafts and archipelagos. With these in place, the existence of organic compounds in the form of electrically induced *tholins* (formed from methane) would mix and mingle with pumice dust and form the basis for soil and organic growth on Ganymede.

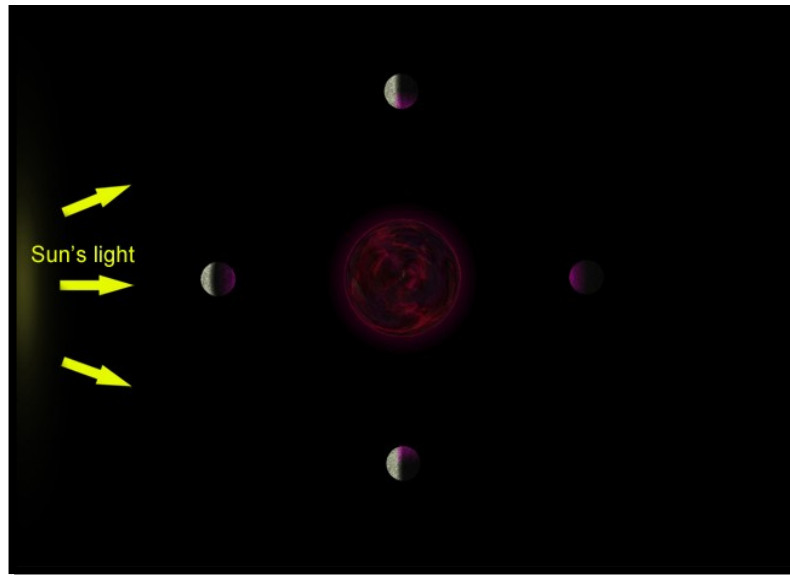
Given the above scenario, an intrepid interplanetary traveller visiting Ganymede at this time could have then laid out a deck chair and basked in the glow of a two-sun world while watching a whole ecology get to work *aqua-forming* this intriguing little ball of wet pumice. Whatever the process, the surface of Ganymede would have come to resemble a

rich tropical water world complete with its own climate and uniquely fragile islands populated with various flora and fauna.

A Day on Ganymede

Ganymede's orbit around Jupiter currently takes approximately 7.1 days to complete. There is no reason to suggest that this was not the case during the Antique Solar System epoch, though a different orbital time is entirely possible. If we stick with the current orbital duration for Ganymede, then we can make some observations as to what life on Ganymede could have been like within this postulated two-sun cosmos.

The abundance of light striking Ganymede from both Jupiter and the Sun during our proposed Antique Solar System would undoubtedly make for an all-round illuminated existence — at least on Ganymede's Jupiter-facing hemisphere. Ganymede's orbit around Jupiter is phase-locked like our own moon is to Earth, i.e., the same side of Ganymede always points towards Jupiter. Any vegetation or creatures living on the Jupiter-facing side of Ganymede could have expected some form of light at all times, even during that time when the Sun would have been entirely and overwhelmingly occulted by Jupiter. At these times, a fainter yet perceptible reddish-to-purplish glow would still shed an energising red-spectrum light on this side of Ganymede, as the below graphic demonstrates:



A topographical cartoon view of antique Jupiter from above its north pole with Ganymede represented at the four main stations of its phase-lock orbit around Jupiter. The bright effect of the Sun's light can be seen striking Ganymede from left of frame, while Jupiter's purplish sub-brown dwarf glow dully illuminates Ganymede's Jupiter-facing hemisphere. Only when Ganymede is behind Jupiter would a full hemisphere (the outward-facing hemisphere) experience total night. Ganymede currently takes approximately 7.16 days to complete a full orbit of Jupiter. Image not to scale.

However, for any plants or creatures living on the away-facing side of Ganymede, life would have been drenched in unforgiving ultraviolet sunlight for a good portion of the 7.1 days it takes Ganymede to circle Jupiter. On this side, the Sun would have described a slow arc across the sky of Ganymede's outwardly-facing hemisphere, taking about three and a half days to complete its journey before slowly setting into a long dusk, followed by a deep night, and then the eventual emergence into a long dawn. As already noted, the whole process would take 7.1 Earth days.

What can be deduced from this two-sun effect radiating on Ganymede as it journeyed around a glowing Jupiter is that, depending on where you were on Ganymede, any flora and fauna would experience variations and mixtures of the red-light and ultraviolet light spectrums. On a world where most life could be expected to be of the marine variety, the filtering effects of Ganymede's ocean depths would easily shield it from the Sun's more deadly ultraviolet radiation, where needed, just as our own oceans do on Earth. For any terrestrial life that may have established itself on the tops of our postulated pumice bergs, life directly under the Sun would have been potentially bright and harsh, while those periods spent exclusively in Jupiter's red-light spectrum would have approached something similar to a semi-permanent twilight existence.

Also, the drifting nature of our proposed pumice bergs could see any terrestrial life eventually experience all the light extremes that Ganymede's two suns had to offer. Only those potentially rare fixed peaks of pumice jutting up from the ocean floor could expect to receive a regular and predictable regimen of light similar to that experienced on land here on Earth. Had these fixed islands found themselves on the outward side of Ganymede, long exposure to the Sun would probably see them become bleached desert islands, along with any pumice bergs that may have run aground there. If they were located anywhere else on Ganymede, such peaks would become prime real estate for any species of terrestrial creatures or vegetation Ganymede could produce.

There is, however, another possibility to be factored into this scenario of drifting pumice bergs and that has to do with the thermal heating the Sun would have generated to produce currents in Ganymede's global ocean. There is reason to believe that a substantial portion of these proposed pumice bergs and rafts would eventually collect together and come to dominate one hemisphere. There they would form a buoyant landmass interlaced with complex myriads of watery channels, lagoons and shifting pumice swamplands.

The light reaching Ganymede from two suns would undoubtedly have been the single largest factor contributing to Ganymede's environment, its climate and any ecology that grew there. There are of course other factors, such as any internal volcanic activity from Ganymede's interior and any radiated internal heat. These important points will also be

discussed in a later section of this chapter, but for now we should turn to the current evidence we have concerning Ganymede's surface and see if these can indicate what kind of world a tropically warm Ganymede might have been.

Desert Islands: Rocky Lumps and Minerals in the ice

It took scientists looking at the *Galileo* space probe's images of Ganymede nearly seven years to announce in 2004 that something odd could be detected in the thick icy crust that encapsulates the satellite:

"Scientists have discovered irregular lumps beneath the icy surface of Jupiter's largest moon, Ganymede. These irregular masses may be rock formations, supported by Ganymede's icy shell for billions of years."⁶⁰

These rock formations are tentatively believed to be suspended in the thickness of the ice surrounding Ganymede. They are not thought to have a solid base of contact with Ganymede's supposed icy mantle due to the theorised liquid ocean sandwiched between the mantle and the icy crust, though some think they may be piles of rocks reaching down that far.

"The findings have caused scientists to rethink what the interior of Ganymede might contain. The reported bulges reside in the interior, and there are no visible surface features associated with them. This tells scientists that the ice is probably strong enough, at least near the surface, to support these possible rock masses from sinking to the bottom of the ice for billions of years. But this anomaly could also be caused by piles of rock at the bottom of the ice."⁶¹

What can be ascertained is that, whatever these rock formations are, it is unlikely they are a collection of meteorite or asteroid impact debris due to the said lack of 'visible surface features associated with them.' How such a mass of rubble and rock got to be collected and situated as a pile within or just under Ganymede's 'icy shell' is a genuine problem for the standard model pointing to Ganymede's differentiated interior, and even its supposedly impacted exterior surface.

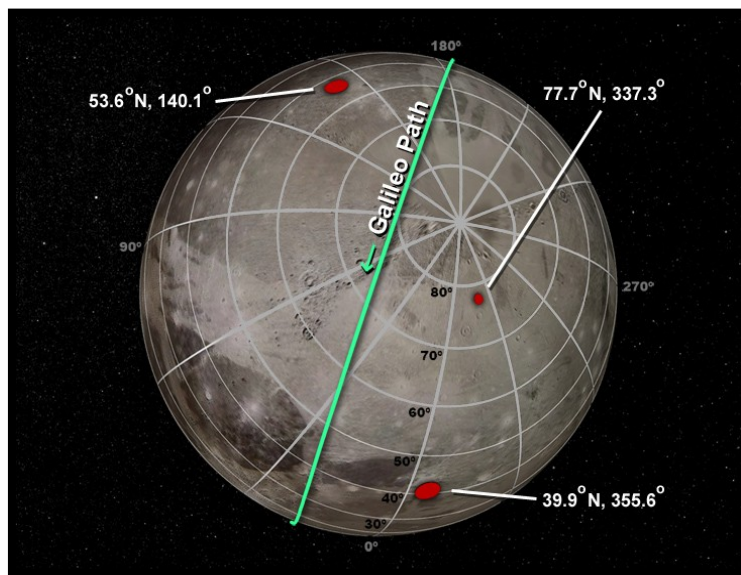
"The anomalies could be large concentrations of rock at or underneath the ice surface. They could also be in a layer of mixed ice and rock below the surface with variations in the amount of rock," said Dr. John Anderson, a scientist and the paper's lead author at JPL. "If there is a liquid water ocean inside Ganymede's

⁶⁰ "Scientists Discover Ganymede Has A Lumpy Interior," *Science Daily*, August 17, 2004, see: <http://www.sciencedaily.com/releases/2004/08/040817082023.htm>

⁶¹ Ibid.

outer ice layer there might be variations in its depth with piles of rock at the ocean bottom. There could be topographic variations in a hidden rocky surface underlying a deep outer icy shell. There are many possibilities, and we need to do more studies."⁶²

Given our own scenario, such a finding poses no problem in understanding where these “concentrations of rock” originate. Unburdened with the necessity of needing a vast liquid ocean under Ganymede’s crust to account for the Jovian satellite’s low moment of inertia, these ice-bound rock anomalies become instead the potential coagulations of the free-floating pumice bergs postulated in the first section of this chapter. That they may actually constitute the peaks of fixed land masses jutting up from a pumice-based outer mantel is also in keeping with our scenario and the *Galileo* data.



Ganymede's odd patches of interior rocky lumps shown in red. One of them is almost the size of Switzerland. According to the original caption with this image: "Scientists have discovered irregular lumps beneath the icy surface of Jupiter's largest moon, Ganymede. These irregular masses may be rock formations, supported by Ganymede's icy shell for billions of years." Image credit: NASA/JPL.

Then there are the images captured by the Galileo probe’s Near Infrared Mapping Spectrometer (NIMS), which can be compared to the Voyager probe’s image of Ganymede’s surface to show just how much water does cover Ganymede — and where all the minerals locked in its icy crust are. There is an interesting correlation between the concentrations of minerals locked in Ganymede’s ice and the darker areas where there seems to be fewer ice concentrations on the moon’s surface. Minerals are often associated with silicate-based materials leading to the suspicion that the areas of high

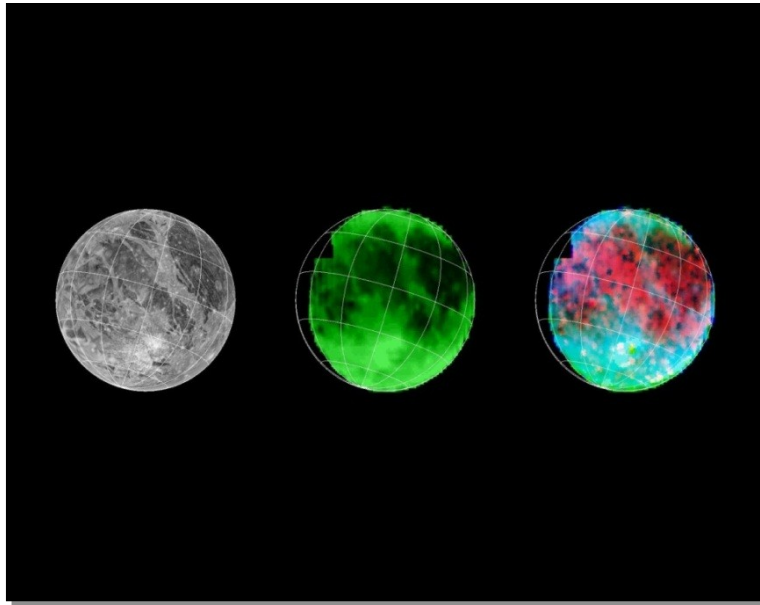
mineral content on Ganymede may, in fact, be harbouring collections of mineral-rich silicate materials. How they all managed to congregate into distinct areas in Ganymede's icy crust is a question the mainstream model for Ganymede's evolution fails to answer.

However, an ancient Ganymede awash in a global liquid ocean could be expected to develop large concentrations of minerals that find themselves afloat in and on its swirling currents. It is believed most likely by us that the highest proportion of these minerals originated in the left-over dust of Ganymede's electrically baked pumice mantel. There will be a proportion of minerals that arrived with impacts by the usual assortment of meteorites, comets, etc., but these are considered negligible when interpreting the majority of so-called impact craters as actually being the results of electrical strikes suffered by Ganymede during the Solar System's transition from its antique epoch to its current manifestation. In fact, even to this day Ganymede gives off a significant amount of 'dust,' another indication that an immense heating event struck the satellite at some time in its past.

“Ganymede is a significant dust source, implying that its surface composition could be sampled directly from orbit.”⁶³

One wonders just where all this dust come from and what event might have put it into space?

⁶³ R. T. Pappalardo, K. K. Khurana, and W. B. Moore, “THE GRANDEUR OF GANYMEDE: SUGGESTED GOALS FOR AN ORBITER MISSION,” Brown University (Dept. Geological Sciences, Providence RI 02912-1846; 2UCLA (Los Angeles, CA 90095-1567), 4065.pdf, see: <http://www.lpi.usra.edu/meetings/outerplanets2001/pdf/4065.pdf>



The image of Ganymede at left was taken by the Voyager probe, while the other images come from the Galileo mission's NIMS camera. The green indicates water coverage with the brighter green representing more water. The image on the right indicates concentrations of minerals (red speckles) in Ganymede's ice, which, interestingly, correspond with the darker patches where less water is observed — a possible indication for land-type concentration? Image credit: NASA/JPL.

The Dust of Land and Life: Clay and Organic Compounds

The presence of clays and organic materials in Ganymede's darker regions are pause for thought for anyone contemplating the existence of life on Jupiter's largest moon.

Because mainstream science considers Ganymede's surface to have experienced its current frigid climate for millions, if not billions of years, the existence of clays and organic materials is explained as having arrived during impact events from the very same space debris that Ganymede supposedly accreted from.

“Ganymede's dark terrain material contains clays and organic materials that may indicate the composition of the impactors from which jovian [sic] satellites accreted.”⁶⁴

What is not explained is why these ‘impactors’ have produced more dust around Ganymede than virtually any other highly impacted moon in the Solar System. After all, Ganymede's sister moon Callisto has received just as many so-called impacts, if not more, yet there is no dust cloud matching that which we see around Ganymede. As noted previously, this dust cloud could, theoretically, be sampled from orbit, a curious state of affairs for a planet supposedly locked in a massively deep layer of ice for billions of

⁶⁴

Ibid.

years. Given our pumice hypothesis, it seems more likely this dust is the desiccated remnants of electrically vaporised pumice ejected into orbit as a result of intense electrical strikes. Dust clouds are commonly observed phenomena where electrical discharges contact solid surfaces.

While readers thus far will be aware of our complete rejecting of ‘accretion’ theory for planetary birthing, we do however recognise that clays and organic materials must surely have had their origins in whatever material constituted Ganymede at its birth. The Electric Universe (EU) model allows for extreme electrical discharges to take place between celestial bodies during times of electrical imbalances, a scenario we believe may have been played out between Ganymede and Jupiter during the births of the Jovian moons Io and Europa. During such a phase electrical discharges could quite easily account for the emergence of electrically transmuted elements displaying organic qualities.

Having already previously discussed how such an event may have resulted in Ganymede’s outer silicate-based mantel having been electrically baked and transformed into a deep layer of pumice, we have also commented on the expected layers of dust and ash that would coat such a surface in the aftermath of such an event. Any further, but lesser electrical activity striking Ganymede could see chemical compounds such as methane mix with pumice dust to form *tholins*, a form of organic compound that can act as a base for further organic development. It is most likely that at least some form of tholin-like compound accounts for the detection of Ganymede’s own organic compounds.

Tholins are a heteropolymer molecule thought to be formed by the solar ultraviolet irradiation of simple organic compounds such as methane or ethane. They do not occur naturally on Earth due to the high oxygen count here, which inhibits the process, but they are currently found in great abundance on most of the icy moons of the outer Solar System — moons like Ganymede. Of course, mainstream science, with its rejection of the notion of electrical charge being carried in space, can only conceive of tholins being a product of sunlight striking oxygen deficient planetary bodies. However, laboratory experiments in which tholins have been successfully reproduced have to use electrical discharge to substitute for ultraviolet irradiation for their creation.⁶⁵ It is not difficult to see how a moon such as Ganymede, with its copious evidence of vast electrical scarring

⁶⁵ “The term “tholin” was coined by astronomer Carl Sagan and his colleague Bishun Khare to describe the difficult-to-characterize substances he obtained in his Urey-Miller-type experiments on the gas mixtures that are found in Titan's atmosphere. It is not a specific compound but is a term generally used to describe the reddish, organic component of planetary surfaces.” Exert from Wikipedia entry on ‘Tholins’, which cites: Carl Sagan & B. N. Khare (1979). "Tholins: organic chemistry of interstellar grains and gas". *Nature* 277 (5692): 102. Bibcode: 1979Natur.277..102S. doi:10.1038/277102a0

(discussed in previous chapter), could find itself inundated with tholins and the beginnings of a soil-based ecosystem — long before the accumulation of an oxygen-rich atmosphere.

However, we also need to consider the flip side to the presence of tholins on Ganymede; and this is that they more likely represent the burnt-off remains of carbon-based organic compounds that have been *tholin-ised* by the subsequent and rapid electrified destruction of whatever oxygen-rich atmosphere Ganymede may have once enjoyed!

Tholins offer an effective screen against the harmful effects of ultraviolet radiation for any planetary surfaces they might cover, pretty much in the same way that vegetation does on Earth. In this way tholins are not dissimilar to the broken down decomposed remains of carbon-based vegetation, which provide layers of organic film (oil and coal deposits) within Earth's crust and on its surface. The main difference between the two compounds is that tholins seemingly can only be formed in an oxygen-deficient environment, while carbon-based organic deposits (called PAHs)⁶⁶ require oxygen to form. Otherwise, they both form via a burning-off process, of which electrical discharge can be but one of many. Having already noted that tholins have been produced in the laboratory by the use of electrical discharge, their presence on Ganymede's electrically scarred surface seems almost self-explanatory — they are the electrically burned-off residue of whatever complex organic compounds once populated that now icy and oxygen-deficient moon.

But tholins, we are told, can only form in the absence of oxygen, while carbon-based organic compounds are the signature of an existing oxygen-rich environment. Here is a paradox; how do you go from oxygen-produced carbon-based organic compounds to tholins created in a non-oxygen environment? The solution might seem almost trite in its simplicity; during the breaking down process you get rid of the oxygen — *immediately!* Which brings us to the concept that Ganymede's tholins are the result of electrically degraded carbon-based organic compounds being chemically transformed by the catastrophic and sudden loss of that moon's oxygen-rich atmosphere, a dynamic we will discuss in more depth shortly.

In the meantime, while evolutionists have long speculated that tholin-type compounds provided the initial environment for the earliest advent of life as we know it, we, on the other hand, believe this is putting the cart before the horse. As said, tholins on Ganymede are most likely the result of the electrical baking of existing life and not the precursor to life. Experiments show that intense electrical discharges can readily break

⁶⁶ Polycyclic aromatic hydrocarbons — PAHs are organic compounds found oil, coal, and tar deposits, and are produced as byproducts of fuel burning (whether fossil fuel or biomass), a process that needs oxygen.

down and purify organically contaminated bodies of water by changing complex organic compounds into species not dissimilar in structure to tholins.⁶⁷ Ganymede seems to have been home to an organically contaminated body of water, but because it has eluded mainstream scientists that electrical discharges rained down on Ganymede at some time in its past, they have not been able to see the origins of Ganymede's organic compounds for the proverbial carbon-based woods.

We put it that the tholins detected by scientists on Ganymede's surface could simply be the electrically decimated and decomposed remnants of more complex organic compounds, the immolated remains of organic matter destroyed, and not created, by intense electrical and plasma discharges into Ganymede's once liquid water environment.⁶⁸ Such massive and destructive discharges would also explain the sudden loss of Ganymede's once oxygen-rich atmosphere, a necessary component to the emergence of tholins, and a subject that we will now address.

Postcards from Ganymede's Lost Atmosphere and Climate

Can a moon the size of Ganymede support a life-sustaining atmosphere?

This question is best answered by taking a look at another satellite orbiting a gas-giant in the Solar System; the Saturnian moon called Titan. Saturn's most interesting ice-moon has defied efforts to fully map its surface due to it being cloaked in a hazy, thick atmosphere that is more dense at its surface than Earth's own atmosphere; 1.45 times as dense⁶⁹ in fact. Titan even has its own giant and seemingly perpetual hurricane situated at its south pole.⁷⁰ Despite holding no oxygen, Titan's ability to support a large and dense

⁶⁷ See for example experiments in the degradation of the compound phenal (a form of PAH) in water when subjected to electric discharges: Anto Tri Sugiarto, Masayuki Sato, "Pulsed plasma processing of organic compounds in aqueous solution," *Department of Biological and Chemical Engineering, Faculty of Engineering, Gunma University, 1-5-1 Tenjin-cho, Kiryu-shi, Gunma 376-8515, Japa*, Received 17 June 1999; accepted 12 July 2000

⁶⁸ The labelling of organic compounds detected on Ganymede as 'tholins' is purely down to that satellite's current known lack of an substantial oxygen atmosphere. Had there been an existing oxygen-rich atmosphere on Ganymede, then mainstream science would undoubtedly be trumpeting the discovery of extra-terrestrial carbon-based organic compounds and musing on the implications for extra-terrestrial life within our Solar System.

⁶⁹ "Titan (moon)," Wikipedia entry, see [http://en.wikipedia.org/wiki/Titan_\(moon\)#Atmosphere](http://en.wikipedia.org/wiki/Titan_(moon)#Atmosphere)

atmosphere settles the issue in the affirmative of whether ice-moons like Ganymede could have ever sustained atmospheres capable of supporting life as we know it.

So what can this tell us about Ganymede's atmosphere?

Had Ganymede once supported a dense oxygen atmosphere capable of sustaining life, then life on Ganymede's outward-facing hemisphere would have been exposed the longest to the Sun's damaging, yet tholin-friendly ultraviolet rays. However, there would eventually and inevitably have been the filtering effects of clouds and precipitation as water molecules evaporated into the atmosphere from Ganymede's liquid ocean, just as it is experienced here on Earth. But to have precipitation, and even liquid water for that matter, it goes without saying that Ganymede must have had a substantial atmosphere capable of supporting water vapour clouds.⁷¹ At present, Ganymede's atmosphere is near non-existent, though it does sport a whiff of oxygen and ozone.

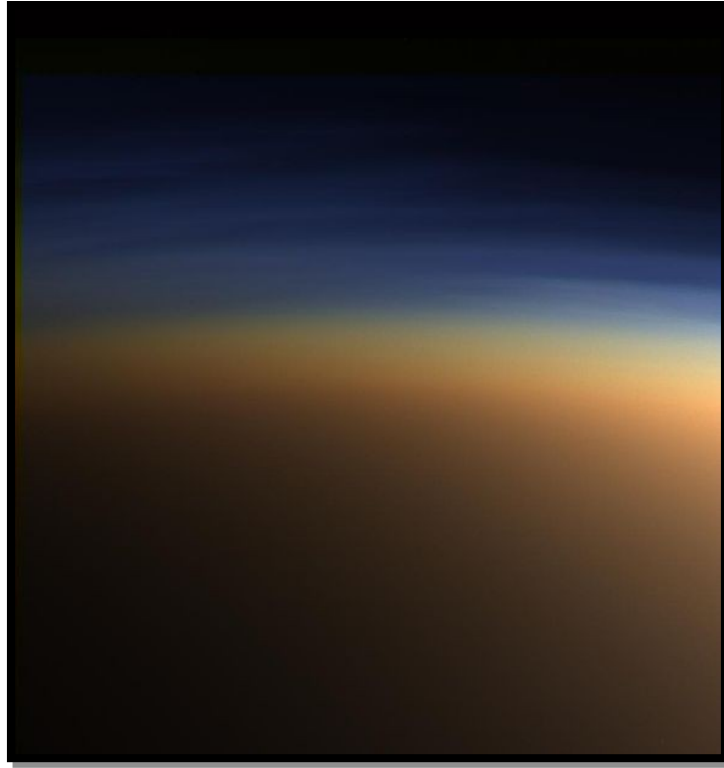
“Astronomers using the Hubble Space Telescope found evidence of thin oxygen atmosphere on Ganymede in 1996. The atmosphere is far too thin to support life as we know it.”⁷²

So, did Ganymede lose its atmosphere, or did it never possess a significant atmosphere in the first place?

⁷⁰ In the Electric Universe model Titan's south polar hurricane would be generated by a Birkeland current.

⁷¹ Absent an atmosphere, water will go from its solid state (ice) to its gaseous state (water vapour) without becoming a liquid in the interim.

⁷² “Ganymede: Overview,” *Solar System Exploration* website, NASA, see: http://solarsystem.nasa.gov/planets/profile.cfm?Object=Jup_Ganymede



True-color image of layers of haze in Titan's extremely dense nitrogen-rich atmosphere. There is no oxygen in the atmosphere of this moon of Saturn, making it an ideal place for the existence of the organic compounds called tholins. The fact that Titan sustains such a heavy atmosphere is proof Ganymede is too capable of supporting a significant atmosphere. Image credit: NASA

Mainstream science's answer to this question is predictable — Ganymede's atmosphere is as it is today because that is the way it has evolved. This, of course, presupposes the uniformitarian belief that Ganymede has virtually always existed in the same type of celestial environment as it does today and that the key to its past is to simply extrapolate backwards over aeons from the processes we can observe taking place in its current orbital environment. The thin presence of oxygen on Ganymede is thus thought to merely be the result of ionised particles sputtering the surface and releasing limited amounts of oxygen molecules from the H₂O ice compound that makes up Ganymede's icy crust.⁷³

However, we would argue that Ganymede's current thin oxygen atmosphere (really its exosphere) is a last vestige of a former oxygen-rich and dense atmosphere, which was burnt off during Jupiter's electrical outbursts, events that have left their mark on Ganymede's surface and that were clearly witnessed by ancient mankind who recorded them in the world mythological record.⁷⁴ The vast electrical strikes that scar Ganymede's icy surface today are testament to this explosive end to Ganymede's atmosphere as a

⁷³ See: D. T. Hall, P. D. Feldman, M. A. McGrath, and D. F. Strobel, "The Far-Ultraviolet Oxygen Airglow of Europa and Ganymede," *The Astrophysical Journal*, Volume 499, Number 1, (1998), doi:10.1086/305604

significant gaseous body, an event that would have taken place at the closing of the Antique Solar System epoch with the arrival of the Saturnian system of planets. Such strikes would effectively have burnt off any existing oxygen and reduced Ganymede's atmosphere to the levels we see today.

These strikes, particularly those whose points of contact are preserved in the huge so-called Tashmetum and Hershef craters, were the result of huge *atmospheric* electrical discharge events. Like lightning strikes on Earth on a giant scale, the Jovian thunderbolts responsible for these two so-called craters would have needed to *pass through an atmosphere* to produce the effects we now see etched into Ganymede's surface today. It bears repeating; electrical discharges capable of rendering the giant radial marks seen on Ganymede would have needed to pass through an *atmosphere* to produce such an effect.

Why?

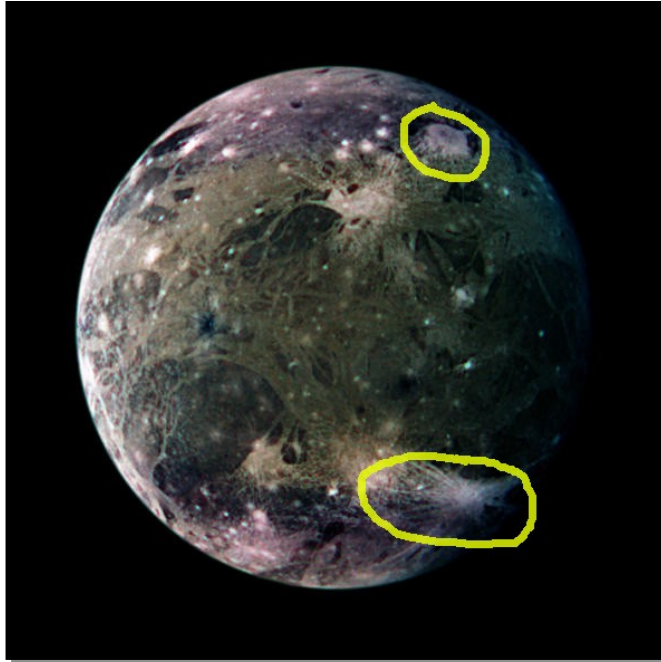
The answer is found in what is known in the electrical engineering field as *dielectric breakdown*.⁷⁵ A dielectric is a substance that can be used to separate two electrical charges to form what is called a capacitor. Keeping those two charges separate is what stops them from discharging or sparking. Glass, plastics, and certain oxidized metals make excellent dielectrics. So does dry air.

On a planetary scale, an atmosphere acts as a giant dielectric between a negatively charged planetary surface and positively charged space. This forms a massive capacitor, which, when overloaded by extreme electrical input (a Jovian thunderbolt for example), will break down and set off massive electrical discharge events. The subsequent huge lightning strike will scar the negatively charged planetary surface with a distinctive Lichtenberg pattern;⁷⁶ the very same type of patterns we see emanating out of Ganymede's Tashmetum and Hershef craters (see image below).

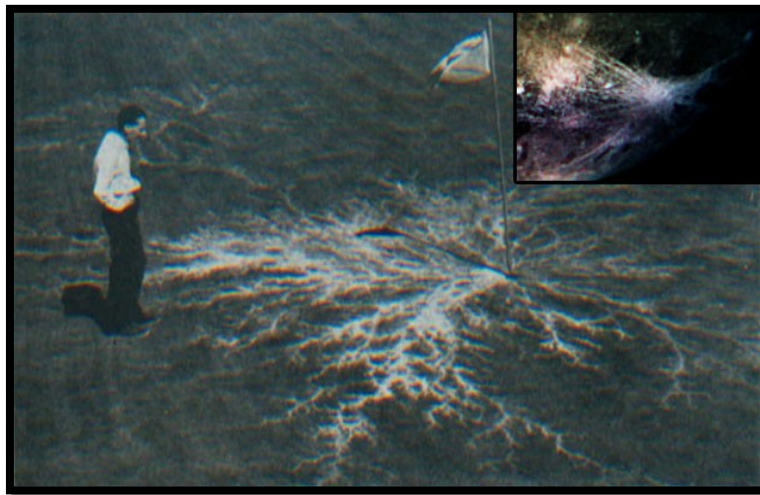
⁷⁴ See: "Is Lightning the Strongest Creative Force?," *Picture of the Day*, *Thunderbolts.info*, July 16, 2009, <http://www.thunderbolts.info/tpod/2009/arch09/090716strongest.htm>

⁷⁵ For an explanation on how dielectric breakdown manifests itself as lightning here on Earth, see: "Dielectric Breakdown," *Picture of the Day*, December 31, 2010, *Thunderbolts.info*, <http://www.thunderbolts.info/tpod/2010/arch10/101231breakdown.htm>

⁷⁶ See: "Lichtenberg Figure," *Wikipedia* entry; http://en.wikipedia.org/wiki/Lichtenberg_figure



The Hershef crater (ringed white radial pattern at upper right) and the extreme radial rays of the Tashmetum crater (ringed lower right) on Ganymede are better understood as contact points for vast electrical discharges powered by Jupiter in ancient times and triggered by the entry of the wandering brown dwarf Saturn into the Sun's electrical domain. Each strike region is as large as the Kingdom of Spain. A thick atmosphere would have been present on Ganymede to facilitate these huge electrical strikes through dielectric breakdown. These Jovian thunderbolts were witnessed by humans and recorded in world mythology. Image credit: NASA.



The distinctive Lichtenberg pattern left after a lightning strike on a golf course. Compare to the Tashmetum crater on Ganymede (insert), an example of the results of electrical discharges taking place at planetary scales.

Given the presupposition that Ganymede did indeed once support an oxygen-rich atmosphere capable of sustaining the kind of life we see on Earth today, it would be to the oceanic meteorological sciences that we would look to next for any insights into the

actual climate enjoyed on Ganymede during the Antique Solar System epoch. The combination of the Sun's and Jupiter's different degrees of warming would have set up competing thermally-driven jet streams in its atmosphere and warming currents in its global ocean provoking storms every bit as powerful and destructive as seen on Earth. Precipitation could have been extreme under the thermal conditions afforded by the heat of two suns and Ganymede's polar regions would undoubtedly have had ice caps every bit as foreboding as those found on Earth.

Regards Ganymede's landscapes or seascapes as it may, it is the presence of these proposed thermal currents and thermally-driven atmospheric turbulences that would have seen Ganymede's pumice archipelagos gradually drift about its oceanic surface. Ganymede would have been a world undergoing constant change to its buoyantly fragile landscape as its vastly huge pumice bergs and film-like pumice rafts milled about in the oceanic currents. Any vegetation clinging to any floating pumice would have been predominantly green in hue, though parts of Ganymede's Jupiter-facing hemisphere would have been populated with a mixture of reddish and green vegetation wherever Jupiter's more red-dominated light spectrum struck its surface. And, the three and a half days of night experienced on Ganymede's outwardly-facing hemisphere would not have been too cold due to Jupiter's substantial plasma sheath reflecting a portion of the sub-brown dwarf's energy back inwards.

In short, the climate on Ganymede would have been ideal for life as we know it here on Earth, albeit a more marine oriented form of life capable of thriving in Ganymede's oceanic environment. It is to Ganymede's global ocean that we now turn to complete our postulated picture of Ganymede as a liquid tropical paradise.

Water, Water Everywhere... and Plenty to Drink

Something briefly overlooked in the previous section of this chapter, but mentioned elsewhere, is the fact that liquids of any type on a planetary surface need the pressure of an existing atmosphere to sustain them in their liquid form. Any solid such as ice will immediately move into its gaseous form upon reaching its melting point in the absence of a substantial atmosphere. So it follows that for Ganymede to have once enjoyed a liquid ocean on its surface there must have been a substantial atmosphere present in the first place. This, we have argued in the above, was indeed the case at some point in Ganymede's distant past, a stance attested to by the abundant evidence of atmospheric electrical discharge strikes scarring Ganymede's icy surface today.

However, the current discussion in mainstream circles concerning the presence of a liquid ocean on Ganymede centres on the belief that one is locked away under Ganymede's airless and thick icy crust, and it is this issue that we must address first before we can continue on with our proposition of a warm liquid ocean having once covered Ganymede's surface.

The existence of a salty ocean on a foreign planetary body always gets astrobiologists and evolutionists somewhat flushed. This is because it is believed that life evolved out of the Earth's oceans and, therefore, it may have done the same thing elsewhere in the universe where salty oceans are found. A salty ocean is particularly alluring because of its electrical conductivity, a factor recognised in biology as the key component to the functioning of life within organic organisms. Humans, the highest known carbon-based life form, are mostly made up of salty water, which facilitates the biological electrical energies that flow the essence of life and consciousness through all of us. Evolutionists believe that this harkens back to our distant emergence from the primordial soup of the Earth's salty oceans, so they go looking for the same environmental conditions on other worlds.

There is an irony that astrobiologists and evolutionists would recognise the role played by electricity in the emergence of life, yet their astrophysicist colleagues almost completely reject its role in the formation of solar systems and galaxies. Where they do converge on the issue of Ganymede is in their belief that the supposed deep ocean hidden under Ganymede's icy crust is salty. As noted in previous chapters, this belief is based on the need to explain the satellite's conductivity in maintaining an intrinsic magnetosphere supposedly generated from deep within its highly differentiated interior. A deep salty ocean is said to provide this conductivity for the electricity coming up from some supposed internal dynamo that then powers Ganymede's magnetosphere.⁷⁷ There is, however, a problem with this — Ganymede seems to be remarkably deficient in the element Sodium; i.e., salt.⁷⁸

Sodium is thirteen times less abundant around Ganymede than it is around the other Jovian moon Europa. Io, Jupiter's highly volcanic moon, is awash in sodium. However, Ganymede is not, and whatever small amounts of sodium have been detected on its surface is thought to have somehow found its way there from Ganymede's supposedly deep salty ocean.⁷⁹ This leaves accepted models of Ganymede's interior composition

⁷⁷ The real cause of Ganymede's intrinsic magnetosphere has been discussed at length in the chapter entitled "Ganymede: Third Rock from Jupiter". Also put forward is the hypothesis that Ganymede's highly differentiated interior and low moment of inertia is the result of its outer mantle being made of pumice and not icy salt water.

⁷⁸ By 'salt' we refer to sodium in its various manifestations as what is called 'rock salt' and not to sodium chloride. Sodium is an alkali metal found in various minerals such as rock salt and is the sixth most abundant element in the Earth's crust. A lack of sodium in Ganymede's atmosphere is blamed on its magnetosphere which may be fending off energetic particles capable of creating the chemical transformations to produce sodium. Or it may simply be that Ganymede lacks sodium *per sé*.

dependent on all Ganymede's salt being locked away under its icy crust, an icy crust that appears to be a body of relatively fresh water.

Of course, readers who have made it this far will know that we postulate an entirely different internal composition for Ganymede that replaces its supposed deep salty ocean and icy outer mantel with one composed of pumice, leaving its icy fresh water crust as the satellite's true predominant global body of water.

The implications of the above statement are astounding in light of claims that Ganymede once enjoyed a warm climate with its now icy crust having once been a liquid ocean. Ganymede may have been entirely unique; a **fresh water** world where saline water would have been the exception and not the normal.

It is only fair to point out that current data regarding Ganymede's sodium content is still extremely thin. We will not actually know if Ganymede's icy crust has a large sodium contingent until we actually visit its surface. But for now it appears Ganymede is largely sodium deficient relative to its sister moons and the Earth. This is definitely a problem for mainstream evolutionist thinking regarding the emergence of life on Ganymede, let alone for traditional solutions to the existence of its magnetosphere. However, a fresh water ocean and oxygen-rich atmosphere on Ganymede may be exactly what we are looking for in terms of the *sustaining* of organic organisms and life as we know it — especially higher forms of life . . . Hmmm!

The Gravity of Life on Ganymede

Ganymede's gravity is calculated to be about 1/7th that of our own planet; is there any reason to believe that would have created any insuperable problems for humans or other creatures living on Ganymede in past ages?

The answer would appear to be no. We've already seen that Earth's own gravity in the age of dinosaurs could not plausibly have been more than about a third of its present value and it was probably less than that. There is the added consideration the creatures, and that includes humans, living in water would get sufficient exercise moving their own bodies against water (i.e. swimming), particularly in the case of humans who, lacking tails and fins, require more energy to swim than do fish or aquatic mammals. There is no reason to believe that humans living under such circumstances would require weightlifting in order to stay in shape.

For that matter, and recalling the comment (end of the chapter on ancient gravity) about human back problems being due to the strong gravity of our present world, the much weaker gravity of Ganymede appears to add to the picture of Ganymede as an ideal world for humans.

⁷⁹ See; Michael E. Brown, "A Search for a Sodium Atmosphere around Ganymede," *Icarus*, Volume 126, Issue 1, March 1997, Pages 236-238.

The only real question as to gravity in such a scenario would be that of the lesser-gravity world having a breathable atmosphere and we've already covered at least most of that question; there are also possibilities of atmospheres of such worlds being held together by electrostatic or electromagnetic forces rather than entirely by gravity, and there is the possibility that Al DeGrazia raised of the atmosphere within the planetary system of a dwarf star being general to the system rather than separate per the individual planets.⁸⁰

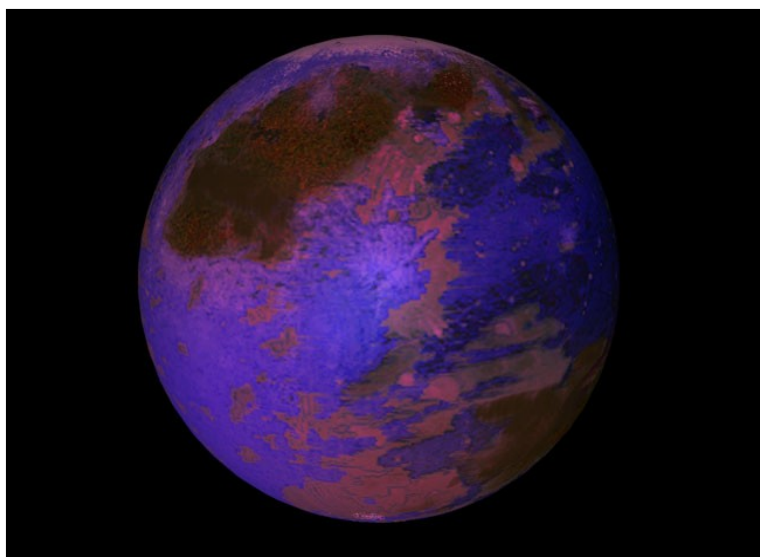
⁸⁰ Alfred DeGrazia, "Solaria Binaria", p. 62 - 68

Behold! A Tropical Splendor in the Ancient Heaveens



Glorious Ganymede: A fresh water world during the Antique Solar System epoch when Jupiter orbited the Sun in its habitable zone. This is Ganymede's trailing darker hemisphere. In this interpretation of Ganymede's surface just before its freezing over, green vegetation has colonized a floating landmass at lower right made up of collected pumice bergs while other smaller landmasses can be seen to the north. The dark material in the blue water areas are heavier submerged pumice bergs while the sandy colored patches are thin filmy-like pumice rafts. The green landmass is riddled with dark swampy lakes, lagoons and estuaries. Virtually all land floats atop Ganymede's global fresh water ocean. The northern polar ice cap can be seen at this angle. Artist's impression by the authors.

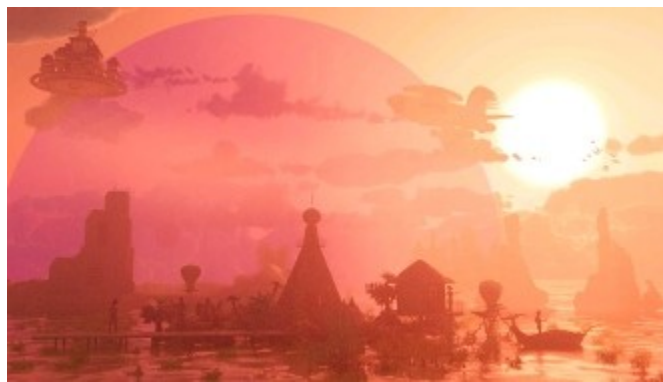
The world that was Ganymede during the epoch we have dubbed the Antique Solar System seems to have been a uniquely fresh water world populated by vast, free-floating pumice bergs coagulating into tenuous and fragile landmasses covered in organic matter and possible vegetation. Warmed and lighted by both the Sun's ultraviolet rays and Jupiter's own red-spectrum light, Ganymede would have been more than favourable for any variety of complex organic compounds, and even carbon-based organisms. Any human stepping back into such an age would have found living on Ganymede quite comfortable, albeit a little more wet and weightless than here on Earth.



Ganymede's Jupiter-facing hemisphere during the Sun's occulting behind Jupiter. The red-light spectrum

given off by Jupiter as a sub-brown dwarf would have cast a reddish purple hue over Ganymede. Any vegetation on this side could be expected to take on a predominantly reddish hue. One of Ganymede's anomalous rocky lumps can be seen as a purplish patch at the top of the coagulated pumice landmass now known as the Galileo Regio area. The southern hemisphere is mostly populated by giant, yet flimsy and thin pumice rafts. Artist's impression by the authors.

The presence of fresh water would have boded well for higher life forms and contributed significantly to a robust ecosystem involving flora and fauna suited to seashore, lakefront, swamp, and estuary conditions similar to that found on Earth. A key feature of such a world would be its abundance of littoral zones, areas where Ganymede's ubiquitous ocean would form shores and lagoons amongst the archipelagos of our postulated collections of pumice bergs. Littoral feeding on sea foods and aquatic fruits would be the main constituent in any diet supporting any possible higher fauna in the absence of carnivorous predation. The closest approximation on Earth to this scenario would have been the primordial shores and islands of Lake Victoria and the swampy flooded hinterlands of the Amazon basin.



The hot part of the day

This chapter and those preceding it in Part II of this work have sought to offer a case for the existence of a habitable planetary body in our solar system during a time before Earth had yet arrived. We offer the Jovian moon of Ganymede as the most likely contender for this planetary body and express our confidence that it was once indeed a world bursting with the ingredients for life.



Size comparison between Ganymede and Earth with Ganymede presented as it might have appeared during the postulated Antique Solar System epoch. Earth image courtesy of NASA.

But alas, such a world was never to last and today Ganymede is a frigid ice-encrusted and scarred remnant of its former self, a stark testimony to the fragile nature of existence in this universe. Should further exploration confirm that life did once exist on Ganymede, then it is to world mythology that we must turn to piece together the circumstances of its demise. For it is noted that in the epic interplanetary cataclysms recorded by ancient mankind the power of the Jovian thunderbolt was one of the most feared cosmic weapons stalking the celestial realms of the old gods. Closer to the action than anyone today would think possible, mankind witnessed these events, these horrors, and recorded them in a myriad of ways for future generations. Yet, one wonders if the sight of Jupiter's wrath descending on its third and largest moon might have provoked fearful realisation; that in the demise of an almost forgotten oceanic paradise there was thankfulness in having been spared the sharing of such a fate.

Did mankind on Earth possibly witness the destruction of their most ancient home and the legacy of their origins left behind on another world?

Summary and Takeaways from this chapter

In this chapter we have speculated on the type of environment Ganymede would have enjoyed had it been a liquid water world orbiting Jupiter in its ancient phase as a glowing sub-brown dwarf, itself orbiting the Sun within the habitable zone. We have presented a picture of a *bright* world enjoying the benefit of both the Sun's and Jupiter's warming influences, a world with a global ocean and an oxygen-rich atmosphere where pumice bergs would have formed free-floating land concentrations perfect for the sustaining of aquatic-based life.

- Due to the phase-lock nature of its 7.1 day orbit around Jupiter, Ganymede's oceanic surface would have experienced different types of light at different regular intervals in different hemispheres. Only the outward hemisphere would have experienced the contrast of night and day

as we experience it here on Earth, while the Jupiter facing hemisphere would have received blended degrees of both the Sun's and Jupiter's solar warmth.

- Enigmatic, yet sizable lumps of rock concentrations have been detected within the icy crust of Ganymede, suggesting that they are suspended there and supported by the ice itself. These rock concentrations are inexplicable according to the standard model of Ganymede's composition, and do not conform to the idea that they are collections of impactor fragments. Their existence does, however, support the notion of concentrations of free-floating pumice bergs coagulating in the currents of a once watery world.
- Concentrated areas of mineral deposits in Ganymede's icy crust suggest further evidence of coagulation taking place due to the ebb and flow of oceanic currents — they do not support the idea of their arrival by impactors on an existing ice crust where the static nature of a global ice sheet would preserve a more randomly dispersed collection of mineral deposits.
- The detection of clay and organic compounds in the ice of Ganymede again points to the possibility Ganymede may have once supported life. The extreme cloud of dust that surrounds Ganymede points to the true source of these clays and organic compounds. This cloud is thought to be the leftovers of impact events on Ganymede, yet Callisto's supposedly equally impacted past has produced no such cloud and Ganymede remains almost unique in the vast amount of dust collected around it. We suggest this dense cloud is the vaporized residue leftover from Ganymede's electrical baking during the formation of its pumice-like mantel.
- The existence on Ganymede of organic compounds called tholins is thought by mainstream scientists to point to the initial development of potentially complex organic compounds by the effects of solar radiation — a precursor to the emergence of life according to evolutionary theory. We, on the other hand, argue that their presence points to them being evidence of the rapid destruction of existing organic compounds, and even existing carbon-based compounds, by atmospheric electrical discharges taking place on a planetary scale.
- The claim for atmospheric electrical discharges having taking place on Ganymede is evidenced by the existence giant radial Lichtenberg-like contact scars observed at many points on Ganymede's surface. Erroneously referred to as 'impact craters', these massive electrical contact scars are proof that Ganymede once enjoyed a thick atmosphere. This is due to an atmosphere being necessary for the *dielectric breakdown* process in producing an atmospheric discharge event.
- Ganymede's currently thin *exosphere* indicates that a previously thick atmosphere would have been rich in oxygen. This thicker oxygen-rich atmosphere would have been burned off by the catastrophic electrical discharge events as evidenced by the giant Lichtenberg-like scars referred to in the previous point. Ganymede's previously thick atmosphere was a casualty of Jupiter's catastrophic displacement on the Sun's capture of Saturn at the end of the Antique Solar System epoch.
- While most atmosphere-supporting planets and moons in the solar system tend to have predominantly carbon-dioxide or methane-based atmospheres, Ganymede joins Earth and Europa as one of the few Earth-like places in our solar system with oxygen as a main component of their atmospheres. This augurs well for the idea that Ganymede should be considered as the one known place beyond Earth most likely to support or have supported life as we know it.
- Ganymede and its icy crust are remarkably deficient in salt, a fact that indicates that its former global liquid ocean would have been uniquely freshwater-based.
- Ganymede's low gravity would have posed no problems to aquatic-based life. Even humans, who could adapt to an aquatic lifestyle on a warm water Ganymede, would experience no detrimental effects due to the lack of an Earth-like gravity.

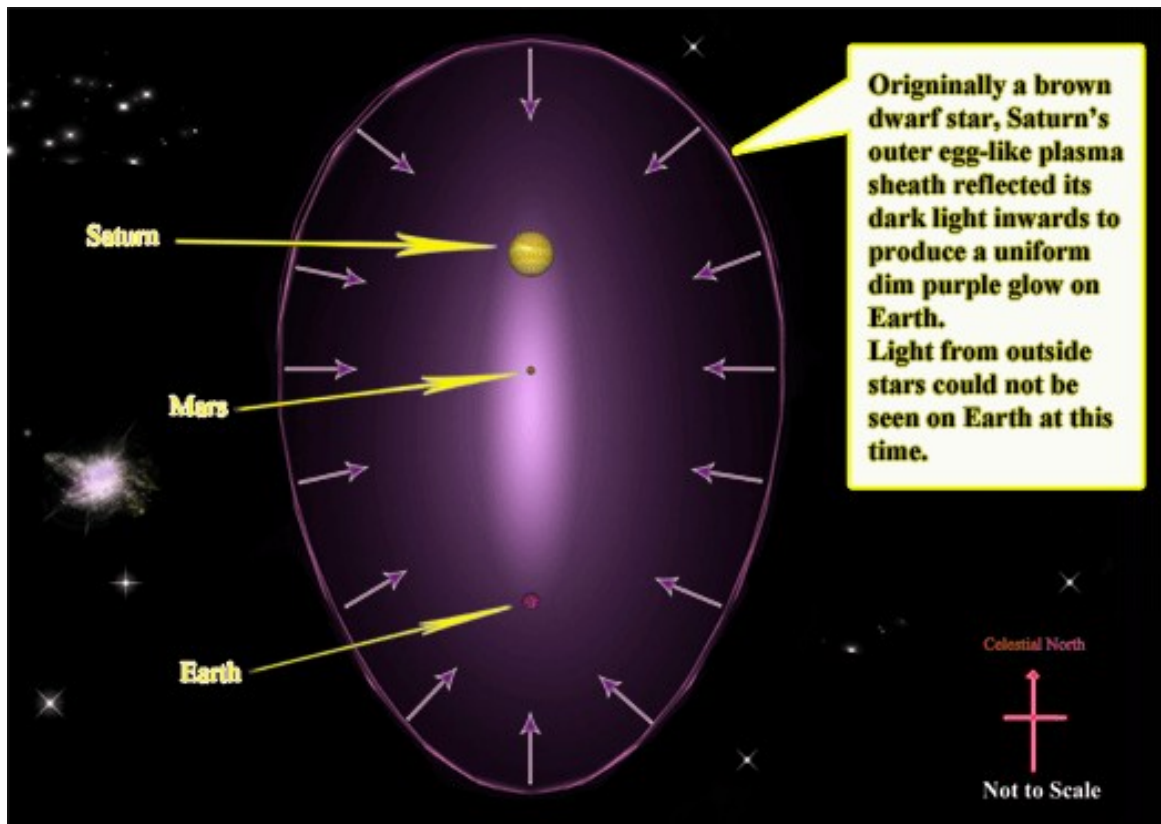
Ganymede during our postulated Antique Solar System epoch would have been a tropical-like fresh water world fully capable of sustaining life at all levels, including human life. The evidence for Ganymede's ability to have once

provided the type of conditions necessary for the support of a wide diversity of aquatic-based fauna and flora makes Ganymede the most likely contender in our current solar system for an original human home world within our system as it would have existed some tens of thousands of years ago.

Illustrations

Purple Dawn Environment

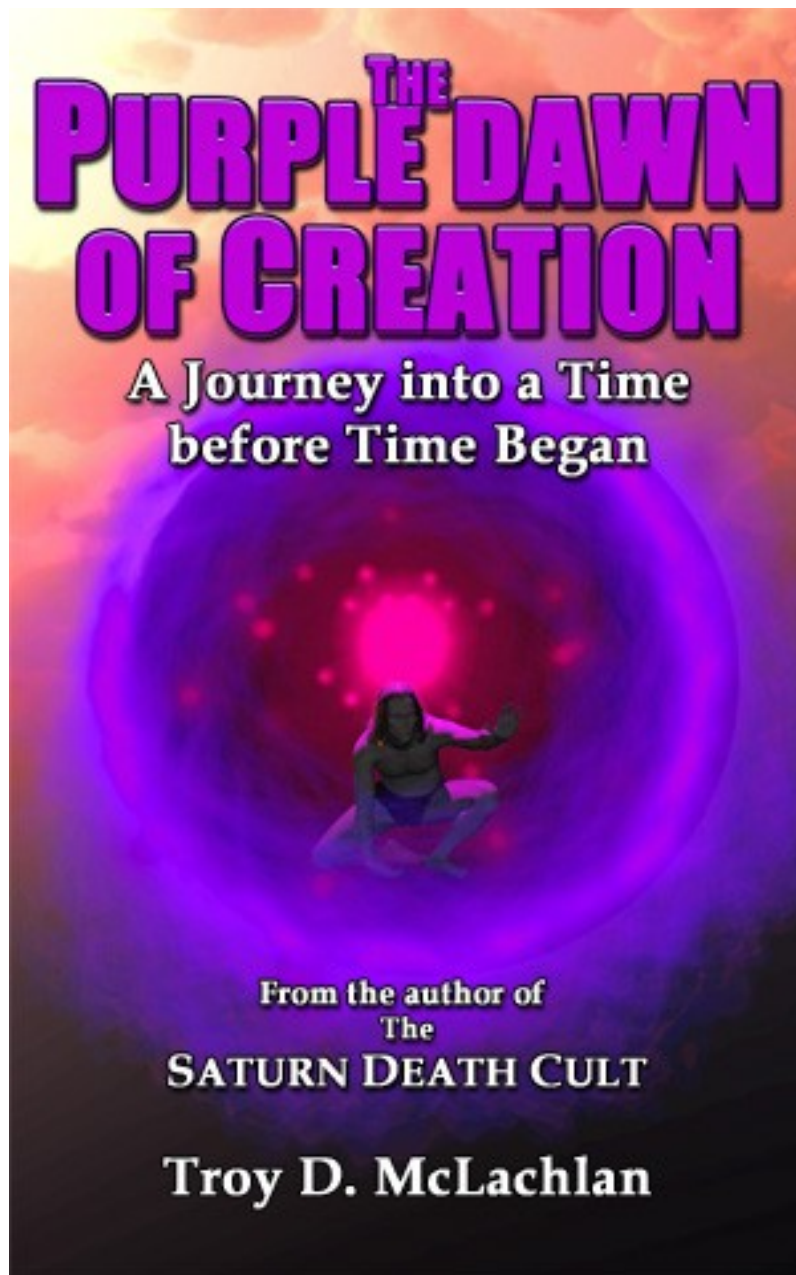
Troy McLachlan's illustration of Earth and Mars inside the purple light environment of the plasma heliosphere of Saturn, a dwarf star at that time.



The huge eyes of leftover Purple Dawn creatures



More about the Purple Dawn



How Neanderthals saw their world

Troy McLachlan: Neanderthals during the Purple Dawn age as we would see them and as they saw each other (or as a human with a night vision scope might see them).



Jill Holod's Neanderthal scene



Danny Vendramini's Neanderthal reconstructions

Curtesy Danny Vendramini and www.themandus.org



Danny Vendramini describes his studies:

<https://youtu.be/mZbmywzGAVs>

Ryan Darger: Ganymede circa 60000 BC

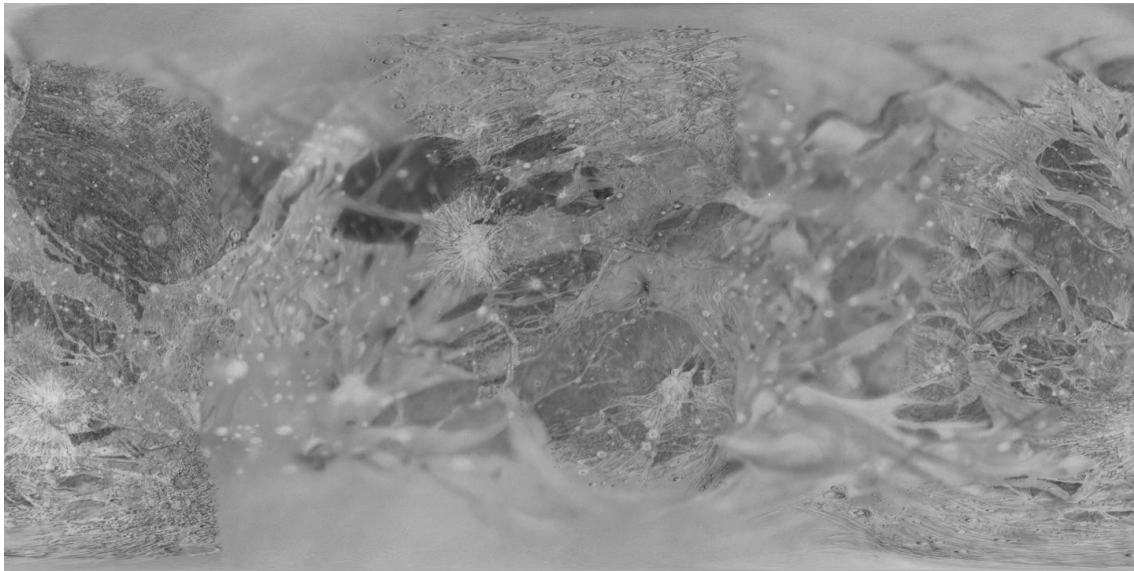


Ganymede today

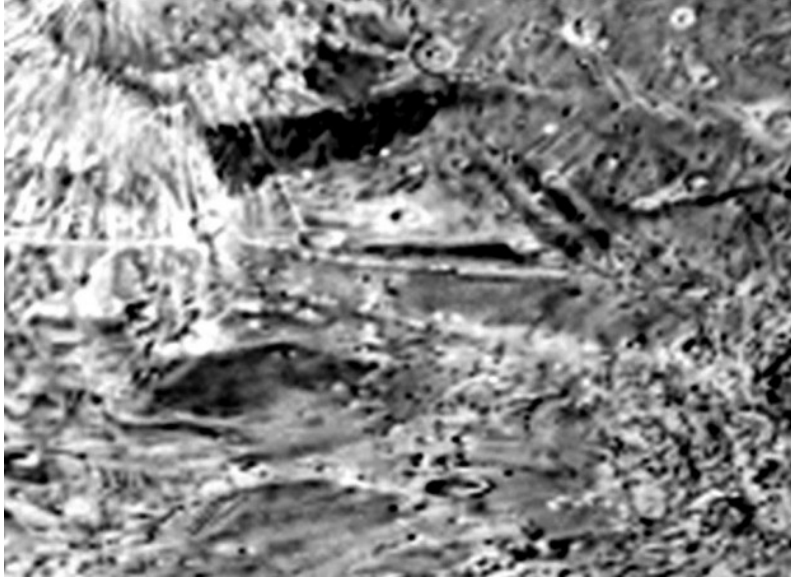
Unfortunately, we do not yet have any kind of a rolling probe on Ganymede; all we have are a handful of satellite images. The NASA site for Jupiter images is:

<http://maps.jpl.nasa.gov/jupiter.html>

The site includes a planetary satellite image of Ganymede, that is, an image which shows the entire planet in a flattened form:

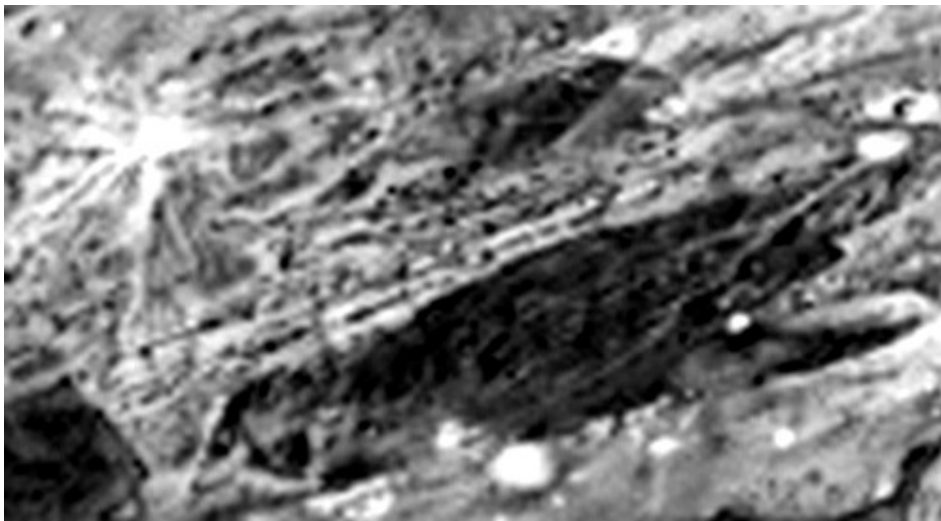


The lower left area of this image, when zoomed, shows two objects which may or may not be artificial. **IF** the two items are artificial, **which is a very big if**, then they are on a scale which beggars the imagination. Nonetheless, the one item appears to be very close to being bilaterally symmetric in its structure and the other item shows too many straight lines and flat surfaces for any sort of an easy explanation as to how it could not be artificial.



Other areas of the planet (in the same NASA tiff image) show things which likewise require very little imagination to entertain the notion of their being artificial.

Tiff (lossless) image: <http://maps.jpl.nasa.gov/pix/jup3vuu2.tif>



The tower like structure which the red arrow points to is described in a YouTube video:

https://www.youtube.com/watch?v=S_kmoQo5L8w



The author of the video claims to see substantially more in the way of artificial things on Ganymede than I do. Again, if that tower object is artificial, it is on a scale beyond anything which humans on earth have ever constructed to our knowledge.

Egyptian Crown Design

From Troy McLachlan's "Saturn Death Cult", 2'nd edition (www.saturndeathcult.com):

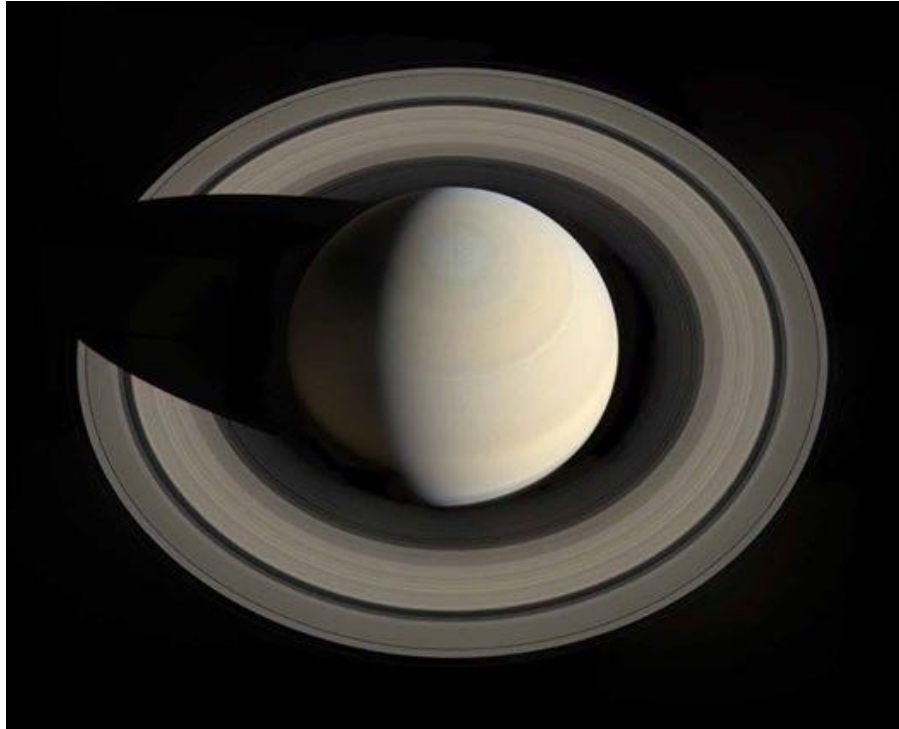
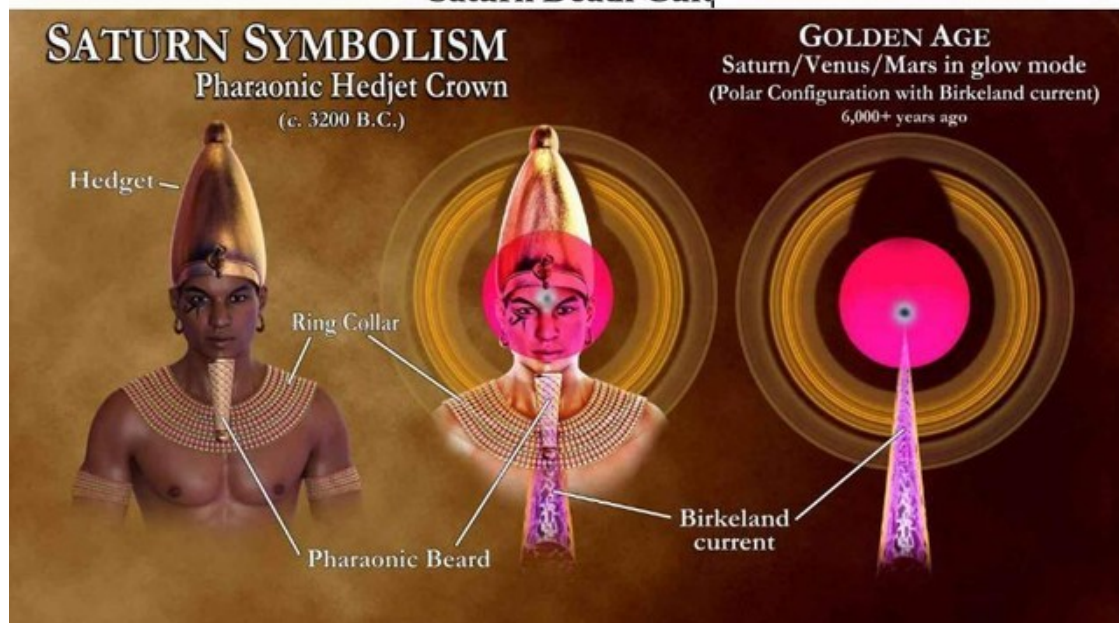


Image Copyright (c) 2019 Troy D. McLachlan
Saturn Death Cult



Note that this was from a late period as the Saturnian system approached our present sun and the light throwing the shadow on the ring system is from our sun, not Saturn itself. Note also that the Egyptians got the number (9) of Saturnian rings correct, indicating that something is wrong with the way we are taught history¹. King Tut's collar:

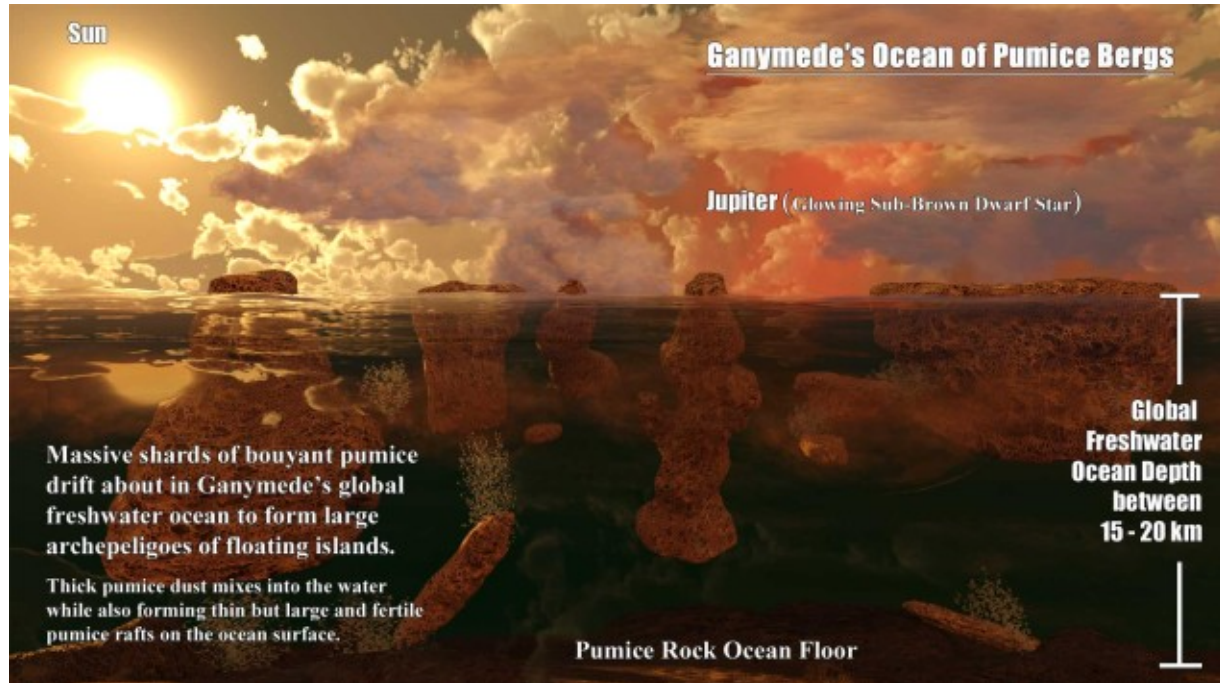


¹"How Many Rings Does Saturn Have? - Universe Today

<https://www.universetoday.com> › how-many-rings-does-saturn-have

Aug 22, 2009 - That's 3 main rings and 5 dusty rings for a total of 8 rings, 9 if you count the Cassini Division...

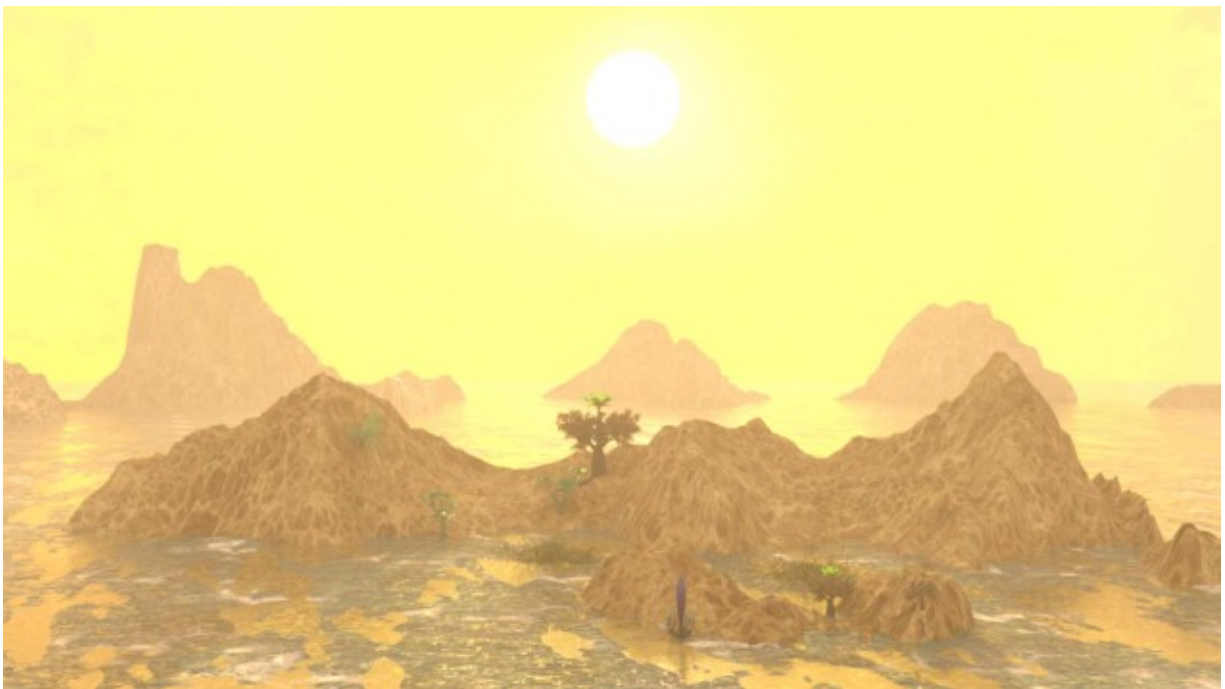
Troy McLachlan's Impressions of Ganymede in Past Ages



Sun/Jupiter system some tens of thousands of years ago in various phases, the view from Ganymede







3ntropy-Gamer's depiction of the Saturn system, Purple Dawn era:



Cro-Magnon Art

Jno Cook claimed to have done calculations putting Jupiter at about .7 AU during past ages that would have made Ganymede at least a warm place if not a hot place although, as the images show, there would have been varying phases of the configuration. You would be correct in thinking that light skin would not be an advantage under such conditions.



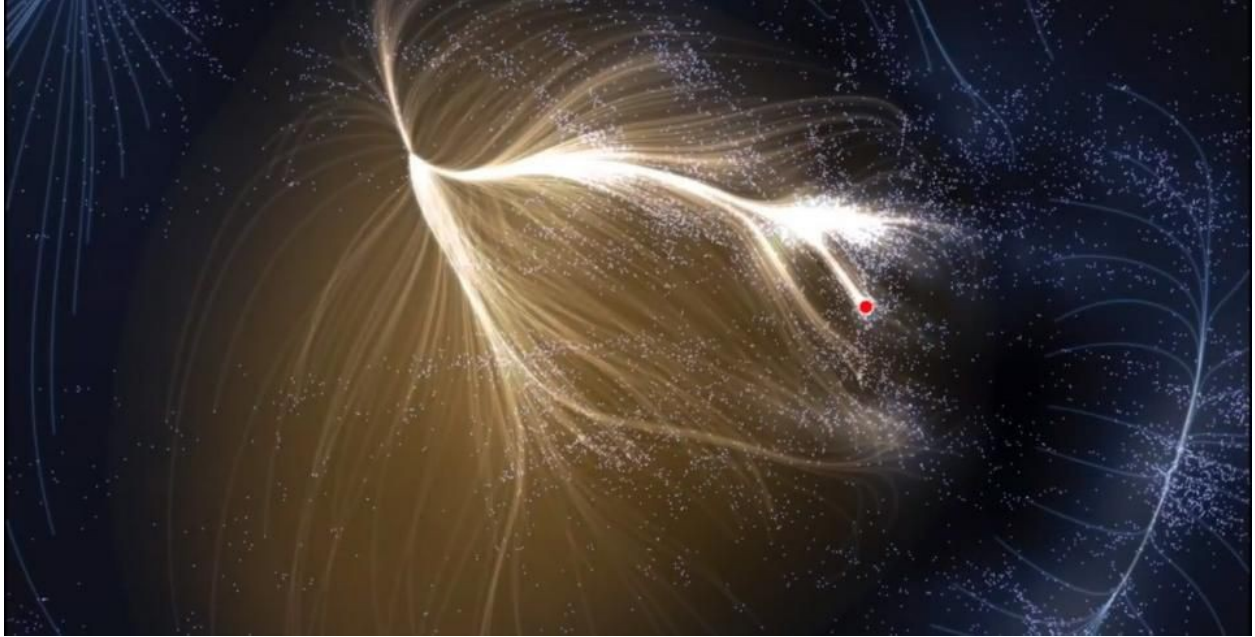
Recent articles claim that even relatively late Cro Magnon descendents in Europe were dark skinned:

<https://www.ancient-origins.net/news-evolution-human-origins/irish-0015225>

RTÉ, Ireland's National Television and Radio Broadcaster, recently brought to our screens filmmaker Katrina Costello's bold and groundbreaking two-part documentary – *The Burren: Heart of Stone* . Thirteen years in the making, the docuseries confirms the story of evolution, humanity's African origins and that prehistoric Irish people, hunter-gatherers from 10,000 years ago, were **dark-skinned** and had blue eyes.

The part about dark skin and blue eyes is likely correct. The rest of it is tainted by ideology.

Laniakea, our local super cluster of galaxies:



Every point of light in that image is a galaxy. The red dot covers our own Milky Way spiral galaxy. The entire thing is an electrical breakdown similar to a lightning strike.

Jupiter in Past Ages

Amongst the kinds of petroglyphs you might see in the Australian outback is what native Australians call “Wandjina” figures, characterized by huge eyes with eyelashes going entirely around the eyes and similarly by short straight hairs entirely like the eyelashes going around the heads.

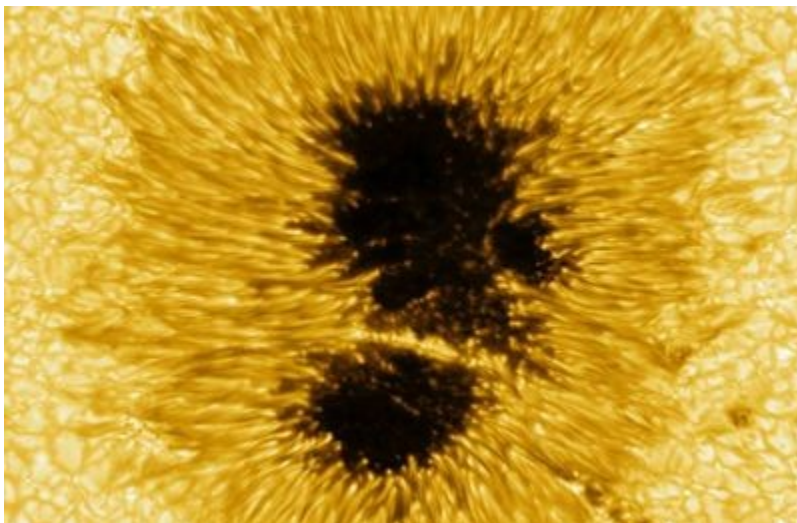


At least that is what most have assumed they were seeing. A friend who wishes to remain anonymous claims that is entirely wrong and that the only way any of those figures with lashes going around the eyes represents a human face, is if the face in question is that of Betty Boop”:

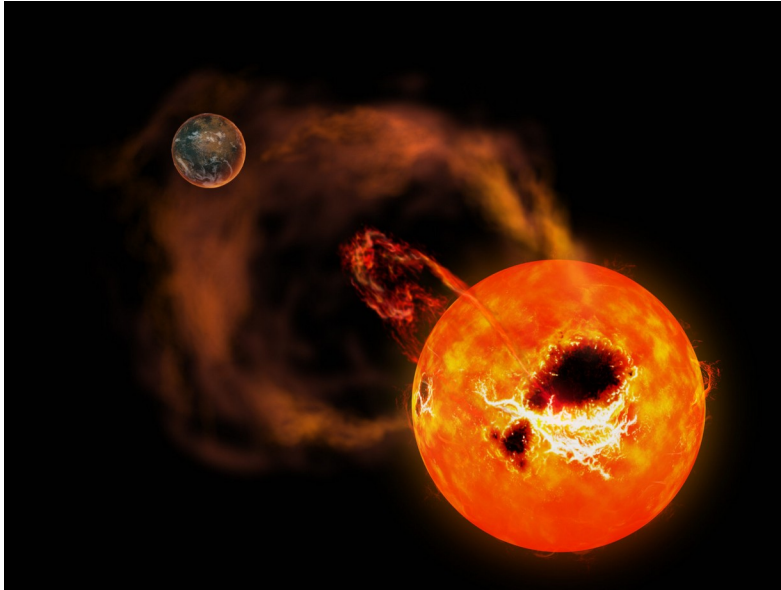


What you are seeing is not human faces but depictions of one of the dwarf stars, most likely Jupiter in some recent past age, with large star-spots that you might take for eyes and electrical tufting (such as you see around sunspots) that you might take for eye-lashes.

Sunspot with electrical tufting (eye-lashes):



Starspots seen on dwarf stars are often relatively large.



Two spots like the large one here and you might have your basic Wandjina.

Part IV Getting to Mars, Ganymede, or Proxima Centauri

Historical Background for Interstellar Travel...

It is highly unlikely that astronauts would survive any sort of a year-long trip to Mars via anything powered by rocket engines; something substantially better than that would be required. The official version of where our manned space program might be put out by NASA is that it stopped after the mid 1970s. There is however reason to suspect that might not be the case.

Interesting discussion:

<http://www.abovetopsecret.com/forum/thread965970/pg1>

Ben Rich was a key person at the Lockheed "Skunk Works" and the man responsible for the F117 stealth fighter; he is sometimes called the "father of stealth".

The question involves a quote which you read, purportedly from Rich: "Ben Rich, stated during a 1993, Alumni Speech at UCLA" :

"We already have the means to travel among the stars, but these technologies are locked up in black projects and it would take an Act of God to ever get them out to benefit humanity...Anything you can imagine, we already know how to do."

One reply to the question as to a source for that quote was exceedingly interesting:

It sounds like Jan Harzan is the source of these quotes.

This was posted on a forum in 2006 -

Josh,

I will answer for him as I have that data. Jan Harzan is the Director of MUFON O.C. and it is he who heard the statements.

Well, it just so happens that Jan was the source of the rumor that Ben Rich made statements in a presentation he gave to the group of engineers which happened to be members of a UCLA Alumni association who were invited to hear this presentation by Ben Rich on March 23, 1993.

The late Ben R. Rich, a UCLA School of Engineering alumnus (MS '50) who is known as the "Father of Stealth," is recognized as one of the best aircraft engineers in the world and led development of the heralded F-117 stealth fighter.

Knowing Jan, I called him to clarify what Ben said at this presentation to UCLA engineering alumni. I work at UCLA and am only steps away from the engineering building.

Here is what Jan, a Senior Project Executive with Boeing told me about Ben's presentation:

- Ben showed slides and went through the history of the Skunk Works. Showed pics of U2 and SR-71 and drones that no one had seen before.
- The kicker was the last slide. It showed a black disk headed for space. Ben showed this and made the statement, "*We now have the technology to take ET home*". He made this statement in 1993, but did not say how long we have had this tech.

There was a Q&A after the lecture. In this Q&A, he told the engineers that it was now possible to travel to the stars. There was an error in the equations which was corrected. The time of travel is fast, but he didn't say how fast.

Ben said he believed that security was too oppressive and that *the time had come to develop this technology in the commercial world now that the cold war has ended*. Months later he died of cancer.

Jan is going to consult with his friend Tom who was also present and do an article on this in a future MUFON Journal.

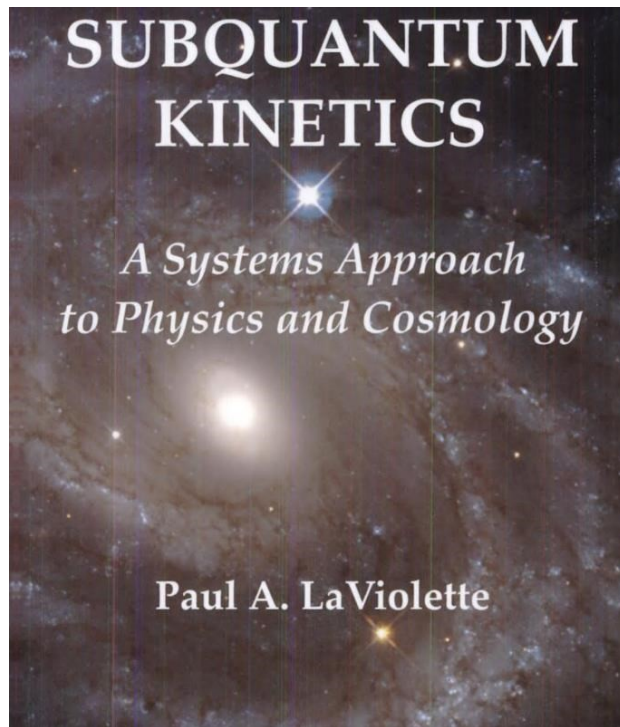
- Bill Hamilton www.dojopsi.info...

The quote from Rich is part of a big picture view which seems to be coming into focus. Other parts of that picture would include Paul LaViolette's discussions of Biefeld/Brown propulsion and the various discussions you see around the net regarding the TR-3B. It begins to appear that the US government has had technology vastly better than rocket propulsion for some time now.

Biefeld/Brown Propulsion

Dr. Paul LaViolette describes the situation.

<http://etheric.com/subquantum-kinetics-3rd-edition/>



Corporate interest as of 1955:

11.3 Corporate Interest

In December of 1955 *Aviation Report* noted that corporate interest in antigravity research was widening:⁽¹²⁾

ELECTRO-GRAVITICS EFFORT WIDENING

Companies studying the implications of gravitics are said in a new statement, to include Glenn Martin, Convair, Sperry-Rand, Sikorsky, Bell, Lear Inc. and Clark Electronics. Other companies who have previously evinced interest include Lockheed, Douglas and Hiller. The remainder are not disinterested, but have not given public support to the new science – which is widening all the time. The approach in the U.S. is in a sense more ambitious than might have been expected.

Aviation Report, December 9, 1955

Interest in this new field apparently spread quite rapidly, because report GRG 013/56, published two months later, noted that most major aviation companies in the United States were interested in electrogravitics:⁽¹³⁾

Groups are being organised to study electrostatic and electromagnetic phenomena. Most of the industry's leaders have made some reference to it. Douglas has now stated that it has counterbary on its work agenda but does not expect results yet awhile. Hiller has referred to new forms of flying platform, Glenn Martin say gravity control could be achieved in six years, but they add that it would entail a Manhattan District type of effort to bring it about. Sikorsky, one of the pioneers, more or less agrees with the Douglas verdict and says that gravity is tangible and formidable, but there must be a physical carrier for this immense trans-spatial force. This implies that where a physical manifestation exists, a physical device can be developed for creating a similar force moving in the opposite direction to cancel it. Clarke Electronics state they have a rig, and add that in their view the source of gravity's force will be

Lecture in three parts describing electrogravitics and Biefeld/Brown propulsion:

<https://www.youtube.com/watch?v=eBhsz3iXgGk>

<https://www.youtube.com/watch?v=ZolhwdRtumE>

<https://www.youtube.com/watch?v=8wGXWpqQOuw>

LaViolette speaks of the current state of B/B propulsion and the question as to whether present technology would suffice for travel within our own system around minute 1:40 of part 2 of this three part video.

Dr. LaViolette uses the term UFO as a catchall to include secret/black government projects as well as any “alien” projects/operations, if any such exist.

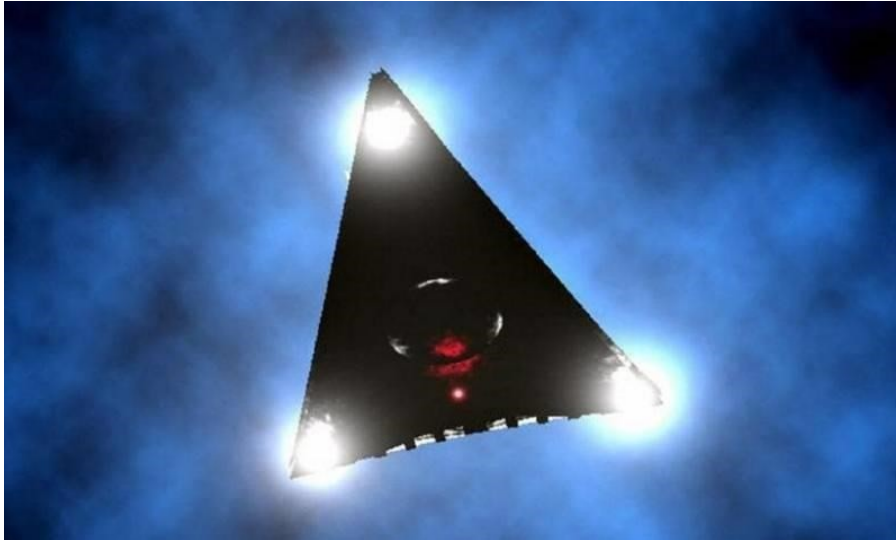
The TR-3B

When a government agency like NASA keeps big secrets from the public, it invites conspiracy theories, but if the TR-3B is a conspiracy theory, it’s a pretty big one:

<https://www.google.com/search?client=opera&q=tr-3b&sourceid=opera&ie=UTF8&oe=UTF-8>

Numerous eye witness accounts describe this thing as being exceptionally large and as being capable of maneuvers which would kill any humans inside it under normal conditions. At least one expert analysis amounts to a claim that the TR-3B does not involve normal physics. The claim is that gravity is being reduced by just over 90%: <https://www.youtube.com/watch?v=zxElYHlGIOI>

Artists conceptions are taken from eye witness accounts...



Again, when a government agency like NASA keeps big secrets from the public, it invites conspiracy theories and, in this case, all that we have is a choice between two flavors of conspiracy theories:

- 1 We can believe that all of the MSL images which NASA has published so far are totally fake, taken from some secret place on Earth, and that the whole idea of a NASA probe rolling around on Mars is fiction along with the images which clearly show humans and small animals, or
- 2 We can believe that the US government has some vastly better way of getting astronauts to and from Mars (again they would not survive a year-long trip via anything powered by rocket engines) than we have been led to believe.

Exotic US Navy Patents for Space Technologies

The United States Navy has recently been awarded a number of patents for very advanced space related technologies. Some of these technologies, in combination with electrogravitic propulsion technologies which have been known since the mid to late 1950s, appear to be substantially beyond anything which might be required for travel to our Moon or Mars. Speculation is that these may be technologies which have been in use for some time, and that our Navy is simply acting to prevent any total outsiders from patenting any of these ideas and attempting to charge them for the use of their own technology.

In particular, the combination of Biefeld/Brown propulsion and a device capable of reducing the inertial mass of a space vehicle, suggests an intention of traveling outside of our own solar system.

- [Nuclear Fusion](#)
- [Inertial Mass Reduction](#)
- [Hybrid Air/Underwater Craft](#)
- [Navy Considering Declassification](#)

Notice that the timelines in this picture seem to make a certain amount of logical sense. Electrogravitic propulsion appears to have been in place by the 1960s but compute power density, that is, the ability to package significant compute power into small spaces was lacking, at least according to what we read about the Apollo missions. The first time we really had this compute power density and small hard disks of sufficient capacity would have been in the mid 1980s with Motorola's 68020 and 68030 chips and associated hardware so that, again, Ben Rich claiming that we had interstellar capabilities by the late 1980s – early 1990s is about what you'd expect.

Constant Acceleration

The thing you really need to get to the near stars at least is something that no rocket engine could ever provide, i.e. constant acceleration. The “bang-bang” principle. full power to the halfway point to the target, and then full power in reverse until you arrive at the neighborhood of the target (Proxima Centauri or whatever). A rocket-powered vehicle traveling most of that distance at a constant velocity would take many human lifetimes to travel the 4.3 light years to AC. A vehicle with even 1G worth of constant acceleration would make that trip in about a year. That isn't accounting for the possibility of accelerations greater than 1 G or for technologies which might reduce the inertial mass of the vehicle. Also needless to say, Ganymede would be an easy shot for that kind of technology.

The one other thing you might want to do before embarking upon such a trip would be to convince yourself that relativity was junk science and that you'd not have to worry about returning to find your family and friends all dead from old age while you were still a teenager... A few starting points:

<https://youtu.be/dJBuOpQOf3c>

<https://thelethaltext.me/2017/07/26/tesla-erasure/>

<https://thelethaltext.me/2017/08/06/einstein/>

<https://dwahts.blogspot.com/2019/10/einstein-was-wrong.html>

<http://www.anti-relativity.com/Home.htm>

https://www.youtube.com/watch?v=CGZ1GU_HDwY

<https://www.amazon.com/Faster-Than-Light-Relativity-Reconsidered/dp/1477584587>

Nicola Tesla was the man who gave us AC electricity and basically invented most of what we view as the modern electrical age. He viewed relativity as obviously rubbish, noting that space had no properties to curve and that the idea of talking about space curving was ridiculous. Ron Hatch held most of the patents for GPS; he claimed that GPS works entirely on Newtonian physics.

Deductions and Speculation

Stellar distances, Friar Occam, and Ganymede

In the "Caveats" section (caveat 6) at the beginning of this book we mentioned that:

In the absence of time machines, this work makes heavy use of the logical principle called "Occam's razor." Named after Friar William of Occam, the principle is generally understood to mean that of competing theories with equal explanatory power, the simplest should be preferred. In particular, given the immense distances between stars in our galaxy, in the presence of a completely plausible origin for modern man within our own solar system, theories involving saltations from other star systems are ruled out.

What we have seen in the preceding sections of this book, is that Jupiter's moon Ganymede would have been a perfect world for Elaine Morgan's Aquatic Ape hypothesis, and that it would have also been the sort of bright aquatic/littoral world for which humans would be well adapted.

The other possibilities that somebody might wish to entertain would have modern man arising on something entirely **LIKE** Ganymede, which no longer exists, or arriving on Earth from the vastness of interstellar space. Either of those two possibilities would have to be viewed as a probabilistic miracle, or zero-probability event.

John Cameron's "Avatar" was the first science fiction movie ever to give viewers a realistic idea of how great the distances between stars actually are; the film showed a spaceship using hypothetical antimatter engines taking six years to get from Earth to the nearest star, Alpha Centauri. Another way to look at it would be that if you were to scale our own solar system to having a diameter of about a yard, that is, for the diameter of Pluto's orbit to be about a yard wide, then Alpha Centauri would be slightly more than 4 miles away at that scale; the Sun would be about the width of a human hair at that scale and Earth would be an inch or two away from the Sun.

The basic reality is that for one star to ever capture another unrelated star, i.e., a star that was not involved in any sort of a formation relationship as is the case with Herbig-Haro objects, would be a probabilistic miracle.

Given those realities as well as what we have seen in other chapters of this book, Occam's principle will insist that we view Ganymede as the original home of the human species within our system.

Questions regarding the human digestive system and diet

The original human diet

The human digestive system appears to be primarily made for eating fruit¹:

“Meat is not a suitable item of diet for humans for the following physiological reasons:

- Flesh eating animals have a short intestine and bowel enabling them to rapidly expel the putrefactive flesh, while humans have a long, complicated alimentary canal which enables plant nutrients to be slowly absorbed and assimilated.
- Flesh eaters have a different type of intestinal bacterial flora than non-meat eaters (including humans).
- Flesh eaters have long sharp teeth, whereas humans have the teeth of frugivores.
- Humans can grind their jaw, but flesh-eaters cannot: their jaws move vertically only.
- Humans sweat through their skin (as do other non meat-eaters such as horses, cows, monkeys, antelopes etc.) whereas flesh-eaters sweat through their tongues.
- Humans suck their liquids, whereas carnivores lap their liquids.
- Human saliva contains ptyalin (to commence starch digestion), whereas flesh-eaters have no ptyalin.
- Flesh-eaters secrete 10 times the quantity of hydrochloric acid in to the stomach than does a human (at a concentration much greater as well). This enables carnivores to cope with ingested bone, flesh, feathers, sinews, etc. True meat-eaters take nourishment from practically the whole prey not just muscle and selected organ meat as do humans.
- Carnivores have large livers to aid in detoxifying the blood, and to generate massive bile secretion, but humans have a comparatively small liver.

¹ <http://www.iolie/-creature/BiologicalAdaptations.htm>

- Carnivores generate the enzyme uricase to metabolize uric acid, a naturally occurring waste product in meat. Humans do not generate nor metabolize uricase. As a result, uric acid is absorbed, which leads to age-related disease. “

But there is more to the picture than that, nor is it clear that humans could live on fruit alone.

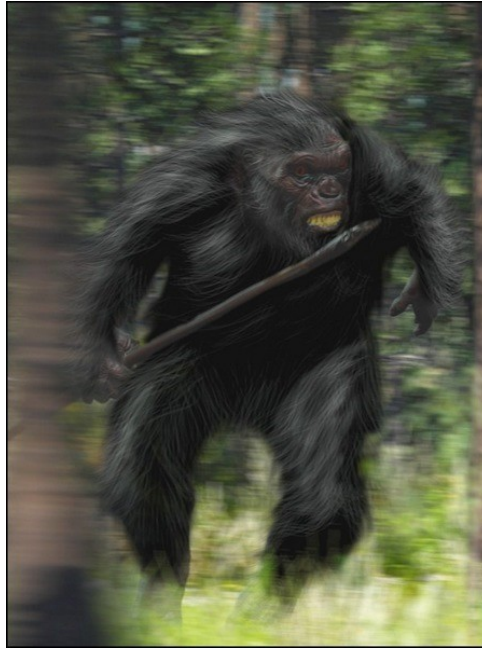
Fire and the lack of fur

Cosmos in Collision and the Ganymede Hypothesis propose an original human presence in our system on Jupiter’s largest moon, Ganymede, which would have been a fresh-water ocean world at that time: an ocean world with a deep outer mantel of pumice and with both anchored islands and floating bergs of pumice with luxurient vegetation. Critics generally cite safety issues and a lack of fossil evidence as the major reasons for rejecting Elaine Morgan’s Aquatic Ape theory; putting that primordial aquatic existence on an ideal world for it rather than on Earth resolves those issues.

http://johnhawks.net/weblog/topics/pseudoscience/aquatic_ape_theory.html

- *"Hominids leading into the water sources available to them would have nothing to protect them from crocodiles and other large predators."*
- *"Paleontologists have never found fossil evidence of this aquatic ape. "*
- *"There may be gaps in the fossil record, but it is unlikely that those gaps will be filled by new primates and entirely different from any known form in their ecology."*

There is one item or topic on which Elaine Morgan and the AA theorists could be questioned and that involves the question of humans lacking fur. There is no reasonable way to claim that lacking fur would be any sort of an advantage for aquatic life, particularly for a hominid or human. But there is one activity which man has always engaged in for which lacking fur would be a gigantic advantage and that would be handling fire, particularly in open and/or windy areas. An incident which might cause a minor burn to human could easily light a hominid up like a torch and fry him. The Neanderthal in fact had fire but he had to be a great deal more careful with it.



(Courtesy Danny Vendramini, www.themandus.org)

Cooking food at least eliminates the worst of the digestion problems mentioned earlier and greatly reduces the work our own digestive systems have to do to digest things like meat or hard vegetables and the lack of fur seems to indicate that humans were *DESIGNED* to cook food, i.e. that it's a little bit more than just something we learned along the way.

Without knowing anything more than we've just gone over, the natural assumption would be that the original human diet on the original human home body which we assume to have been Ganymede, would have amounted to some combination of fruit which grew naturally on the pumice islands and bergs, shellfish, and ultimately fish. The fact that Cro-Magnon man appears to have had the atlatl when he came here indicates that he'd almost certainly gotten as far as eating fish by that time. Humans of course can collect shellfish with nothing more than our hands.

Consider this:

<http://aquatic-human-ancestor.org/anatomy/brain.html>

Humans have the largest brains of any primate in absolute terms, as well as relative to body size. Brain size varies with body size - larger bodied species tend to have larger brains, but not always. The evolutionary increase in brain size in our ancestral line, subsequent to the split between humans and chimpanzees, is well documented in the fossil record. The greatest increase happened in the genus *Homo* in the last 2 million years (Pleistocene) [1]. Human encephalisation is not an obvious choice for the evolution of any species. **The human brain consumes a great deal of the body's energy and our**

ancestors would have had to have had the nutritional means to make this possible, with a reliable, all year round available food source, rich in brain specific nutrients.

Aquatic diets contain plenty of Omega 3 and DHA (docosahexaenoic acid), which is very important for the brain growth and development, as well as essential for proper neurological functions and mental health. In his book: "**Survival of the Fattest: The Key to Human Brain Evolution**", Professor Stephen Cunnane notes that brain growth requires nutrients, vitamins, and minerals such as iodine, iron, copper, zinc, selenium, and the long-chain polyunsaturated fatty acid, DHA in higher quantities to support encephalisation. **Maritime food such as shellfish and crayfish are among the rare naturally occurring foods enriched with these nutrients** which suggests that homo's encephalisation was triggered by arrival at the shoreline.

That has to reinforce the idea of an original human diet consisting of fruit and shellfish.

Humans do not swim as efficiently as dolphins or seals or sea lions. The sugars in the fruit part of the human diet provided the energy for the extra effort humans needed to halfway keep up in the water and they account for the human taste for sweet things. A cat would starve to death in a room full of cakes, cookies, and candy and seals clearly do not require fruit.

Implications

The implications of the Ganymede hypothesis are interesting to say the least. It starts with the destruction of the idea of humans having evolved from hominids such as the Neanderthal. If you were to believe that humans actually had evolved from hominids here on Earth, then it would be very easy to believe that different human groups had evolved from different KINDS of hominids and that Africans, Germans, Japanese and others were basically different kinds of creatures. Somebody who was inclined toward racism could make hay with that.

The Ganymede hypothesis, on the other hand, is not at all compatible with that kind of thing. What actually turns out to be the case is that we are related to hominids such as the Neanderthal ONLY via similar design; we are not descended from hominids and we have never interbred with hominids.

And there is another interesting observation to be made. Prior to that first transfer of modern humans from Ganymede, Earth and Ganymede were separated by a good deal more distance than they are now. There is no reasonable way to believe that living forms ever transferred from the one to the other prior to that original transfer of modern humans, that is, prior to the Saturn system having moved into the neighborhood of our present sun.

And yet, we see the same DNA/RNA information code behind the living worlds of the two bodies, and the same basic scheme for large animals: a spinal cord, four limbs, two eyes, two ears, two nostrils, teeth, fur etc. etc. The characteristics of the two living worlds were substantially different. Earth's biosphere consisted of creatures adapted to the Purple Dawn, the hominids and dinosaurs and whatnot with their huge eyes and other creatures which depended chiefly on their sense of smell. Ganymede's biosphere was that of a bright ocean world, including humans and dolphins and other creatures with relatively tiny eyes, and aquatic adaptations. The Neanderthal appears to be the apex creature for dark worlds; humans the apex creature for bright worlds. It is probably the case that wherever you find bright worlds in the universe, you will find humans, and wherever you find dark worlds, you will find hominids. Human genetic diversity is very low compared to the situation with other animals; that is most likely because humans in the universe are one family. The entire thing appears to be driven by information and, most likely, something akin to Rupert Sheldrake's morphic fields. Sheldrake's studies seem to suggest that when a planetary body such as earth or Ganymede becomes capable of supporting a biosphere, a biosphere appropriate to that body is instantiated there.

There is a natural evolutionary bias to pretty much all science fiction. If you believe in evolution, you pretty much have to believe that any other living world that we might ever find would have to be entirely different from ours since it would have evolved in some entirely unrelated fashion. Hence, for instance, the cafe scene in Star Wars with all of the weird creatures whose morphologies are limited only by the writers' imaginations. Nonetheless, as we have noted, that is not what we are actually finding. What we are

actually finding is very much more like what a Christian or some other religious person would anticipate.

Related Materials

RENSCI (Renegade Science) FaceBook groups:

<https://www.facebook.com/groups/ancienttelepathy>

<https://www.facebook.com/groups/GanymedeHypothesis>

<https://www.facebook.com/groups/NeanderthalRealities>

<https://www.facebook.com/groups/nasajplmarsimagellogic>

<https://www.facebook.com/groups/noachianflood>

<https://www.facebook.com/groups/toptheoreticalphysicsgroup>

<https://www.facebook.com/groups/ursineantievogroup>

Facebook groups related to NASA/JPL Mars images

<https://www.facebook.com/groups/1184954461586455/>

<https://www.facebook.com/groups/224983881216688/>

<https://www.facebook.com/groups/TheMarsReality/>

<https://www.facebook.com/groups/30366699041/>

<https://www.facebook.com/groups/MarsMoonSpace/>

<https://www.facebook.com/groups/580723088722616/>

<https://www.facebook.com/groups/exclusive.mars.images/>

<https://www.facebook.com/groups/378586116362926>

Related Websites

<http://www.marsanomalyresearch.com>

<http://www.thunderbolts.info>

<http://www.saturndeathcult.com>

Selected Bibliography

(Note: All periodicals, newspaper and online articles as quoted in main text)

(Books)

Ann Gauger, Douglas Axe, Casey Luskin, "Science and Human Origins." Discovery Institute Press, 2012, (Kindle Version)

Bakker, Robert T. "The Dinosaur Heresies"

Butterworth, E. A. S., "The Tree at the Navel of the Earth," (Berlin, 1970),

Cardona, D. "God Star," *Trafford Publishing*, Victoria B.C. Canada, 2006

Cardona, D. "Flare Star," *Trafford Publishing*, Victoria, B.C., Canada, 2007

Cardona, D. "Primordial Star," *Trafford Publishing*, Victoria, B.C., Canada, 2008

Cardona, D. "Metamorphic Star," *Trafford Publishing*, Victoria, B.C., Canada, 2011

Cohen, I.L., "Darwin Was Wrong - A Study in Probabilities," New Research Publications, 1984

Deloria, Vine. "Red Earth, White Lies: Native Americans and the Myth of Scientific Fact," Fulcrum Inc. (2000)

Desmond, Adrian J. "The Hot-Blooded Dinosaurs: A Revolution in Paleontology," New York, 1976

Fagan, B. "Cro-Magnon," Bloomsbury Press, (Kindle Version)

Hoagland, R.C. "The Monuments of Mars: A City on the Edge of Forever," Frog Books (2002)

Jaynes, J. "The Origin of Consciousness in the Breakdown of the Bicameral Mind," Houghton Mifflin, 2000

King James Version "Holy Bible"

Morgan, Elaine "The Aquatic Ape Hypothesis" Souvenir Press, (Kindle edition)

Nielson, Knut "Scaling, Why is Animal size So Important", Cambridge University Press, 1984

Remine, Walter "Biotic Message"

Ringwald, Frederick A. "SPS 1020 (Introduction to Space Sciences)" (2000)

Scott, Donald E. "The Electric Sky," Mikamar Publishing, 2006

Sheldrake, R. "The Presence of the Past: Morphic Resonance and the Habits of Nature," Icon Books, (2011 Kindle version)

Sheldrake, R. "The Science Delusion," Hodder & Stroughton, 2012 (Kindle Version)

Talbott, D. "Guidelines to the Saturn Myth." *KRONOS* X:3 (Summer 1985)

Thaxton, Charles B. "The Mystery of Life's Origin: Reassessing Current Theories", Philosophical Library, 1984

Vendramini, Danny "Them and Us", Kardoorair Press (2009), (Kindle edition)

Wallace Thornhill and David Talbott, "*The Electric Universe*," Mikamar Publishing, 2007

Wallace Thornhill and David Talbott, "*Thunderbolts of the Gods*," Mikamar Publishing, 2005

(Selected PDFs, etc.)

Anto Tri Sugiarto, Masayuki Sato, "Pulsed plasma processing of organic compounds in aqueous solution," *Department of Biological and Chemical Engineering, Faculty of Engineering, Gunma Uni_ersity, 1-5-1 Tenjin-cho, Kiryu-shi, Gunma 376-8515, Japa*, Received 17 June 1999; accepted 12 July 2000

Bland, Michael Thomas, "The Tectonic, Thermal and Magnetic Evolution of Icy Satellites", Phd dissertation submitted to the Faculty of the Department of Planetary Sciences, The University of Arizona. (available online)

Bennett, Donahue, Schneider, and Voit; "The Cosmic Perspective," 5th Edition, Chapter 13.3, online PDF version

Adam Burrows, W.B. Hubbard, J.I. Lunine, James Liebert, "The Theory of Brown Dwarfs and Extrasolar Giant Planets," 2001, arXiv:astro-ph/0103383v1 , PDF

Geoffrey C. Collins, et al, "Ganymede science questions and future exploration," *Planetary Science Decadal Survey Community White Paper*, PDF

Kokh, Peter; Kaehny, Mark; Armstrong, Doug; Burnside, Ken. "Europa II Workshop Report". *Moon Miner's Manifesto* (November 1997)

M. G. Kivelson, K. K. Khurana and M. Volwerk, "The Permanent and Inductive Magnetic Moments of Ganymede," PDF, *Icarus* 157, 507–522 (2002)

R. T. Pappalardo, K. K. Khurana, and W. B. Moore, "The Grandeur of Ganymede: Suggested Goals for an Orbiter Mission" Brown University (Dept. Geological Sciences, Providence RI 02912-1846; 2UCLA (Los Angeles, CA 90095-1567), 4065.pdf

Solomonidou, A., Coustenis, A., Bampasidis, G., Kyriakopoulos, K., Moussas, X., Bratsolis, E., Hirtzig, M., “Water Oceans of Europa and Other Moons : Implications For Life in Other Solar Systems,” *Journal of Cosmology*, 2011, Vol 13. 4191-4211

ⁱ https://en.wikipedia.org/wiki/Neanderthal_1

ⁱⁱ <https://tinyurl.com/2z82emah>

ⁱⁱⁱ <https://crev.info/2019/03/penitence-toward-neanderthal-brethren/neanderthal-1909-boule-depiction/>

^{iv} <https://www.newscientist.com/article/dn10275-neanderthal-dna-illuminates-split-with-humans/>

^v <https://www.newscientist.com/article/dn10275-neanderthal-dna-illuminates-split-with-humans/>

^{vi} <https://www.sciencedaily.com/releases/2013/03/130319093639.htm>

^{vii} <https://www.washingtonpost.com/news/speaking-of-science/wp/2016/07/08/grisly-evidence-of-neanderthal-cannibalism-uncovered-in-a-belgian-cave/>

^{viii} <https://www.sciencedaily.com/releases/2013/03/130319093639.htm>

^{ix} <https://www.amazon.com/Aquatic-Ape-Elaine-Morgan/dp/0812828739>