

History of Electric Geology

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ABSTRACT

Electric Geology is considered the study of rocks generated or altered by past or ongoing electrical processes resulting in present day rock formations with telltale signs of very strong electrical processes at work. Since 1950 with the publishing of the controversial book, *Worlds in Collision* by Immanuel Velikovsky, proponents of his theories have conducted field investigations for evidence in opposition to what is considered the more standard or conventional geophysical processes with a slower electrical valence transfer of charge considered in normal crystallization and weathering processes. Michael Steinbacher, a most excellent photographer, was an electric universe devotee during the early formation of the Thunderbolts team. He is credited as an original investigator of the *Arc Blast* phenomena, who first began a series of extensive field investigations first posting to the Thunderbolts forum in 2008. *Arc Blast* is generally considered an extreme event of the *Electric Geological* process whereby *Interplanetary Lightning* or *Static Electricity* is considered the causal agent of large i.e. planetary-scale *Electric Geological* processes. Hypotheses on what triggers an *Arc Blast* vary, but may include wandering interstellar objects that transfer charge directly in passing, a plasma event triggered from the Sun, shifting orbits changing electro-magnetic potentials, discharge during impacts or collisions, increase charge density of surrounding interstellar space etc. The end result is a planet scarred by electric carve-outs during extreme *Plasma Tectonic* events.

Keywords: *Electric Geology, Electric Universe, Arc Blast, Interplanetary Lightning, Static Electricity, Plasma Tectonics*

1. INTRODUCTION

Electric Geology signs are posted in many places including the great American Southwestern desert for those using their “Electric Eyes” [1] to see the telltale evidence of violent electrical discharge processes at work. The diocotron instability image (Fig. 1) in plasma physics, is distinctly reflected in the Upheaval Dome image (Fig. 2). What processes formed this geologic feature? The two competing conventional theories advanced for creation of the Upheaval Dome structure are considered as either a pinched-off eroded salt dome or a complex meteorite impact crater [2]. Our “Electric Eyes” lead us to a more palpable conclusion considering an electric discharge hypothesis that goes back to claims by Immanuel Velikovsky, i.e. that events within our solar system affecting the orbital configurations of our planets may have triggered extreme electromagnetic disturbances among them [3].

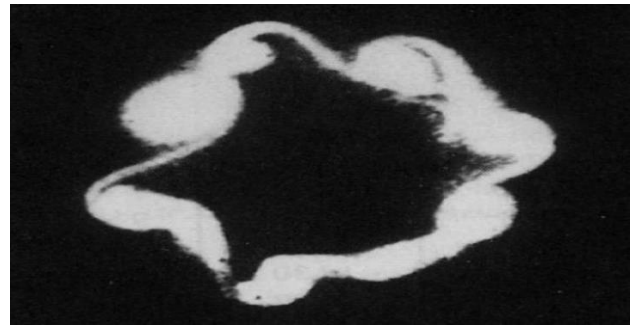


Fig. 1. Diocotron Instability is considered a plasma instability created by two sheets of charge slipping past each other, in which energy is dissipated in the form of two surface waves propagating in opposite directions, one flowing over the other. <http://www.everythingselectric.com/forum/index.php?topic=269.0>

Electric Discharge Hypothesis of Upheaval Dome

The genesis of Upheaval Dome, chevron structures, and arch formations (Fig. 2) could have simple Electric Universe explanations. Upheaval Dome was likely created originally as a blister on Earth’s surface caused by an electric arc filament separated from the main arc current, which goes to ground. A geological example of “Diocotron Instability” (Fig. 2) demonstrates how this affect could simply be mirrored at planetary scale when applied to Upheaval Dome genesis.



Fig. 2. Upheaval Dome from Air [1] Canyonlands National Park in Utah exhibits features of a “Diocotron Instability” (Photo by Michael Steinbacher).

An original investigator of the Electric Geology, Michael Steinbacher [1], was extremely interested in Upheaval Dome because of the conflicting explanations; it’s still considered a mystery by conventionalists. For Michael there was nothing like a mysterious puzzle that could possibly be explained electrically! He saved up for an airplane rental to take this great shot portraying a similar “Diocotron Instability” structure in Fig. 2. Did we mention Michael was a photographer?

Also an interesting mineral found near Upheaval Dome called Analcime has perplexed most conventional geologists [4]. Analcime derives from the Greek word *analkimos*, meaning weak, for a weak piezoelectric force present when rubbed or warmed. The Greeks had similar power stones, and analcime is reportedly used for restoration of mental clarity [5].

The Velikovsky Affair

In 1950, a book titled *Worlds in Collision* written by Immanuel Velikovsky [3] suggested the unorthodox theory that Venus was comet recently trapped in our solar system and that event caused many electromagnetic phenomena to occur. Sometime after being labeled an academic heretic, some of his predictions had been reported as accurate. The book *The Velikovsky Affair: Scientism versus Science*, states:

“In October 1953 [Velikovsky] was asked to address the Graduate College Forum at Princeton on the subject, ‘Worlds in Collision in the Light of Recent Finds in Archeology, Geology, and Astronomy.’ In the course of this address, in which he was able to cite many items in support of his thesis among discoveries made since the appearance of *Worlds in Collision*. Velikovsky suggested that the earth’s magnetic field reaches sensibly as far as the moon and is responsible for certain unaccounted-for libratory, or rocking, movements of that body. He also suggested that the planet Jupiter radiates in the radio-frequency range of the spectrum” [3].

Worlds in Collision mentions Albert Einstein engaged Velikovsky during this controversy. The book states:

“From about the time of the 1953 Forum address, through 1954, and into 1955 up to the time of Einstein’s death, he and Velikovsky carried on private debate oral, and written, on the issue of colliding worlds and the merits of an electromagnetic solar system. Einstein remained adamant in his conviction that sun and planets must be electrically neutral and space must be free of magnetic fields and plasma. Yet when he learned only days before his death, that Jupiter emits radio noise, as Velikovsky had so long insisted, he offered to use his influence in arranging for certain other experiments Velikovsky had suggested” [3].

What transpired from *The Velikovsky Affair* caused a chain of events to occur leading to what is known today as *Electric Geology*. This paper will provide a chronology of those events, along with theories and some evidence of the pioneers investigating electrodynamics in geophysics, as well as where *Electric Geology* is headed and what that can offer to our collective understanding.

2. “THUNDERBOLTS”

Who started *Electric Geology*? Well, we can blame Michael Steinbacher, who started posting about the subject on the “Thunderbolts” forum back in March 17 of 2008 (See: <https://www.thunderbolts.info/wp/>). Michael was always intense, but self-deprecating. Funny and charming, and at times could have a snarky response. For instance, here’s a quote from Michael that he posted in response to a critic touting glaciers as an answer: “Hello ____: I’m not denying that glaciers played a role. On the other hand, what appears to be scraping by glacier could be electrical erosion. Normal geologists would never consider this, only fake geologists like myself.” He wanted to

know how the mountains came to be and traveled west to find out. He learned about the western mountain ranges by actually going there and staying as long as he needed. He began to see patterns that made sense with what he considered his dune hypothesis or reverse duning, where sand dunes became fused rock or lithified. Michael used this process to explain many types of what he considered electrically fused rock formations regardless of rock type. In most cases he was generally referring to “welded tuffs” or lithified volcanic ash, but considered the possibility that other rock types may have undergone similar processes. His ideas also included “sloshing” meaning huge floods were happening in conjunction with the huge plasma events. Most conventional geologists have not yet considered this combined effect, and he saw many strange formations that seemed unexplained with the conventional ideas. As Steinbacher was an *Electric Universe* devotee in the early days of “Thunderbolts” group formation, he just wanted the group to acknowledge evidence he had gathered on electricity and plasma events on our planet by reminding everyone of the examples right here on Earth that the group could easily view. The Electric Universe “Thunderbolts” group is more focused on outer space. They encourage the “standard” space sciences to acknowledge electricity and plasma as much more important considerations than current models support.

Valles Marineris on Mars and the American Southwest.

Wallace Thornhill, co-founder of the *Thunderbolts Project* hosting Electric Universe [6] conferences, espouses the Arc Blast concept in an interview with Robert Hawthorne [7]. Thornhill discussed how electrical scarring is visibly noticeable on both the surfaces of the American Southwest and Valles Marineris on Mars. Thornhill describes, “Valles Marineris is fairly easy because it’s got a central area that is really ripped out, and then the whole thing has the shape of a barred spiral, with a curve up this way and a curve down that way, it is a spiral”. He then states, “A discharge draws current laterally in the form of a coronal discharge. So you see this all over the place here, which are obviously electric arc forms”, when referring to the dendritic patterns surrounding Upheaval Dome [7].

3. WHAT IS ELECTRIC GEOLOGY?

So one could say that Michael Steinbacher started the *Electric Geology* idea during the period that the “Thunderbolts” group formed, though the name came later. In 2008 Steinbacher started posting on the Thunderbolts forum and did so until he passed in July of 2015. He helped create a website, (See: <http://www.eu-geology.com>), which is still maintained to this day, although he was not using the *Electric Geology* name quite yet. Here is what he posted on September 11, 2010: “One of my great frustrations is not being able to share this in person with others while I roam the great deserts of the western US. I invite everyone to join me. Come to me, or I’ll come to you. Every mountain is an open book, the less vegetation the better. Death Valley sings. I’ll travel anywhere. I have strengths that are equaled by weaknesses. I need help. This is an open invitation to everyone with an open mind.” He finally realized his dream of guiding groups to his special places, where electrical explanations were considered the most obvious. At some point after 2012 we started using the term “Electric Eyes” [1] for folks that understood the concept and could spot possible anomalies in the field and at this point he felt the name “Electric

Geology” could and should be used. Michael investigated Upheaval Dome, and seems to be one the first investigators [1] to follow up on the electric discharge hypothesis with field investigations of electrical geological processes on Earth’s surface [1, 8, 9, 10, 11]. One appeal of the concept is it may easily explain some problems in plate tectonic such as: 1.) The power needed to thrust up mountains ranges is difficult to justify with simple mantle convection/upwelling as a driver, but a shorted north-south global mantle circuit during an electric discharge should have the necessary power for uplifting north-south mountain chains for example the Andes and Rockies. 2.) The relatively young age of the seafloor, stated as ~200 million years by plate theorist, relative to the ancient age of continents up to 4.5 billion years, may be more easily explained by a recent melting of the lithosphere during electrical carve outs of global ocean seafloors from a series of electrical discharge events which reset the magnetic ages by reaching Curie temperatures, i.e. resetting the magnetic age during recrystallization. 3.) It also could make sense the asteroid belt is remnants of Earths’ blown out crust and mantle if the earth-sun system is considered as a *Stellar Transformer* [9] with a few blown circuits.

4. FIELD EVIDENCE

Nonconformity occurs when sedimentary rock is lying on metamorphic rock (Fig. 3). The contact between them is recognized due to the different structure of both the rocks. The igneous or metamorphic rock will not be in layers whereas the sedimentary rock is layered. The close examination of the layers enables recognition of the difference between them. Lack of contact metamorphism in the sedimentary layer generally indicates the sediment was deposited after and over the metamorphic event.



Fig. 3. Metamorphic Nonconformity - Whitewater California near Palm Springs resembles other features nicknamed “Dragon Eggs” that have been found in various rock types and locations (Photo by Michael Steinbacher).

This central berm (Fig. 3 & 4) is one of three spilling down from a large hill. The outside berms are composed of dirt and gravel-only, although it appears this berm has been electrically “zapped”. Our “Electric Eyes” tells us that this is likely a fulgurite caused by a lightning bolt, but our geologist said the cause was “the San Andreas fault that lies three miles distant”. Metamorphism requires great heat and great pressure and so the standard geologists posit that all metamorphic rocks must have been buried at great depth and then lifted up and eroded out. Twenty to thirty miles deep is often mentioned.

Most conventional geologists have not really studied electrical processes, so we jokingly call that process “the magic elevator theory”. Electric currents can heat many things to extreme temperatures, but understanding how this same current can compress objects with incredible pressure through the Bennett z-pinch process causing an electrical transmutation of elements seems a productive line of research. The z-pinch is studied at Los Alamos most famously.

What are some examples of Electric Geology? There seems to be some of hint of Electric Universe co-rotating energetic double layers exposed in this geologic section (Fig. 5). Possibly the Arches National Park (Fig. 6) and Natural Bridges (Fig. 7) are both caused by erosion, but the Arch we saw on the north side of Long Canyon (Fig. 8) might be more difficult to explain by erosion. The arch preexists any erosion and is imbedded laterally within the geologic unit.



Fig. 4. Metamorphic Nonconformity This is a wider shot of the “non-conformity” shown in Fig. 3. Geologist using a loupe magnifier examined the native rock determining this formation was “highly metamorphic!” (Photo by Michael Steinbacher)



Fig. 5. Bull's Eye Formation is a signature of the co-rotating “Double Layer” electrical phenomena effect of a Brikeland current. This is seen in rocks fairly often. A large Brikeland current could create this effect; you just wouldn't want to be nearby! (Photo by Michael Steinbacher)

The arch in Fig. 8 forms in a thick sequence, that looks like the Wingate Sandstone, an eolian airborne deposit, sitting on top of Chinile Formation, a silt-mud, or clay lake deposit. Water was likely present in the sandstone aquifer layer where the central “hole” is located within the central Arch and where large electric currents propagated above the clays along the wet sandstone aquifer.



Fig. 6. Arches National Park - Photographer Larry White [8].



Fig. 7. Natural Bridges, Utah [8].



Fig. 8. Canyonlands Arch formation in Long Canyon just north of Dead Horse Point State Park in Utah. Possibly Wingate Sandstone. Note the hint of co-rotating double layers exposed in this geologic section [8].



Fig. 9. Lateral arches in various States of Erosion can be seen along this highway stop just south of La Sal, Utah. These features are common in many locales and are hypothesized to be the same features associated with Arches National Park formations [8].

Figure 9 show these lateral arch formations are extensive formations throughout the Canyonlands National Park and beyond. Extrapolating this idea to the larger interplanetary lightning scale envisioned, leads to the possible conclusion that if ocean basins were carved out by this process sending the seafloor into orbit as asteroids, then very likely the **magnetic signatures of mid-ocean ridges are the product of a lateral co-rotating Brikeland current, not the product of seafloor spreading as proposed in the plate tectonic paradigm. In other word the magnetic stripes on the seafloor are a lateral cut away view of the double layering effect!**



Fig. 10. Palm sized Fulgurite from Chandelier Barrier Island, LA (Photo by Steve Cash).

Thus the remnant sandstone arches within Arches National Park could have been formed electrically. Robin Andrews writes in *Forbes* on fulgurites (Fig. 10), “Lightning is ludicrously energetic, with the average lightning strike estimated to involve one billion joules of energy . . . with that kind of energy and with temperatures exceeding 2500° C, you’d expect that it can do some damage to pretty much whatever it ends up striking” [12]. Andrews later adds, “Despite the sudden temperature spike, the targets do cool off relatively rapidly, which means that the melted minerals don’t have much time to rearrange themselves. This normally means that the texture of these once-melted segments is often amorphous and glassy” [12]. The example in Fig. 9 was formed on Chandelier Island, Louisiana and found in several states of erosion. Some were flat as pancakes, some had small knobs on the surface some had more extensive “Arch Formations” in various states of erosion. The best find was a newly formed Fulgurite with complete and intricate loop systems on the surface, highly crystalized and vitreous (the sample was given to a local teacher in Ocean Springs, MS, who was attending the field trip... no pictures available). Although we did not actually see the lightning strikes form these Fulgurite rocks, the process has been demonstrated experimentally. Generally, Fulgurites appear as hollow tubes penetrating the ground, but in the case of a beach environment, the salt water table underneath the sand, may spread the energy laterally to a higher degree than “normal” Fulgurites, giving the energy time and space to create the arched frothy features at the surface. Erosion is also an important factor in destruction of these formations, but can also create arches when underground river/cavern systems become exposed at the surface. Although the arc blast explanation is speculative and the scale is very different, the underlying logic appeals to a common-sense approach.

Anomalies in the 922 Canyon in San Rafeals

Within the eroded Navajo Sandstone of the San Rafeal Swell we found geological anomalies in the 922 Burea of Land

Mangaement (BLM) canyon, north of the Goblin Valley that very likely indicates the occurrence of an electrical event. Two specific features that stand out are the Dragons Egg and Slot Canyon (Figs. 11, 12, & 13).



Fig. 11. “Dragons Egg” Pottery created by a horizontal electric current? Larry White with Andy Hall in Arc Blast Field Investigations [8].



Fig. 12. Larry White in Slot Canyon examining the “Slot”, a rugged vertical cut, not a smooth erosional surface. Geological vortex caused by modern day lightning? [8]

The Dragons Egg feels like a piece of pottery (Fig. 11). When lightly thumped it has a slight ringing affect like a fired ceramic dish. Andy Hall in fore ground with backpack inspects the co-rotating layered object in line with the stem or core of the feature following the arch in the Navajo Sandstone Formation. Larry White is taking close up photos of the core of the Dragons Egg. What force would create pottery like arched sandstone

structures? How does erosion create these internal structures that weather out? Does some type of secondary replacement mineralization occur that hardens these arched shaped structures? Electric currents are known to fuse quartz in “vitreous” lighting rocks or Fulgurites. Andy Hall stated in his article, “Arc blast is the consequence of arc flash in a surface conductive current discharge” [10, 11]. He explains this statement earlier in the article; “Earth acts like a gas giant, integral to the circuitry, with current flowing through, as well as around it, but Earth’s current flows in a liquid plasma – the molten magma below the crust. In the event the system is energized, current discharges from within. The evidence is in the extensive volcanism on Earth. Volcanoes straddle subduction zones at the edges of continental plates, rift zones and mid-ocean ridges. They betray the flow of current beneath the crust” [10, 11]. Could this be the case for the Dragons Egg “pottery”? Does a Bennett Z-pinch also cause Dragons Eggs? Can geodes also be some similar version of these processes? We did find a row of Dragons Eggs high on a ridge. A drone will be necessary to further investigate them.



Fig. 13. Solid “Brown Ooze” was once liquid and “Dripped” down the canyon termination like stair steps, then froze solid. See dark cavity above Larry’s shoulders in Fig. 12. Does modern day lightning explain this feature? [8]

Slot Canyon a Lightning Process?

Interesting evidence was found in what we called a “Slot Canyon”. Could the canyon have been excavated electrically? As Larry and Bruce walked up the Slot Canyon (Fig 12) approaching a circular termination feature at the end of the canyon (Fig. 13), they examined the very narrow floor of the canyon. The bottom of the canyon looked to be cut very straight. It had a very pronounced nearly vertical cut away at the base with rough walls of angular texture. These are not general characteristics of erosional processes, but could indicate an electric arc blast process, especially in light of what we found at the end of the canyon (Fig. 13). The Slot Canyon Termination in Fig. 12 was incredibly, a frozen liquid, “Brown Ooze” (Fig. 13). It dripped stair step down the canyon termination then solidified. This apparent mystery indicates some intense heating at the canyon termination in line with the slot cut away (Figs. 12). The white country rock surrounding the “Brown Ooze” exhibits a vitreous fused nature with globular surface mineralization [8].

4. ROCK LIGHTNING

The author saw this beautiful rock with a Lichtenburg pattern near Mt. Whitney (Fig. 14). The conventional explanation of these quartz intrusions is that geothermal waters transporting silicate solutions into cracks in the native rock causes them. It seems we may need a better explanation for quartz veins in general. What do “Electric Eyes” see?



Fig. 14. Rock Lightning is Quartz – Mt. Whitney, CA.



Fig. 15. Quartz in Canyon Sides at the Black Canyon of the Gunnison, CO with quartz intrusions up to 30 meters wide.

What can “Electric Eyes” say about the picture above? Notice these quartz intrusions mostly go from top all the way to the ground as if they could be continuations of huge lightning bolts.

8. CONCLUSIONS

This paper has provided a history, albeit brief, of the *Electric Geology* concept. A discussion has been provided on who the pioneers of this theory are and their methods. Some of the problems with plate tectonic theory are exposed, such as: where the power for up thrusting mountain belts come from, currently theorized to be powered by mantle convection; the discrepancy of 200 million year seafloor ages, juxtaposed to 4.5 billion year continental ages, and a new hypothesis for the origins for the magnetic stripes on the seafloor caused by the co-rotating double layers espoused in Electric Universe concepts. Admittedly, the field is in its infancy, but this paper has attempted to display through a common sense approach that massive geological formations may be formed through electrical processes. This field is just starting; the name is only a few years old. I hope all of you will look around your own homelands with “Electric Eyes”.

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