In: Gravitoelectromagnetic Theories HISTORY OF ELECTROGRAVITICS

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Chapter 1

HISTORY OF ELECTROGRAVITICS

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Abstract

The Biefeld–Brown effect was initially investigated by Thomas Townsend Brown and Dr. Paul Alfred Biefeld in the 1920s. Research continued through the 1950s and 1960s by Brown and other researchers. The use of this electrogravitic propulsion effect was further explored during the publicized era of gravity control propulsion research, which included the United States gravity control propulsion initiative. The effect was almost certainly included in the research conducted at Martin Aircraft's RIAS (Research Institute for Advanced Studies) unit in Baltimore during this period, which is reported to have been specifically interested in gravity, and which hired Burkhard Heim as a consultant because his "Heim Theory" appeared to have significant implications for the nature of gravity.

1 INTRODUCTION

"Electrogravitics" is the science of using high voltage electricity to provide propulsive force to aircraft or spacecraft of certain geometries. Or as Jeane Manning explains, "The apparatus is pulled along by its self-generated gravity field, like a surfer riding a wave." Its discovery is often credited to Thomas Townsend Brown, a physicist who was encouraged by his professor, Dr. Paul Biefeld, a former classmate of Albert Einstein. However, there are those who say that Professor Francis Nipher's experiments, electrically charging lead balls, published in the *Electrical Experimenter* in 1918, are the predecessor to Biefeld/Brown, offering an insight to the inception of the phenomenon.

Recently, two 1956 military documents, "Electrogravitics Systems" and "The Gravitics Situation," originally published by the Gravity Research Group of

London (Special Weapons Study Unit), were declassified from a “confidential” status. Outlining T. Townsend Brown's antigravity discovery [1], and the subsequent Project Winterhaven, they were a vital new chapter in aviation research. For example, the documents state, "Unlike the turbine engine, electro-gravitics is not just a new propulsion system, it is a new mode of thought in aviation and communications, and it is something that may become all-embracing"[2]. Further advances have been made since then, warranting a second volume to the series as noted elsewhere in this chapter.

2 RESEARCHERS AND EXPERIMENTS ON ELECTROGRAVITICS

Francis Nipher

Dr. Francis Nipher, Professor of physics, Washington University, St. Louis, Missouri, did some of the pioneering electrogravitics work at Washington University in St. Louis back around the turn of the last century. He applied high voltage to lead balls, lead spheres and hollow metal boxes and compared the repulsive effect induced in small test spheres hung vertically near them, similar to the original Cavendish experiments but with high voltage. Dr. Nipher went to great lengths to insert protective, grounded screens of glass between the solid lead spheres and the suspended balls to rule out electrostatic effects.

Before connecting any form of electric current to the modified Cavendish apparatus, Prof. Nipher took special precaution to carefully screen the moving element from any electrostatic or electromagnetic effects. His apparatus briefly consists of two large lead spheres ten inches in diameter, resting upon heavy sheets of hard rubber. Two small lead balls, each one inch in diameter, were now suspended from two silk threads, stationed at the sides of the two large lead spheres, from which they were separated by a little distance. Moreover, the suspended balls were insulated elaborately from the large spheres by enclosing them first airtight in a long wooden box, which was also covered with tinned iron sheets as well as cardboard sheets. There was, furthermore, a metal shield between the box and the large metal spheres. The large metal lead spheres now exerted a certain gravitational pull upon the suspended small lead balls … and the small lead balls were slightly pulled over towards the large spheres. In further experiments Prof. Nipher decided to check his results. To do this he replaced the large solid lead spheres with two metal boxes, each filled with loose cotton batting. These hollow boxes (having practically no mass) rested upon insulators. They were separated from the protective screen by sheets of glass and were grounded to it by heavy copper wires. The metal boxes were then charged in every way that the solid lead spheres had been, but not the slightest change in the position of the lead balls could be detected. This would seem to prove conclusively that the "repulsion" and "gravitational nullification" effects that he had produced when the solid balls were electrically charged were genuine and based undoubtedly on a true inter-atomic electrical reaction, and not upon any form of electrostatic or electromagnetic effects between the large and small masses. If they had been, the metal boxes, with no mass, would have served as well as the solid balls. (excerpts from [3])

Professor Nipher had previously published his theory on “Gravitation & Electrical Action” with extensive equations in his papers[4,5], building on the suggestions of an “intimate relation between gravitation and electrical action in several other journals[6-8]. Most of the cited articles are available on the internet (credit: RexResearch.com) and are a fascinating inquiry into the early anomalies with high voltage effects on propulsion, as well as the difference between the negative polarity versus positive polarity electrogravitics.

T. Townsend Brown

"The long and constant persuasion that all the forces of nature are mutually dependent, having one common origin, or rather being different manifestations of one fundamental power, has often made me think on the possibility of establishing, by experiment, a connection between gravity and electricity …no terms could exaggerate the value of the relation they would establish." -- Michael Faraday, physicist, 1865

Of all the names of 20th Century science, perhaps none is more obscure, or more curious, than that of Thomas Townsend Brown.

Brown was blessed with the unique ability to "see what others have seen and think what nobody has thought." As a teenager in the 1920s, working in a well-equipped laboratory in the basement of his prominent Ohio family's opulent home, Brown noticed an unusual effect when high voltage was applied to a Coolidge X-Ray tube. With that observation, he came to believe he had discovered a link between electricity and gravity - and a way to lift and propel flying vehicles by purely electrical means.

Thus begins the odyssey of T. Townsend Brown, who spent a lifetime crisscrossing the hemisphere in the relentless pursuit of his "flying saucer pipe dreams." The first publication of the research Brown conducted was revealed in the now famous article, “How I Control Gravity,” *Science and Invention*, Aug 1929. It is reprinted in its entirety with detailed diagrams of each experiment in *Electrogravitics II*[9]. However, it wasn’t until the publication of this second anthology on electrogravitics that this author questioned the “problem” that Brown reported in the 1929 article. Brown indicated that his high voltage impulse exhausts itself rapidly and the mass being charged returns to its original position invariably, without concluding what seems obvious today, that the impulse or *changing current* is the prime mover. Thanks to definitive work by Professor Oleg Jefimenko, such an “electrokinetic” effect could be discerned as being different from the original concept of electrogravitics, all of which is explained in detail in the 2000 publication of the second volume of electrogravitics.

Brown and his colleagues anticipated the situation even as early as 1923, and began at that time to construct the necessary theoretical bridge between the two then separate phenomena, electricity and gravitation. The first actual demonstration of the relation was made in 1924.

Dr. Mason Rose

An interesting summary of the early work of T. Townsend Brown in found in the article entitled, "The Flying Saucer: The Application of the Biefeld-Brown Effect to the Solution of the Problems of Space Navigation” by Mason Rose, Ph.D., President University for Social Research (1952). It was published in two magazines, *Science and Invention*, August 1929, and *Psychic Observer*, Vol. XXXVII, No. 1, 1929. Below is an excerpt from the beginning of the article:

“The scientist and layman alike encounter a primary difficulty in understanding the Biefeld-Brown effect and it's relation to the solution of the flying saucer mystery. A proper interpretation of this theory is prevented because both scientist and layman are conditioned to think in electromagnetic concepts, whereas the Biefeld-Brown effect relates to electrogravitation. Their lack of awareness is justifiable, however, because the data on electrogravitation, inasmuch as it is a comparatively recent and unpublished development, has limited availability and circulation.

“Townsend Brown, the discoverer of electrogravitational coupling, is the only known experimental scientist in this new area of scientific development as of this writing. Thus, anyone wanting to understand electrogravitation and its applications to astronautics must dismiss the principles of electromagnetics in order to grasp the essentially different principles of electrogravitation. Electrogravitational effects do not obey the known principles of electromagnetism. Electrogravitation must be understood as an entirely new field of scientific investigation and technical development.

“The most efficient method of effecting an understanding of electrogravitation is to review the evolutionary development of electromagnetism. From the smallest atom to the largest galaxy, the universe operates on three basic forces, namely Electricity, Magnetism and Gravitation. These forces can be represented shown as follows:

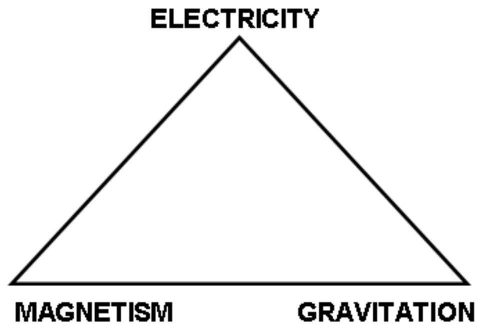

Figure 1. Fundamental Three Forces

“Taken separately, these forces are of no real practical use. Electricity by itself is static electricity and therefore functionless. It will make your hair stand on end, but that is about all. Magnetism by itself has very few practical applications aside from the magnetic compass, and gravity simply keeps objects and people pinned to the earth. However, when they are used to work in combination with each other, almost endless technical applications come into being. Currently, our total electrical development is based on the coupling of electricity with magnetism, which provides the basis for the countless uses we make of electricity in modern societies. Faraday conducted the first productive empirical experiment with electromagnetism around 1830, and Maxwell did the basic theoretical work in 1865.

“The application of electromagnetism to microscopic and sub-microscopic particles was accomplished by Max Planck's work in quantum physics about 1890; and then in 1905 Einstein came forward with relativity, which dealt with gravitation as applied to celestial bodies and universal mechanics. It is principally out of the work of these four great scientists that our electrical developments, ranging from the simple lightbulb to the complexities of nuclear physics, have emerged. In 1923, Dr. Biefeld, Professor of Physics and Astronomy at Dennison University and a former classmate of Einstein in Switzerland, suggested to his protoge, Townsend Brown, certain experiments which led to the discovery of the Biefeld-Brown effect, and ultimately to the electrogravitational energy spectrum (in actuality, it was Brown who first observed the effect and brought it to the attention of Dr. Biefeld, who suggest further experiments to determine the origin of and enhance the effect - Juniper). Biefeld wondered if an electrical condenser, hung by a thread, would have a tendency to move when it was given a heavy electrical charge. Townsend Brown provided the answer. There is such a tendency.

“After 28 years of investigation by Brown into the coupling effect between electricity and gravitation, it was found that for each electromagnetic phenomenon there exists an electrogravitational analogue. This means, from the technical and commercial viewpoint, potentialities for future development and exploitation are as great or greater than the present electrical industry. When one considers that electromagnetism is basic to the telephone, telegraph, radio, television, radar, electric generators and motors, power production and distribution, and is an indispensable adjunct to transportation of all kinds, one can see that the possibility of a parallel, but different development in electrogravitation has almost unlimited prospects.

"The initial experiments conducted by Townsend Brown, concerning the behavior of a condenser when charged with electricity, had the characteristic of simplicity which has marked most other great scientific advancements. The first startling revelation was that if placed in free suspension with the poles horizontal, the condenser, when charged, exhibited a forward thrust toward the positive poles. A reversal of polarity caused a reversal of the direction of thrust. The experiment was set up as follows:

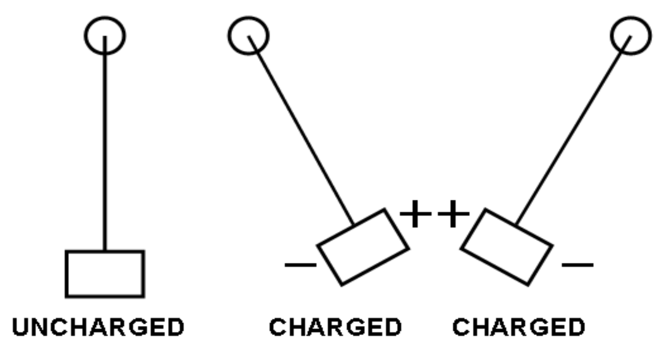

Figure 2. Biefeld-Brown Effect experimental set-up

"The antigravity effect of vertical thrust is demonstrated by balancing a condenser on a beam balance and then charging it. After charging, if the positive pole is pointed upward, the condenser moves up. If the charge is reversed and the positive pole pointed downward, the condenser thrusts down.

"These simple experiments demonstrate what is now known as the Biefeld-Brown effect. It is the first and, to the best of our knowledge, the only method of affecting a gravitational field by electrical means. It contains the seeds of control of gravity by man. The intensity of the effects is determined by five factors, which are:

1. The separation of the plates of the condenser, the closer the plates, the greater the effect.

2. The ability of the material between the plates to store the electrical energy in the form of elastic stress. A measure of this ability is called the "K" of the material. The higher the "K," the greater the Biefeld-Brown effect.
3. The area of the plates, the greater the area giving the greater effect.
4. The voltage difference between the plates; more voltage, more effect.
5. The mass of the material between the plates; the greater the mass, the greater the effect.

“It is this fifth point which is inexplicable from the electromagnetic viewpoint and which provides the connection with gravitation. On the basis of further experimental work from 1923 to 1926; Townsend Brown in 1926, described what he called a "space car." This was a revolutionary method of terrestrial and extraterrestrial flight, presented for experiment while motor propelled planes were yet in a primitive stage. This engineering feat by Townsend Brown was all the more remarkable when we consider such a machine produces thrust with no moving parts, does not use any aerodynamic principles of flight, and has neither control surfaces, or a propeller. Townsend Brown had discovered the secret of how the flying saucers fly years before and such objects were reported.

“Now the basic differences between electromagnetism and electrogravity have been described and the basic principles of the Biefeld-Brown effect have been outlined, we are finally ready to understand the principles of astronautics or the conquest of space. The earth creates and is surrounded with a gravitational field which approaches zero as we go far into space. This field presses objects and people to the earth's surface; hence it presses a saucer object to the earth.

“However, through the utilization of the Biefeld-Brown effect, the flying saucer can generate an electrogravitational field of its own which modifies the earth's field. This field acts like a wave, with the negative pole at the top of the wave and the positive pole at the bottom, the saucer travels like a surfboard on the incline of a wave that is kept continuously moving by the saucer's electrogravitational generator.

“Since the orientation of the field can be controlled, the saucer can thus travel on its own continuously generated wave in any desired angle or direction of flight. Since the saucer always moves towards its positive pole, the control of the saucer is accomplished by varying the orientation of the positive charge. Control, therefore, is gained by switching charges rather than by the control surfaces. Since the saucer is traveling on the incline of a continually moving wave which it generates to modify the earth's gravitational field, no mechanical propulsion is necessary.”

T. Townsend Brown’s Experiments

Only a brief summary of the experiments of T. Townsend Brown are possible here since they are extensive and only a chapter is available for the entire history.

During the early years of the 20th century, starting in 1927, Brown patented a series of designs of various craft. The only time that “gravitators”, gravitation, and electrogravitics is mentioned however, is in the first patent Brown obtained in England (#300,311). All of the rest for the next three decades referred to “electrokinetics” instead. It is still a matter of speculation as to the difference between the two phenomena. However, in the article “How I Control Gravity”, Brown refers to many experiments where the impulse of current is abrupt and the force is only momentary (article is reprinted in its entirety in *Electrogravitics II* by T. Valone). As mentioned earlier, this is a key to the first derivative effect of the change in current over time discovered by Dr. Oleg Jefimenko, who also called it the “electrokinetic force” in his book explaining the same phenomenon [10]. Brown secured several more patents in the period 1930-1970 and all of them refer to “electrokinetics” rather than electrogravitics. The culmination of the solo Brown experiments was the presentation on March 27, 1952 for the Office of Naval Research. An entire report was generated for this demonstration entitled, “The Electro-Gravity Device of Townsend Brown”, File: 24-185, Subject: Special Inquiry, (available in its entirety from Integrity Research Institute). Perhaps the most entertaining part of the report is the transcript of a telephone conversation between a Major General and a Lt. General about the event. The Major General was “frightened” since the entire saucer demonstration was being conducted by a “private group”.

From 1958 to about 1961, Agnew Bahnson formed a partnership with T. Townsend Brown and conducted extensive experiments on larger saucer-shaped craft. Integrity Research Institute obtained the rights to a silent video now on DVD featuring segments from the Brown-Bahnson laboratory experiments with calendar dates showing in the scenes. Several scenes show hovering craft under the influence of high voltage. A four minute segment is also available on the internet under the title, “T.T. Brown Electrogravity Vacuum Experiments – YouTube”. More information about these early experiments is available, including all of the Brown and Bahnson patents, from *Electrogravitics Systems* and from *Electrogravitics II*, by Thomas Valone.

T. T. Brown’s 1955-1956 Paris Experiments Revealed

In 1955 and 1956 Townsend Brown made two trips to Paris where he conducted tests of his electrokinetic apparatus and electrogravitic vacuum chamber tests in collaboration with the French aeronautical company Société National de Construction Aeronautiques du Sud Ouest (S.N.C.A.S.O.) . He was invited there by Jacques Cornillon, the company’s U.S. technical representative. The project was named Project Montgolfier in honor of the two French brother inventors who performed early aircraft flights. The project continued for several years until the company changed ownership resulting in a final report which was written up in 1959 [11].

Details of the Project Montgolfier experiments remained a closely guarded secret for many years until Jacques Cornillon courageously decided to make them public prior to his death in July 2008. Brown's proposal, the project's top secret final report, and an assortment of revealing diagrams and photos are posted on the Cornillon website at: Project Montgolfier: http://projetmontgolfier.info/ and are available for free download. Brown's proposal is in English, whereas the secret Montgolfier Project final report is in French. An English translation of this 100 page final report is available from the Peeteelab website. (Note there is a translation error in the statement of the electrokinetic disc wire size, which is 100 times smaller than quoted. Refer to the original French document for the proper size.) The flying disc carousel experiment that the Montgolfier Project conducted in 1955 used 2-1/2 foot diameter discs (75 cm dia.) hung from 4 meter tethers suspended from the ends of a 3 meter arm. Based on the description given, this seems to have been almost the same flying disc test that Brown gave to the Navy at Pearl Harbor a year or two earlier.

Figre 3. Left: Brown holding a flying disc tested in Project Montgolfier. Right: Close-up of disc showing outboard leading-edge wire. (photos courtesy of J. Cornillon)

Based on the angle of the disc suspension cable seen in the photo on the right below, one may estimate that the disc was traveling at a speed of ~8.7 meters per second, or about 20 mph. It would have completed one revolution of its 18 meter course in 2 seconds.

Figure.4 Left: Carousel test rig. Right: Disc in flight. (photos courtesy of J. Cornillon)

Brown had finished his collaboration with S.N.C.A.S.O. in 1956. From a letter that Mr. Cornillon later wrote to a colleague, we learn that in October 1957 Brown was in the process of test flying 10 foot diameter discs energized at a voltage of 300 kV! Here we see that Brown had followed the plan he had first set out in his 1952 Project Winterhaven proposal which was to eventually test fly a ten foot diameter disc powered by 500 kV (70% more voltage than he used in his 1957 test flight). Hence we see that by this early date Brown had progressed beyond the toy model stage to flying small scale aircraft. To reach this stage he must have been receiving substantial funding from either the military or from a major corporation. More about Project Winterhaven and Brown’s research may be found in the book *Secrets of Antigravity Propulsion*, by Paul LaViolette[12].

In addition the Project Montgolfier team constructed a very large vacuum chamber for performing vacuum tests of smaller discs at a pressure of 5 X 10^{-5} mm Hg; see below.

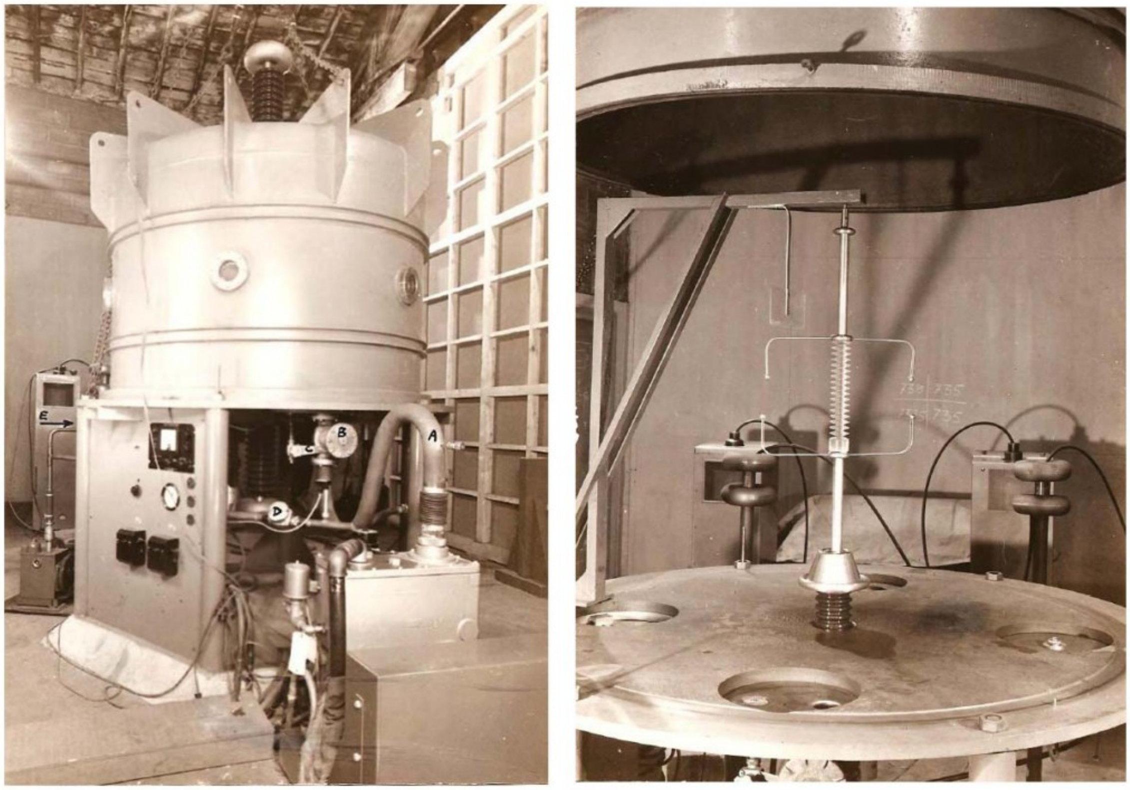

Figure 5. Left: Vacuum chamber vessel (1.4 m diameter) for conducting electrogravitic tests. Right: Vessel opened to show test rotor rig within. (photos courtesy of J. Cornillon)

In reading the section describing the vacuum chamber results, we learn that when the discs are operated at atmospheric pressure they move in the direction of the leading edge wire regardless of outboard wire polarity. This indicates that in normal atmospheric conditions the discs are propelled forward primarily by unbalanced electrostatic forces due to the prevailing nonlinear field configuration (which causes thrust in the direction of the low field intensity ion cloud regardless of the ion polarity). On the other hand, the report says that under high vacuum conditions the discs always moved in the direction of the positive pole, regardless of the polarity on the outboard wire. This indicates that in the absence of the unbalanced forces exerted by ion clouds, the discs moved mainly on the basis of the electrogravitic field effect, always toward the positive (negative G) direction. These vacuum chamber experiments were a decisive milestone in that they demonstrated beyond a doubt that electrogravitic propulsion was a real physical phenomenon. The report concludes saying: “It seems perfectly reasonable to conclude that a concentrated force of some kind accumulates within the presence of a strong dielectric.” (i.e., presumably in the presence of a high-K dielectric.)

Electrogravitics Systems: An examination of electrostatic motion dynamic counterbary and barycentric control, Gravity Research Group, 1956

At the same time the France experiments were conducted, a report surfaced as the first of two reports published by the Aviation Studies Ltd. in London, which still is in existence today. It is reprinted in *Electrogravitics Systems: Reports on a New Propulsion Methodology* and summarizes in simple form the work that has been done and is being done in the new field of electrogravitics. It also outlines the various possible lines of research into the nature and constituent matter of gravity, and how it has changed from Newton to Einstein to the modern Hlavaty concept of gravity as an electromagnetic force that may be controlled like a light wave. A curious fact revealed in T.T. Brown’s first article "How I Control Gravity" (Science and Invention, 1929) is the alignment of the "molecular gravitors". These massive dielectrics provided the most propulsive force when the "differently charged elements" were aligned (with the voltage source). This sounds like crystal plane alignment and perhaps explains the article "Gravity Nullified: Quartz Crystals Charged by High Frequency Currents Lose Their Weight" which appeared two years earlier in the same magazine in September of 1927. The editors had a change of heart however, in the following issue, and rescinded the article.

T.T. Brown's first patent, #1,974,483 issued in 1934, "Electrostatic Motor," is a fascinating free energy machine as well as a propulsion source. Claiming an efficiency of a "million to one", Brown causes the massive dielectrics to be the workhorse of the motor, exceeding, in his words, "the well known pin wheel effect or reaction from a high voltage point discharge." Much of what we know about T.T. Brown is from his numerous patents (all of them are reprinted in the Electrogravitics Systems book), although I was fortunate enough to correspond with him in 1981 when he was at the University of Florida. A sample of his detailed correspondence is contained in the book, Ether-Technology: A Rational Approach to Gravity-Control by Rho Sigma (1977) which is the only other introduction to Brown's work. The important fact from that book is that the DC power supply went up to 250 kV, with a substantial force being displayed starting around 150 kV. Here we get an idea of the range of voltage necessary for successful electrogravitics that even recent military contractors mysteriously disregard. An example is R. L. Talley’s report to the Air Force concerned "with exploring the Biefeld-Brown effect which allegedly converts electrostatic energy directly into a propulsive force in a vacuum environment." It was entitled, "Twenty First Century Propulsion Concept" #PL-TR-91-3009, but only tested Brown saucer designs in the range of 19 kV and predictably failed to produce results.

Brown’s saucer tests show a propulsive force with the positive voltage leading and the negative edge trailing. The high voltage electrically charged the air around the craft with a cloud of positive ions forming in front of the craft and a cloud of negative ions behind. This has been verified with tests recently performed by researcher Larry Davenport. These tests are reprinted in the book, Electrogravitics Systems and can be seen in the commercial video, "Free Energy, The Race to Zero Point" for which I was the technical consultant.

In March, 1952, the Townsend Brown Foundation laboratory in Hollywood, California was visited by Air Force Major General Victor E. Bertrandias. He reported to Lt. Gen. H. A. Craig that he was "frightened" by the flying demonstration because it was in private hands and he felt it was "in the stage in which the atomic development was in the early days." He expressed concern about "if it ever gets away," meaning, we presume, "into enemy hands." A confidential security investigation was thereby initiated concerning the Foundation and T.T. Brown. Shortly afterwards, an evaluation by the Office of Naval Research in September, 1952 surprisingly devalued the Brown saucers to a "well-known phenomenon of the electric wind" claiming it would perform "less at high voltage and zero in a vacuum." The Navy declassified the report in October, 1952. However, today, copies of the report are not available from the Naval Research Laboratory in Washington, DC.

In 1956, Brown returned from a research trip in France where he verified that electrogravitics worked well in a vacuum, in other words, the environment of outer space. Interavia Magazine published an article in the same year about Brown entitled, "Towards flight without stress or strain or weight"[13] and alluded to possible speeds of several hundred miles per hour. In 1958, Fate magazine writer Gaston Burridge described Brown’s metal discs that reached up to 30 inches in diameter. Until 1960, Brown and Agnew Bahnson worked on various designs in Bahnson’s laboratory which were recorded by Bahnson’s daughter on Super-8 film. Today, a VHS converted silent video is available of those experiments entitled, "Thomas Townsend Brown: Bahnson Lab 19581960." In 1964 Bahnson, an experienced pilot, mysteriously flew into electric wires and died. The Bahnson heirs subsequently dissolved the laboratory project.

3 ELECTROGRAVITICS PUZZLE

In 1985, Dr. Paul LaViolette was in the Library of Congress in Washington, DC and looked up the work "gravity" in the card catalog. Surprisingly, he found the listing for "Electrogravitics Systems," a report that was missing from the stacks. When the librarian tried to locate any other copies through interlibrary loan, she commented, "It must be an exotic document" because she could find only one in the country which was at Wright-Patterson Air Force Base. Thus, LaViolette was successful in obtaining a copy of the formerly classified document. The mystery continued: seven years later when contacting the Wright-Patterson AFB Technical Library, they surprisingly found no reference in the computer-based card catalog. They did locate the document on the shelves, however, after being asked to search for it. To summarize, the report has historic value because:

- It validates T.T. Brown's experiments;
- It lists the major corporations that were collaborating on electrogravitics;
- It includes the requirements for supersonic speed;
- It shows the continuity from Project Winterhaven in 1952;
- The report includes a list of electrostatic patents;
- It had been classified by the Air Force for an undetermined amount of time which underscores its importance.

Prepared by the Aviation Studies (International) Ltd., Gravity Research Group, Special Weapons Study Unit in England in February of 1956, it defines electrogravitics as "a synthesis of electrostatic energy use for propulsion." The report historically notes that: "Electrogravitics had its birth after the War, when Townsend Brown sought to improve on the various proposals that then existed for electrostatic motors sufficiently to produce some visible manifestation of sustained motion." As mentioned in the first section of the report, both Project Winterhaven (1952) and "Electrogravitics Systems" (1956) propose "a saucer as the basis of a possible interceptor with Mach 3 capability." Another interesting detail presented is the necessity of an insulator with a exceedingly high "dielectric" constant of 30,000 for supersonic speed when the best dielectrics of that era were around 5,000. This section goes on to describe the creation of a local gravitational system by the craft which "would confer upon the fighter the sharp-edged changes of direction typical of motion in space." The January, 1955 entry states:

"Back in 1948 and 49, the public in the U.S. had a surprisingly clear idea what a flying saucer should, or could do. There has never at any time been any realistic explanation of what propulsion agency could make it do those things, but its ability to move within its own gravitation field was presupposed from its manoeuverability. Yet all this was at least two years before electro-static energy was shown to produce propulsion. It is curious that the public were so far ahead of the empiricists on this occasion..."

The intriguing part of this commentary is that without any space program at the time, the report complains that the public knows how UFOs behave and refers to sharp-edged changes of direction. Later in the report, we read, "One of the difficulties in 1954 and 1955 was to get aviation to take electrogravitics seriously." However, corporations such as Douglas, Sperry, Bell, GE, Hiller, Lear, and Convair are then described with an ongoing-project perspective. For example we read that, "General Electric is working on the use of electronic rigs to make adjustments to gravity." "Glenn Martin say gravity control could be achieved in six years....Clarke Electronics state they have a rig, and add that in their view the source of gravity's force will be understood sooner than some people think." This information makes the report exciting reading and gives it an air of suspense.

Even today, electrogravitics continues to attract public attention in the press. The latest is an article entitled "Military Power" published in a British aviation magazine, *AIR International*, [14] that includes copies of LaViolette’s drawings from the Electrogravitics Systems book. The article also cites the Aviation Week and Space Technology article from March, 1992 "Black world engineers, scientist, encourage using highly classified technology for civil applications" which caused LaViolette to investigate the B-2 Bomber connection to T.T. Brown’s electrogravitics. Through the investigative effort of Dr. Paul LaViolette, it has become clear that electrogravitics became an integral part of the B-2 Stealth Bomber today, giving it an unlimited range. LaViolette challenges us with the question, "Could the B-2 really be the realization of one of mankind’s greatest dreams – an aircraft that has mastered the ability to control gravity?" LaViolette’s investigation is summarized in an article "The U. S. Antigravity Squadron" which has been reprinted in his latest book, Secrets of Antigravity Propulsion (Inner Traditions, 2008). Both reports mentioned above, in the book appear in *Electrogravitics Systems, A New Propulsion Methodology*. It is worthwhile mentioning that LaViolette’s book, *Subquantum Kinetics: The Alchemy of Creation* includes a chapter on the theory of electrogravitics and a plot of applied voltage versus disc speed from Naval Research Lab data, which starts around 40 kilovolts and 2 miles per hour.

John Searl's Electrogravity

John R.R. Searl, of England, constructed numerous craft purported to fly with high voltage (see the recent biography *Antigravity: The Dream Made Reality* [15]). However, one correction to the "Antigravity" article from *Atlantis Rising* Number 22 issue is that the positive pole was traditionally at the periphery of Searl’s crafts. This is important because as Searl describes his control of the imbalance of positive voltage on the edges, to steer the craft, he found that the saucers would travel toward the more positive side, exactly like T.T. Brown’s saucers behave. Throughout the sixties and the seventies, J.R.R. Searl produced many newsletters detailing the work he was doing. Since I corresponded with him in 1981, I also received some of these reports. The importance of his experiments lies in the electrogravitics phenomena associated with them. In the 6/1/68 issue of the "Searl National Space Research Consortium" newsletter, Barrett reports that the ionization of the air and permanent electric polarity of dielectrics were common along with the antigravity effects. In the 6/14/71 issue of the newsletter, Bernhard Vaegs reports that "a pink halo surrounded the craft" and describes the effect of the millions of volts that were generated. This type of description is found throughout the reports and probably was measured by the length of the spark discharge considering the approximate voltage breakdown of air. Barrett describes in the 6/1/68 issue a vacuum layer that surrounds the craft preventing ionizing breakdown of the air. The similarities between Searl's high voltage propulsion and T.T. Brown's high voltage propulsion that both are based upon the principles of electrogravitics as theoretically predicted by Dr. Paul LaViolette in his previously mentioned book, *SubQuantum Kinetics*.

The Hutchison Effect

In 1980, George Hathaway, a professional engineer licensed in Canada, along with entrepreneur, Alex Pizzaro, formed a small company to develop and promote what is referred to as "The Hutchison Effect." It is named after its inventor, John Hutchison, who liked to experiment with combinations of Tesla coils and Van de Graaff generators at the same time. Much of the information about the "lift and disruption" effects has been reported at various conferences (such as in the Third International Symposium on Non-Conventional Energy Technology held in Hull, Quebec in 1986). Videotapes of much of the phenomena have been shown on Japanese TV as well. Hathaway also assembled a three-hour videotape that documents the TV interviews, reports, and actual events. To summarize, the experiments were conducted with 250 kV of DC power on the Van de Graaff and about the same voltage of AC power on the Tesla coil. The total real power was about 1.5 KW continuously, according to Hathaway. Besides the disruptive effects, which were numerous, the lifting of various heavy objects by the field was most impressive. These events can be seen at the end of the commercial video, "Free Energy, The Race to Zero Point" (Lightworks AV, 1996) which is available for free on the internet. In regards to the AC contribution to the field, Hathaway reports that he measured a small voltage of 2 millivolts per meter in the active region (besides the DC offset). This is a small AC signal but on top of the high voltage DC signal, it performs amazing feats.

The importance of the Hutchison Effect to Brown electrogravitics is the AC "ripple" on the high DC voltage. A reference to this may be found in a military report by Dr. Dennis Cravens who gave T.T. Brown a high rating of "practicality." Cravens reported in his evaluation of Brown that older, high voltage supplies always had some AC ripple to the regulated signal, and wonders if this had any effect on Brown’s phenomena [16] . Dr. LaViolette has also found this factor to have particular electrogravitic significance.

The B-2 Stealth Bomber Connection

Thanks to Dr. Paul LaViolette reporting in his article, "The U.S. Antigravity Squadron", there is substantial evidence that the electrogravitics research of the

1950's actually resulted in the B-2 Stealth Bomber "auxiliary propulsion system." Summarizing Dr. LaViolette's article, with references cited therein, the following facts are the most convincing:

- The B-2 charges the leading edges of its wing-like body, with high voltage;
- The B-2 is shaped just like T.T. Brown suggested an electrogravitic craft should look, for maximum charge separation;
- Northrup tested leading-edge charging in 1968;
- B-2 electrically charges the exhaust similar to the suggestion by T.T. Brown that the craft should be powered by needle-point flame-jet generators which electrically charge the exhaust;
- Aviation Week admits the existence of "dramatic, classified technologies" applicable to "aircraft control and propulsion" on the B-2;
- Aviation Week also disclosed that a high-density dielectric ceramic RAM made of powdered depleted uranium happens to have a mass density of 3 times that of the high-K dielectrics tested in the 1950's;
- The B-2's Emergency Power Units (EPU) can drive an electrical generator at high altitudes or even in space, since the fuel can be made to decompose rapidly even without oxygen;
- Edward Aldridge, former Secretary of the Air Force, admits that the B-2 creates no vapor trail at high altitudes. The decomposed gases from the EPU's can function as the ion-carrying medium, in much the same way as the hot exhaust gases from the air breathing flame jet generators.

These details create a sense of excitement about the world's foremost aircraft. Dr. LaViolette argues that the electrogravitic drive will function better at higher speeds due to the better flow of the ions. Therefore, it is likely, he says, that the B-2 actually is a supersonic aircraft, especially since the 1968 leading-edge charging experiments were for supersonic softening of the shock wave.

House Representative Robert Walker was quoted recently in *Popular Science* ("Secrets of Groom Lake") as promoting the idea of declassifying military secrets that will help commercial development. We hope that this trend will continue so that advanced civilian spacecraft designs may also acquire an electrogravitic drive.

Through a proposal he submitted in 1990, Dr. LaViolette made NASA aware that an electrogravitic drive would be a feasible propulsion method for the Mars journey because calculations show that the transit time can be less than one month, instead of half a year to a year. It is especially attractive since it uses so little power when it is operational and verified by Brown to work well in a vacuum. More information about electrogravitics and Brown’s patents are available in my book, *Electrogravitics Systems: Reports on a New Propulsion Methodology*. Many of the books and videos mentioned in this article are available, as a public education service, from the non-profit organization, Integrity Research Institute, integrity-research.org

4 ELECTROGRAVITICS - SUMMARY DESCRIPTION

Electrogravitics technology was being developed and tested in all major aerospace companies in the 1950s. Martin, Convair, Lear, Sperry, Raytheon, and many others all were eagerly studying electrogravitics. But in 1959 or early 1960, the technology became highly classified and the path to energy abundance was stymied.

A model theory that predicts electrogravitics, which some say is a far better one than relativity, is subquantum kinetics (SQK). Its developer, Dr. Paul A. LaViolette, started with chemical kinetics and came up with SQK after becoming very concerned by its gravitational predictions. He had not heard of the Biefeld-Brown Effect, nor the work of T. Townsend Brown. He struggled with these predictions until he encountered Brown's work, discovering that SQK predicted exactly what Brown was showing experimentally.

Why is SQK better than relativity? It takes no element on faith: Einstein's relativity is based on the faith that matter somehow "bends" space-time. Nowhere does he explain (or even try to) how or why this might be. One just has to take it on faith. It explains things without the need for "renormalization;" relativity ends in infinities without this mathematical fudge. It integrates EM with gravity. Einstein himself died still trying to do so. SQK also predicts things like the lensing of light, the apparent time dilation, and all other predictions of relativity, plus more -- all of which are testable (whereas string theory is 100% untestable).

In fact, many of the mysteries of Einsteinian mathematics are predicted in SQK.

Recommended reading is a book called *Secrets of Antigravity Propulsion*, by Dr. LaViolette, for more on the Biefeld-Brown Effect, Brown's work, electrogravitics, SQK, and black project technology.

In SQK, positively charged particles have a positive gravity potential "well." (Positive particles have positive gravity.) Negatively charged particles have a negative gravity potential "hill." (Negative particles have negative gravity.) The positive particle's "well" is just the smallest fraction bigger than the negative "hill," accounting for the apparent weakness of gravity, where essentially even amounts of positively charged and negatively charged particles make up common matter, and in quantities as big as the earth, say, offer a slight "well" overall, thus explaining why we are aware of gravity at all.

The Biefeld-Brown Effect was discovered when it was noted that a dielectric with electrodes attached at either end would apparently lose weight when charged if the positive pole was pointed upwards on a scale, and apparently gain weight when reversed, when placed on a scale. It was soon discovered that it was not a weight loss, but a movement in the direction of the positive pole. Higher voltage increased this effect. Further study showed that the higher the K of the dielectric, the more pronounced the movements became. Asymmetrical electrodes contribute to the increase of the effect, as well. Also, a non-linear dielectric produced greater movement than a linear one. With high K, non-linear dielectrics, a substantial force could be observed, even to the point of levitation with a local gravity field induced.

If, say, four devices were placed on a cross, each oriented 90° to the center and pointing in the same direction relative to that center, and a shaft was set at center and into a generator, when small amounts of energy are used at high voltage on the units, the resulting rotation will induce a greater output at the generator than the input to the units. Overunity, as energy is drawn from the zero point field, is achieved.

A petition for the release of electrogravitics from black projects has been started which demands this technology for civilian use: http://www.change.org/petitions/us-military-release-the-technology-of-electrogravitics [17].

5 NASA FINALLY DEVELOPS ELECTROGRAVITICS

In 1994, IRI published the book, Electrogravitics Systems, Reports on a New Propulsion Methodology (IRI #611). It shows how popular T. T. Brown's inventions were in the 1950's and how Northrop applied the force-producing, high voltage, capacitor design to the B-2 bomber, lately called "field propulsion." Now, after eight years and thousands of books sold, NASA scientists claim they have discovered a "method for generating thrust from two dimensional asymmetrical capacitor modules," with their new US Patent #6,317,310. The results, they note, "are potentially greater efficiencies and improved reliability over currently available electric thrusters" (that expel gas). [18] (See NASA Press Release below).

The NASA promotion states, "In the past, inductive technology has been needed to create thrust, rotational motion, or step an actuator using electricity. This new technology accomplishes these tasks and more by using high potential, low current asymmetrical capacitor modules…It had been theorized that thrust generation from this phenomenon was feasible, but no working prototypes had been developed, until now." While historically, based on all of Brown's research, the last sentence is obviously incorrect, this author is gratified that fuelless propulsion is finally being utilized by NASA. JLN Labs have test results of their prototype of the thruster at http://jnaudin.free.fr/html/omptv1.htm while Gravitec, Inc. also has test results from Purdue University at http://foldedspace.com/corporate.html with Brown's term "Electrokinetic Propulsion."[19] (Credit: Thomas Valone, FUTURE ENERGY, VOL. 1, NO. 3, 2002).

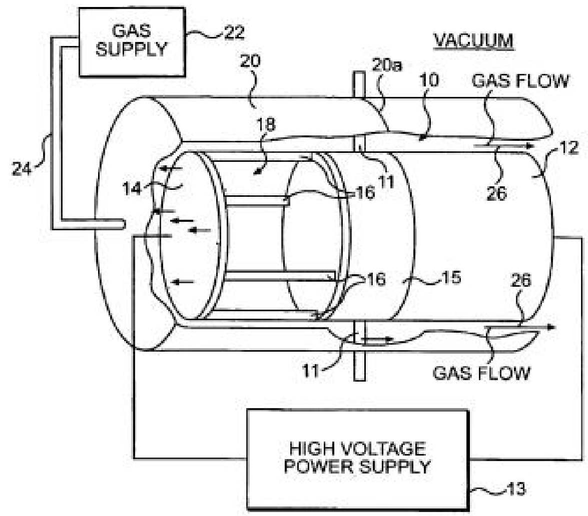

Figure 6 Apparatus and Method for Generating Thrust Using a Two Dimensional Asymmetrical Capacitor Module

NASA Press Release, 11/6/01 "Apparatus and Method for Generating Thrust Using a Two Dimensional Asymmetrical Capacitor Module" Objective: NASA scientists have discovered a method for generating thrust from two dimensional asymmetrical capacitor modules. The results are potentially greater efficiencies and improved reliability over currently available electric thrusters.

Description: In the past, inductive technology has been needed to create thrust, rotational motion, or step an actuator using electricity. This new technology accomplishes these tasks and more by using high potential, low current asymmetrical capacitor modules. The dielectric material of a capacitor under high voltage experiences a force. Based on the geometry of the capacitor, its material properties, and ambient conditions, the force can be predicted and utilized to move the entire capacitor and its mounting in a predictable direction. It had been theorized that thrust generation from this phenomenon was feasible, but no working prototypes had been developed, until now. Benefits - Improved reliability - Potential use of atmosphere as propulsive medium - Reduced cost of orbit Low current draw Current Capabilities This MSFC invention, the Two Dimensional Asymmetrical Thrust Capacitor, has been demonstrated in with a proof-of-concept model. Although additional experimental optimization is indicated, this technology will provide improved reliability due to the use of no moving parts to create thrust in a gaseous environment. Thrust is expected in aqueous environments as well. Potential Application(s) - Linear accelerator to launch payloads - Rotate a propeller or other shaft driven application - Stepping actuator - Near-earth orbital maneuvering Technology Commercialization Status Protection - NASA has filed a patent application for this technology. Prototype - A proof-of-principal model is available. Licensing - Licenses are available for all fields of use. Knowledge Transfer - Inventor is available for assistance to license (see [20, 21]).

CONCLUSION

Thus we see from the innocent experiments of Professor Nipher, an evolutionary wave of development occurred in the past century to usher in a new form of propulsion, which can operate without burning fossil fuels. Today, electrogravitics and electrokinetics still remain unknown to most scientists, except for the engineers in black projects. More about this is in the last chapter of this book.

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[19] Thomas Valone, FUTURE ENERGY, VOL. 1, NO. 3, 2002.

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Related Technologies TWO DIMENSIONAL, ASSYMMETRICAL CAPACITOR MODULES UNDER HIGH POTENTIAL FOR GENERATING THRUST

[21] Public Release Date 11/6/01

THE UNITED STATES GOVERNMENT DOES NOT ASSUME ANY LIABILITY RESULTING FROM THE USE OF THE INFORMATION PROVIDED BY THIS SERVICE AND DOES NOT REPRESENT OR WARRANT THAT USE OF THE INFORMATION WILL BE FREE FROM PRIVATELY OWNED RIGHTS. IN ADDITION, THE UNITED STATES GOVERNMENT DOES NOT ENDORSE ANY COMMERCIAL PRODUCT, PROCESS, OR ACTIVITY IDENTIFIED BY THIS SERVICE.

Patent Title: "Apparatus for generating thrust using a two dimensional, asymmetrical capacitor module"
Patent Number: US 6,317,310
Publication date: 2001-11-13
Inventor(s): CAMPBELL JONATHAN W (US)
Applicant(s): US OF AMERICA NASA (US)
Abstract : An asymmetrical capacitor module for generating thrust includes two conductive elements of similar but different geometries separated by a dielectric member. Improved embodiments provided in the construction of conductive elements of smaller axial extent include those where the element is formed by an annular wire or a dielectric supported ring. Other embodiments concern the dielectric member and involve changes in the extent and shape thereof.

A capacitor module system is provided for creating a thrust force. The system includes a capacitor module provided with a first conductive element having a cylindrical geometry. The first conductive element can be a hollow cylinder or a solid cylinder. The capacitor module also includes a second conductive element axially spaced from the first conductive element and of smaller axial extent. The second conductive element can be a flat disk, a dome, or a conductive tip at the end of a dielectric rod. A dielectric element is disposed between the first conductive element and the second conductive element. The system also includes a high voltage source having first and second terminals connected respectively to the first and second conductive elements. The high voltage source applies a high voltage to the conductive elements of sufficient value to create a thrust force on the module inducing movement thereof.