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more of Paul Hill is at <http://www.stealthskater.com/UFO.htm#PHill>

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Making Connections

You may have seen an educational program called "**Connections**" hosted by James Burke . It shows how inventions and technological progress arrived by circumstances and necessity through the ages until now. That holds true today more than ever. Unless the Earth's expanding population is prepared to colonize space in the next few years, we face impending disaster from depleted resources and pollution of the environment.

An instructor of mine once told me "to build bridges; apply new ideas to already-known facts will lead to better and more efficient ways of doing things."

The evidence is sufficient for many of you to accept the possibility of *extraterrestrial* life. We may suppose that *they* would go through similar crisis of growth and development.

Elements (by spectrograph analysis) are universal. The application for invention is therefore dependent on the maturity and intelligence of the civilizations that develop each use.

Here is where I leave all but the most open-minded of the readers. From written records dated many centuries ago until today, there is evidence of *other* intelligent beings occasionally visiting our planet. Many more recent worldwide reports of "Unconventional Flying Objects" are well-documented by serious and devoted scientists like Dr. J. Allen Hynek, Dr. Mark Rodeghier, and NASA scientist Paul Hill. You might be asking "*Well why don't they just take over the planet, then?*" If you stop and think how much of the planet is not inhabitable to us locals and the delicate balance of Nature from microbe to insect to mammal, it is easy to see that you cannot just drop in on an already-established planet and expect to "fit in". Scientists who are working on eventual exploration of Mars are looking to engineer the planet for gradual human occupation. An effort that may well take centuries of interplanetary trips. **[StealthSkater note: parallel to this line-of-thinking has been my contention that it would be much safer and cheaper to explore planets by using a "stargate"-like portal similar to what the fabled Montauk Project incorporated. This can be crudely compared to an "Out Of Body" psychic experience. Tom Skeggs proposes such a "Star Chamber" device which allows a remote-viewer to interact in real-time via holographic projections through time and space. See => [doc](#) [pdf](#) [URL](#)]**

Unless there is some kind of "confinement" upon humanity, our technology will arrive at the point where UFO observed flight characteristic can be duplicated. A quantum leap, you may be thinking. Perhaps. But I believe rocket science has nearly run its course. Its limited speed and cost will prohibit any real space exploration and exploitation of even our nearest planetary neighbor.

I reiterate: **Every new invention comes about by necessity and building on previous knowledge.** NASA and other researchers are focusing on new propulsion areas such as magnetic lifters, rail guns, and plasma thrusters (which uses magnetic fields to accelerate plasma) to name a few.

Most speculative approaches to UFO drive systems propose a type of 'anti-gravity' or 'gravity-canceling'. Gravity is:

$$F = G M_1 M_2 / \text{distance}^2 .$$

Propulsion would come by the smaller mass (i.e., the vehicle) exhibiting zero or negative mass. Even if this were possible, the Universe is mostly empty space with zero gravity. The equation requires 2 separate masses in proximity to one another. The newest theory states that all matter displaces space-time. The smaller object "falling" in to the larger displaced "hole". This type of propulsion would require altering space-time for the creation of such things as **wormholes**. The compression of matter to accomplish the distortion of space/time continuum would require densities approaching those of a **black hole**.

This would indeed be a quantum jump and far beyond any foreseeable technology. My personal belief is that space-time is a deliberate constraint put on us by the Designer of the Universe. Any violation of Past or Future disrupts the continuum and would endanger our very existence. However, a local distortion or time displacement around a vehicle should be 'safe' and acceptable. Light-speed or faster will be a necessity if we are to transverse the far reaches of space.

According to NASA scientist Paul Hill in his book Synopsis of Unconventional Flying Objects, **UFO's do not appear to violate known physics laws**. With this in mind and drawing from research by Dr. Rodeghier's report "UFO Reports Involving Vehicle Interference" and Dr. Hynek's book The UFO Experience, let's try to make some correlation between observed phenomenon and known physics.

Electromagnetic Effects

'If there were but 1% more electrons than protons in 2 people but an arm length apart, the repelling force would be enough to lift a weight equal to that of the entire Earth!'

-- Richard Feynman

Short circuits and electrical overloads in proximity to moving UFOs are demonstrated repeatedly in motor vehicle failures and electrical power outages. Electrical equipment has been seen to react wildly or turn 'on' and 'off' again "by itself". These 'symptoms' are most likely the result of **ElectroMagnetic Pulses**.

Nuclear explosion studies show that short pulses associated with plasma electron densities of $4 \times 10^6 \text{ cm}^3$ moving outward from the blast in just a few microseconds can induce currents of 10 kiloamps-or-more in long overhead power lines as well as tremendous currents in vehicle electrical coils or conductive material in any circuit. This will cause erratic on/off behavior which may be temporary or permanent if the circuit is burned out by the surge. In nuclear explosions, gamma radiation -- in what is known as the 'Compton effect' -- knocks electrons out of orbit in the nuclear device material and surrounding area. This sends the EMP wave outward for many miles. The high-energy electrons dislodge low-energy electrons which are then driven back to the positive part of the plasma causing an electric current and strong magnetic field to form.

Residual radiation and elements used for nuclear fission have been documented following reported landings of UFOs: Refer to the July 1998 issue of Popular Mechanics, pages 66 and 67, for the accounts at Bentwaters, England December 27,1980 and Hillsdale, Michigan on March 21, 1966. There is also documented evidence of radiation burns and sickness to some witnesses.

Explosion effects are the result of a single pulse while UFOs appear to continually generate EMP during flight.

The effects being limited to distance from the UFO and the time of encounter. Many reports of feeling or hearing radio static electricity indicates free electrons are being released or generated by the UFOs. Observed sparks or small lightning bolts would be the result of momentary electrical potential differences between the craft and the ground. That is, they each have different electron densities so the electrons try to balance themselves out by forming a current to ground. Several incidents of witnesses being "paralyzed" or "knocked unconscious" could easily be attributed to electrical shocks.

Plasma

Plasma sheaths or vortices are sometimes seen below or behind a moving UFO. Sometimes smaller plumes are seen above or around the edges. The description of the plasma is different than that observed with conventional rocket or jet engines: It is often of various rotating colors which may be brilliant or subdued, constantly changing or steady. There is evidence of massive heat damage with deeply scorched earth at landing sights and sensation of extreme heat by those witnesses caught beneath a moving UFO. Though heat is apparent, no blast force is noted as would be with rocket/jet type engines.

More unusual is the absence of sound (i.e., the distinct 'roar' of a jet engine in flight). Since the rapid expulsion of hot gases is the motivating force in rockets, the UFO plasma must be producing another type of force opposite or aligned to the desired motion of the craft. An interesting impression that some viewers have is that they seem to glow which may be attributed to the 'photoelectric effect' -- i.e., electrons impinging on a metal surface cause photons to be emitted.

Flight Characteristics

One consistently reported maneuver of disc shaped machines is "tilting" -- i.e.; tilting forward to move forward, back to stop, and "falling-leaf" or "silver-dollar" movement for deceleration. Rotation of the body must be a result of applied forces opposite the direction of rotation. This may be an internal gyroscopic stabilizer during low thrust (to possibly prevent the vehicle from 'flipping' because of electromagnet field alignment). It may also be the result of external repulsive forces rotating in the opposite direction.

High-angle ballistic trajectories with explosive acceleration along with these flight characteristics have been thoroughly researched and demonstrated by Paul Hill. They have been found to be efficient means of movement in a disc-shaped machine with repulsive force emanating from its base. A curious phenomenon has been "ground-hugging" (following the contour of the Earth for no apparent necessity).

The machines are also capable of G-maneuvers beyond jet aircraft capabilities which has been supposed would mean **anti-gravity** is a necessity. Even currently used missiles can (by directional thrust) establish 20G+ turns. But applied magnetic fields can change force direction in milliseconds. Since it has been demonstrated that our human bodies are capable of withstanding up to 30Gs for one second, this would allow extremely quick maneuvers if the technology permits.

Our limitations, however, cannot be applied to the unknown lifeforms which pilot these craft. There are creatures on the bottom of our own oceans that withstand a constant 6000 pounds per square inch by using hydrostatic equilibrium! However, the visiting traveler may be from a much larger planet (perhaps like Jupiter with 2.5 times Earth gravity). The classic descriptions of some *ETs* with diminutive stature suggests an origin of higher gravity. A 6-G turn such as routinely done by military

pilots would be the equivalent of 15-Gs for them. The occupants' body structure may possibly be insect-like with an exoskeleton, making it resistant to even higher forces. Anyone witnessing a dragonfly catching his meals over a freshly mowed field can tell that high-G maneuvers are no problem for him! The point is made that:

Life is adaptive to whatever environment it exists, no matter how harsh or different than our own.

Building the Bridge

By applying the previously demonstrated physical and physiological pieces to current technology, I will venture a qualified guess on a possible propulsion mechanism.

A controlled **fission type reaction** with accelerated beta decay in an over-dense plasma could account for many of the observed effects. The purpose for such a reaction would be for the **separation of charged particles to create opposing electromagnetic fields.**

Already proven methods of plasma generation are with microwave heating and ionization (as is done in the VASIMR rocket) and cyclotron acceleration of ionized gas (different gases produce different colors when ionized). The densest plasmas would be from vaporizing high electron density solid sources (mostly radioactive isotopes). The reason being is that it takes 40 EV to ionize each atom. The separation of charged particles comes about naturally because of different speeds of acceleration during the ionization process, but are recombined to discharge as neutral in plasma rockets. But if the particles are engineered to be maximally separated then, ...

1. What is known as a "**deposition area**" could occur at the discharge opening under the spacecraft with rapid movement of electrons outward and the slower ions discharging a microsecond later. The high-energy electrons dislodge low-energy electrons in the Earth and atmosphere, which are quickly driven back toward the positive part of the plasma and a "time-varying current" is created.
2. Because the electron field is non-symmetrical, **electromagnetic pulses would be generated continuously as the plasma discharges.** The expansion of the EMP and plasma field is radial, which explains the efficiency of using a disc-shaped hull. **EMP** would be used to induce secondary currents in the hull of the spacecraft (electric fields would be concentrated at the sharp edges of a disc).
3. The internal magnets/EMP induced electric field imparted to the outer surface of the craft will oppose the generated plasma field below through Lorentz Force reaction providing the propulsion mechanism. The thrust generated will depend on particle density and discharge speed which determines the size and flux density of the fields. Because the electromagnetic field is generated at the speed-of-light ($\mathbf{v} = \mathbf{m}/\mathbf{M} \times \mathbf{C}$) and because the compression of the 2 fields at the conjunction will create large potential energy, aircraft/spacecraft speeds will be tremendously faster than the directional exhaust discharge of conventional rocket or jet engines!
4. The hope of any propulsion system is to be able to utilize external mass to conserve fuel. Electric fields will also be generated in the earth immediately below and the atmosphere around the discharge point. Therefore, the greatest propulsion energy will be made at ground level during takeoff where it is needed most and decrease with altitude.

5. As the released plasma cools and dissipates, the particles will follow field lines and increase the magnetic field strength of the craft and new plasma pulses. (UFOs frequently fly over power lines. The free electrons around them would accomplish this same purpose and give them a little "free power".) Solar flares and storms discharge vast amounts of charged particles and leads to the thought that these phenomena would be utilized to boost magnetic field levels considerably for an extra kick between star systems. The same electromagnetic field surrounding the hull will also protect the astronauts from the external radiation (a problem yet to be addressed by current technology).
6. While flying within atmosphere, the surrounding air molecules will become ionized for some distance. As the magnetic/electric field from the ship's hull comes in contact with the ionized air, it will "push" the air ahead of the flight path. This buffer will allow for almost frictionless high-speed atmospheric flight as well as eliminate re-entry heating of a spacecraft! A similar process is currently being developed by NASA for high-speed "scram jets". Because air pressure cannot build around the leading edges, no sonic boom would be heard (a common "I wonder how they do that" question).
7. Faster than light? If mass compresses and increases with speeds approaching light, the flux lines around such a system would compress and increase along with the mass of the ship. Since this would result in an enormously dense magnetic field (magnetic and gravitational fields react much the same), space-time would be displaced around the immediate area surrounding the craft.

I welcome and encourage all questions or comments (positive or negative) from interested readers. I also invite those interested in the more technical aspects of such a theory to further discussion.

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Works cited

1. The UFO Experience by Dr. J. Allen Hynek, copyright 1972.
2. UFO Reports Involving Vehicle Interference by Dr. Mark Rodeghier, copyright 1981
3. Synopsis of Unconventional Flying Objects by Paul Hill, copyright 1995
4. **Project 1947-EM Effects Catalog** by Mark Cashman, copyright 1997
5. EMP Directory for Shelter Design, Illinois Institute of Technology, April 1968
6. "Electromagnetic Pulse Problems in civilian Power and Communications": summary of a seminar held at Oak ridge National Laboratory sponsored by the U.S. Atomic Energy Commission and the Department of Defense/Office of Civil Defense.
7. Popular Mechanics, "Six Unexplainable Encounters": Jim Wilson, July 1998 issue.
8. Introduction to Plasma Physics and Controlled Fusion, Francis F. Chen, copyright 1984
9. The Feynman Lectures on Physics: Feynman, Leighton, and Sands, copyright 1965

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