How Do Planes Really Fly?
The Charge Field of the Earth

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It is a certainty of this world that we know how airplanes fly. Simple: It is the curvature of the wing. The curvature causes higher velocity of air flow over the top surface relative to the bottom surface, thus causing "lift." So look at the picture of the two planes in flight. Isn't something odd? How do planes fly upside down if curvature on the top surface of the wing is so all important? The new explanatory move has now become invoking the wing's "angle of attack" – also a wrong theory. As we shall see, the theory of lift is in disarray. What has been missing is an understanding of the *charge field* of the earth.

It is Miles Mathis, a rather hated critic of the physics establishment, who has pointed to the emperor's lack of clothes in the current story of lift and described the charge field alternative (MilesMathis.com).   In the standard model of lift, he notes, why the faster flow over the top surface should actually be the cause of lift has never been clear. Bernoulli's equations for fluid flows and pressure have always been part of the theory, but these are purely *empirical* equations – pure descriptions of fact. The equations are not a physical model of lift, no more than $e=mc^2$ is an actual physical model of how mass converts to energy. The long-standing standard model of lift insisted that a critical feature was "equal transit times." The top and bottom flows met in equal times, i.e., the top flow over the longer, curved, top surface moved faster, precisely meeting the slower flow along shorter surface of the flat bottom of the wing. This feature has now been discarded with nary a cough to bring notice to its rejection. Wind tunnel pictures destroyed it. A modified version of the old model holds that there is greater pressure under the wing, causing lift, and this is created by the shape of the wing (not the faster flow). But nowhere is it stated how shape of flow causes lift – there has to be some mechanism.

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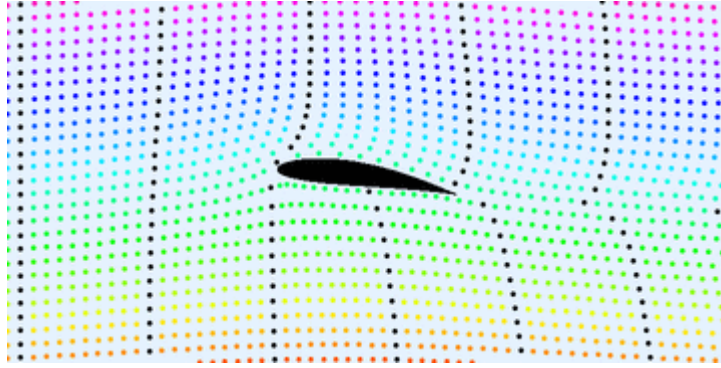
The Wiki Lift diagram

The diagram of lift in the Wiki entry [https://en.wikipedia.org/wiki/Lift_(force)] shows a greater density of dots under the wing, indicating greater pressure.   There are several problems embedded in this picture. First there are two surreptitious "helps" introduced:

- The wing is already angled. How did it already gain this slant?
- The little pressure dots are already rising *before* they hit the wing. Why?

We shall address the angle of attack issue shortly. There are more problems:

- As the wing can be turned upside down and there still be lift, lift cannot be due to the different lengths of flow via the top curved and wing bottom being flat.
- As the plane is accelerating as it takes off, the air is accelerating over the wing. So, there is greater speed of air flow at the rear of the wing, and thus there should be greater lift on the rear portion of the wing – thus a torque – thus tilting the plane downward. This does not happen.

The Wiki entry, it should be noted, states that a *symmetric* wing – a wing with equal curvature on both sides, top and bottom – generates zero lift at zero angle of attack. This seems to indicate that wing form is indeed important.   But the NASA discussion on aerodynamics [http://www.grc.nasa.gov/WWW/K-12/airplane/wrong1.html] states clearly that "zero lift for symmetric wings" is a myth, i.e., symmetric wings work quite well. The form of the wing as a critical piece of the theory is gone.

Angle of Attack

To solve the fact that wing shape is an ineffective variable, the appeal to angle of attack has become fairly ubiquitous. In the older version of the theory, angle of attack was only appealed to for explaining actual climbing, not lift itself.   The Wiki author, attempting to invoke Newton's third law (action/reaction), asserts that the wing exerts a downward force on the air and the air exerts an upward force on the wing. But using Newton, the force up simply equals the force down, which equals zero lift. We could get lift only if we tilt (angle) the wing, which indeed the diagram does.

Mathis notes that at AskaMathemtician.com, we are told, "Using the engines we have today (jets, etc.) you could fly a brick, so long as the nose is pointed up." One wonders firstly how far this simple appeal to raw engine power is supposed to extend? To Piper Cubs? To gliders? But secondly, this is the implicit appeal to angle. Yet, when a plane takes off, the wings are perfectly

level, not angled. Yes, suddenly the nose rises in the air, the wings become angled. But the nose did not rise just because the pilot pulled back on the wheel. The nose rose in the first place because of lift gained by increasing velocity.   Sheer velocity will cause a race car to rise off the surface of the Bonneville flats unless precautions are taken. Do we need to note that the car has no wings? Nor angle of attack?

One might argue that it is the pilot putting the flaps down that causes the lift. This is confusing cause and effect. The lowered flaps simply divert the lift that is already occurring to the front, instead of to all parts of the plane equally.

Jumbo jet taking off – with level wings!

Finally, if angle of attack is critical, shallow descents are impossible. As soon as the angle of attack goes negative, the lift would disappear and the plane would impersonate a stone. Lift has to remain hugely positive even during a shallow descent because it is still counteracting most of the weight of the plane. If lift goes to zero, we are left with only a down vector, and a fast crash. The problem is made worse with inverted planes which are supposedly relying *completely* on angle of attack for any lift whatsoever, and which are also capable of shallow descents.

The Charge Field

What has been missing, even for explaining the buoyancy of Bernoulli's liquid flows as we shall see, is charge.   The origin of the charge field is the Sun. The Earth is receiving this charge and recycling it throughout its entire body. Everything then is being partially lifted by charge all the time. Mathis computes that charge is .1% of gravity. Thus, with no charge, we would weigh .1% more. It is this charge field that keeps the atmosphere up. In this sense, the lift pre-exists.

We are taught that a column of air one square meter in cross section weighs 10.2 metric tonnes. This is *weight*, i.e.., it is a force vector *down*.   If there were really a ten tonne column of air above every square meter, nothing would rise no matter what its density – not little dust particles, not butterflies, not ions. In reality, the air mass has no net vector down.   It has mass, but that mass is resisted by charge. The charge field, like an inverse rain, is always rising from the earth. Though not strong, it is always a force vector up.

How then do we increase charge, therefore lift? By movement – with speed – at right angles to the charge field. The more charge we can pick up per unit time, the greater the lift. It is, as Mathis points out, like a version of the "raindrop problem" where the question is: do we get hit by

more raindrops if we walk or if we run? The obvious answer is: given *the same unit of time* – say, walking or running for one minute – it is the runner who is hit by far more raindrops. By running, we hit more raindrops per unit time. Similarly, the faster you are moving sideways to the charge field, the more charge you are picking up. A rocket, launching vertically from its precise, static location, picks up only the charge at that spot – it needs powerful, vertical thrust to rise. You must move through the field perpendicularly, like an airplane, to pick up charge.

Back to Buoyancy

The hitherto standard theory of lift made no appeal to angle of attack. The old equations, including the Bernoulli equations, expressed lift more by the buoyancy of air than by speeds at the top and bottom of the wing. These equations actually indicated that the speeds are an outcome of the equations, not the cause of them. Bernoulli's equations are equations of fluid mechanics, and all fluids, as Archimedes taught in the static case, have buoyancy. Bernoulli's equations moved buoyancy into the dynamic case, expressing transverse motion in a buoyant medium.

The Wiki diagram on buoyancy is thus very similar to a Wiki diagram for lift. If we add a thrust vector to get an object moving in the fluid and also note there is an effect of drag, buoyancy becomes lift. As with the raindrops, when we have motion, we get more buoyancy because we get more lift per unit time. Speed multiplies buoyancy. The explanation from fluid mechanics and the Bernoulli principle has obviously served for correct calculations, but buoyancy itself must be explained. Bernoulli's equations took the properties of fluids as a given; as noted, the equations were/are purely descriptive – empirical. What is missing is a physical model, a mechanical explanation of buoyancy – why are fluids and gasses buoyant, why do they resist compression, etc.?

The Wiki entry on buoyancy notes that buoyancy is a force exerted by a liquid, gas or other fluid that opposes an object's weight. It goes on to note that a column of fluid experiences greater pressure at the bottom due to the increasing pressure, i.e., just like the column of water, a *weight*, and this "difference in pressure accelerates an object upwards." Why? Why if the column exerts pure downward force on an object at the bottom of the column? Where does the upward force actually come from? This hidden garble permeates these explanations of both lift and buoyancy.

The force vector upwards is charge. Mathis has shown that the charge field has an upwards acceleration of $.009545 \text{m/s}^2$. Via collisions, the charge photons push small ions upwards into the atmosphere. This, he argues, is what causes atmospheric pressure, since as the photons keep the air up, they do so by collisions, and the collisions create kinetic energy as well. This is also what keeps up the atmosphere, the clouds and all fluids and gasses energized and resistant to compression. While the standard, current answer to the non-collapse of the atmosphere is kinetic energy driven by heat from the sun, this is clearly at best a small component, else the atmosphere would collapse at night or even in Wisconsin winters. Rather, it is charge coming up out of the Earth.

It was noted above that the air speed above and below the wing (the speed differential) is the effect of the lift, not the cause. The plane's wings are *blocking* the uplifting charge and air, in turn creating a pocket above the plane of somewhat less charge and somewhat less air, in turn a pocket of lower resistance or friction such that the air moving sideways can travel faster through that pocket. This does create a bit more lift, though it is not the primary cause. The air is moving faster over the top wing surface because there is less density above. In terms of cause, this is the reverse of the standard model.

Aligned Phenomena

The concept of wings blocking the rising charge is key. In the old days, it was known that certain tree woods were especially good for lift. The WW2 Horton German flying wing used wood and graphite to increase lift. This was not for radar or other stealth purposes as claimed. The English Mosquito used birch and balsawood in layers.   Other WW2 era planes had wings that were copper-clad because these produced the highest lift.

Wood creates lift due to charge blocking. When a tree dies, its channels are closed, therefore stopping the upward flow of the charge stream normally used for the upward flow of nutrients. Given the normal wing layout of the wood, the charge channels are locked in the perpendicular position, and charge travelling through the wood will have to take many circuitous paths. As the charge path is greatly lengthened, we have a temporary blocking of charge, and hence more lift.

Copper and graphite have the same explanation. While copper normally conducts, seemingly then being be bad for lift, the wings have only a thin layer of copper. Again, the copper is arrayed perpendicular to the Earth's rising charge field. The charge will be flowing along the wings, say, left to right, while the Earth's field is moving up. So once again the copper is forcing the charge to move in longer paths, creating blocking. Were the copper sufficiently thick, conducting the charge vertically, it would indeed interfere with lift. Graphite too is for charge blocking.

Laithwaite's gyro on a hinge.

Gyroscopes are also of interest here. One can easily find Youtubes of Professor Eric Laithwaite demonstrating the near "anti-gravity" properties of gyros. Take a gyro attached to a horizontal rod by a hinge such that the gyro normally flops in a vertically down position. The gyro rises up on the hinge mysteriously when in a high revolution state – near level with the horizontal rod – defying gravity. This phenomenon is currently unexplained save by back fitted double summersaults – misleading math and incoherent appeals to force vectors. As Mathis notes, what is happening here is that a spinning gyroscope loses weight because it recycles more charge. Just like the proton, the nucleus and the Earth itself, the gyroscope recycles from its pole to equator. When it is spinning fast, it pulls charge in at its south or lower pole, feeding on the Earth's rising charge. But this charge can't go straight through and out the north pole since

angular momentum is forcing it sideways and out the equator. So again, the gyroscope is effectively blocking the rising charge stream, forcing it out sideways and into longer paths. This is what causes the lift and thereby the weight loss.

The incoherent state of the current theory of lift and the refusal to consider an outsider such as Mathis is indexical of the current state of science – its lack of progress on gravity for over 100 years (ever since the supposedly decisive General Theory of Relativity), its appeals to fictional "gravity waves," the absurdity of the ever proliferating "black holes" – minis, micros, intermediates, super massives, ultra super massives, and on. Perhaps, by moving towards real, concrete models of physical forces, not just abstract mathematics, our science will receive, well, a bit of "lift."

Update…2020…

Well, interesting... It seems standard science is now admitting there's a problem…

https://www.scientificamerican.com/article/no-one-can-explain-why-planes-stay-in-the-air/