

A summary follows, of a dialog with a GC agnostic(HC-FP) who is confused by the Foucault Pendulum(FP) test results [http://en.wikipedia.org/wiki/Foucault_pendulum] and bases his epistemology on Aristotle, Aquinas and modern scientific heliocentrism(HC).

Greetings, HC-FP

It is certain that you deserve to know the truth.... which will certainly make you free....

First let's consider the MainStream HelioCentric scenario...

The Foucault Pendulum(FP) 'appears' to rotate because the Earth is rotating and the FP is merely maintaining its orientation with respect to the stars while the Earth rotates beneath it.

We ask immediately – how does the FP detect where the stars are, the pole star or any others that would correlate their orientation with the position of the FP's plane of oscillation?

The consensus of MS physics is that there is a vacuum in space – no aether medium to transfer information like position or rotation.

This violates a scholastic axiom that St. Thomas held strongly – that every effect has a cause.

Then what is the cause of the FP's sensing of the star's position, when the nearest are light years away from us?

If you were asked to duplicate the FP's motion using your body to define a vertical plane, how would that play out?

Well, you would see where the stars are and rotate accordingly.... But the FP has neither intellect nor senses; it cannot sense starlight, as you can.

The MS HC explanation above violates causality, by ignoring the lack of a credible mechanism to lock the fixed stars to the FP's vertical plane.

Now, the GeoCentric analysis.

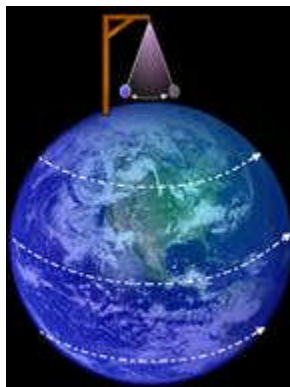
Just as the Earth is surrounded by an atmosphere, it has been also been found that a rotating aethersphere girdles the stationary Earth. The aether rotation rate was measured by Michelson & Gale in 1925 [<http://articles.adsabs.harvard.edu/full/1925ApJ....61..140M>] and incorrectly attributed to the rotation of the Earth. The aether and the stars embedded in it rotate around the Earth exactly 366.000 times each year. Other tests supporting the aethersphere are the GPS corrections for East-West signal speed and the difference in transit time for radio signals sent East => West.

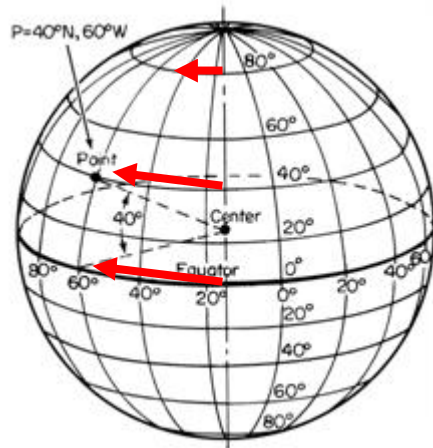
The Michelson & Gale test interpretation had the same logical fallacy as the FP explanation - acausal effects. How could a light beam traveling in a near-vacuum circuit within a pipe ever sense that the world was rotating outside the pipe? On the other hand the aethersphere rotation accounts for all the inertial rotation forces of Newton – Coriolis and centripetal.

[btw: it also accounts for the equatorial bulge. The aether flow is greatest there and zero at the poles. Bernoulli's principle says the lateral pressure on the Earth's surface is least where the fluid speed is greatest.]

FP is just another demo of the aether in motion, predicting all of the observed planar motions.

Consider that the FP period T depends on latitude: 23 hrs, 56 mins at the poles and no rotation at the equator.





The results of the Michelson-Gale exp. can be read as supporting an aether rotating westward at every latitude every 24 hours (minus 4 minutes). The aether's speed can be modeled as dependent on the distance r from the surface to the polar axis (see above)

$$\text{Aether speed} = V(r) \sim 2\pi r/T$$

Consider applying this aether speed to the extreme ends of the FP swing if the vertical plane is oriented N-S.

- At the equator the FP plane will not rotate both ends have the same westerly speed due to the aether wind. R will equal the radius of the equator in the above formula, for both N and S end of the swings.
- At the poles the ends will have opposite sense of rotation and will display the actual daily aether period.
- At mid-latitudes in America the southern endpoint will have slightly more speed than the northern endpoint, being slightly further from the aether's axis of rotation than the north end swing, so the FP will feel a CW torque, as actually observed to occur.

The FP rotation is not rationally explained by a rotating Earth, but by a rotating aether around a static Earth.

Conclusion: The Foucault Pendulum cannot show the Earth's rotation without a physical cause/medium connecting the stars to the pendulum.

The rotating aethersphere found by Michelson-Gale et al. does provide a logical cause, and matches all the FP details observed.

[HC-FP] Isn't it true that a pendulum does not "lock onto" stars but rather is simply rising and falling in response to gravity.

[ROBERT B] An ordinary pendulum has only an oscillation in a fixed vertical plane of vibration. Under the special sensitive conditions of the FP (no air currents, large swing and period, added energy boost) the FP plane can also rotate CW in the northern hemisphere.

Gravity and conservation of energy cause the rise and fall within the vibration plane; aether causes the additional anomalous rotation of the plane.

[HC-FP] (I say this although I don't really understand gravity, since it sounds to me like action (force) at a distance, with nothing clearly transferring a "pull" between the earth and the pendulum's weight. (Gravity and magnetism have always seemed problematic to me, according to Aristotelian physics.)

[ROBERT B] NO ONE understands gravity at a fundamental conceptual level. Newton's theory describes the expected result of measurements, but not the why and how of the gravity mechanism.... the root cause of its obvious effects.

Action at a distance (AAAD) is another acausal fallacy ignored by MS physics. How does an object above the Earth's surface sense where the Earth is, in order to fall in that direction? Or how fast to accelerate, without an intermediate – a medium of communication?

Denial of the aether and its causal role would – or should – get MS arguments laughed out of science court.

[HC-FP] The geocentrist explanation of the pendulum's twisting motion using the Bernoulli effect is very interesting! I need to learn more about aether.

[ROBERT B] So do we all.... If physical world events are like the Super Bowl plays, then the aether is like the arena in which the game is played.

[HC-FP] So are you saying that aether is a material force which physically pushes the pendulum ball to cause its slow twisting motion? Are you saying that somehow the aether wind blows through the walls of the building unperceived but then pushes the pendulum weight inside the building, to give it the twisting motion?

[ROBERT B] Since the aether is ubiquitous, yes. It's probably better to say that the FP bob is carried along/dragged/entrained by the moving aether, like a floating log in a river, rather than saying aether is a force pushing objects. But that's a fine point.

[HC-FP] You specify that the (hypothetical) pendulum in the U.S. is swinging north-south and, as I understand it, you say that an aether wind is blowing faster on the south end of the pendulum

[ROBERT B] in the northern hemisphere

[HC-FP] and this faster aether wind (on the south side of the pendulum) is therefore pushing harder on the pendulum weight when it is on the south end of its swing, as compared to its north end. Is that what you're saying?

[ROBERT B] Prefer 'dragging' to 'pushing', but yes.

[HC-FP] Suppose Foucault's pendulum is swinging east-west. What accounts for the twisting action then? Is it the aether wind pushing harder on the south side of the pendulum weight? No, that can't be what happens since that would not account for the twisting motion of the pendulum a few hours later. Please explain.

[ROBERT B] The FP is very sensitive to the initial starting conditions and the environment. Some set-ups don't work, or work poorly. Starting the swing plane N-S is optimal, as stated above. There is no torque/twist on the FP in an exact E-W initial plane, so the aether model predicts the FP will not rotate in an E-W starting position. Why do MS physicists hold illogical positions like actions without causes? Or interactions at distances separated by nothing? Even Aristotle knew that "From nothing, comes nothing".

[HC-FP] it seems to me that the Heliocentrics would have no trouble with your rhetorical question because they would say that the FP does not know where the stars are and does not need to know. The FP simply stays in the same plane (as the earth twists underneath it) so there is no need for the FP to lock onto any stars.

[ROBERT B] If the FP simply stays in the same plane then it should not rotate at all, contrary to experiment. Adding "(as the earth twists underneath it)" indicates that the FP is aware of/senses 'it', the distant stars orientation.

The first HC statement says the FP needs no reference frame.

The second HC statement says the FP refers its orientation to "it", the distant stars.

This contradicts the first HC statement of stellar location agnosticism. Please indicate why the HCs are contradicting themselves.

Your agnostic HCs are quite different from my colleagues – at least mine acknowledge causality, though they cannot explain how the FP and stars are allegedly linked.

Here's a Dartmouth prof who says the fixed stars knowledge by FP is an unproven conjecture.... more philosophy than physics. See end of tape: <http://www.physicsforums.com/showthread.php?t=411074>

Hm..Is he admitting that modern physics operates outside the limits of philosophy/logic? If so, I agree.

Some other quotes from HC statements found on Net:

1. *the plane of oscillation of a pendulum remains fixed with respect to the fixed stars while Earth rotates underneath it*
2. *The Pendulum will swing in a plane that is fixed relative to the distant stars (or The Rest Of The Universe),*

3. How does the Foucault Pendulum "know" to ignore local motions, and line itself up with the distant stars? Some reputable physicists say that we really don't know.

The first 2 are mere descriptions of behavior, not logical explanations of cause and effect. The third paraphrases my question.... Some physicists don't know (Gee, all my MS colleagues know everything!) ... and the others don't say anything, ignoring the question.

For the HCs who do believe in causality:

Ask how does the FP sense to rotate with the distant stars, but not with the Sun, the nearest star? Why is the Sun – which is a star - excluded?

Ask why the distant stars are used as references by FP and not the nearest?

If the FP need not sense the stellar configuration then why is the correlation of rotation with the 'fixed' stars but not some other cosmic object, like the Moon, the closest?

How can the stars have intrinsic proper motions, yet be fixed?

How can the galaxies all be expanding from us and each other, yet be fixed?

The first 3 causal axioms of Scholasticism are

1. Whatever exists in nature is either a cause or an effect (*Contra Gent., III, cvii*).
2. No entity can be its own cause (op. cit., II, xxi).
3. There is no effect without a cause.

Why is the FP's ignorance of where the stars are, yet still knowing their rotation period, not irrational, contrary to axiom 3 - an effect without cause?

Please tell me their responses to these queries.

[HC-FP] The Heliocentrics would add that the FP simply swings back and forth with no side-to-side push, to push it out of this original orientation/plane. Please tell me your response to that.

[ROBERT B] If the Earth is rotating – as in the HC mindset - the FP swings will be subject to a sideways Coriolis push, using Newton's laws.

Please indicate why the HCs are allowed to contradict Newton, who says there is a sideways push.

[HC-FP] Are you are saying that in North America if you start a FP in an exact East-West initial plane, that it will not twist at all and will continue in that same plane?

[ROBERT B] Theoretically, if the aether flow is exactly as modeled....but -

Michelson-Gale measured only the approximate variation in latitude.

GPS only accurately measures the aether period, not its intensity.

A prior post is worth recalling:

"I need to learn more about aether.

[ROBERT B] So do we all..."

Certainly more precision is needed to determine the E-W starting motion.

If a pencil's center of gravity is directly over its point, it will not fall – in theory.

In reality, with ambient micro-perturbations, it will always fall.

[HC-FP] does that mean that the push/drag/twist on FP is weaker near the exact east-west plane? ...is there a slowing down of the speed of the push/drag/twist near the exact east-west plane?

[ROBERT B] There's an unknown factor, the variation in aether density/intensity/pressure. This would affect the strength of the FP motion. Another factor is the effect of aether on matter. The Mic-Gale test and GPS operations involve the effect of speed on light, not matter. The predictions are qualitative, not quantitative.... yet.

[HC-FP] I agree that there is no effect without a cause.

... if there is a flat surface and I roll a ball on it, parallel to the wall boarding this flat surface on one side, must the ball sense (or know or be aware of) the wall's position in order to continue in a course parallel to the wall?

[ROBERT B] No. As with the FP's anomalous motion, the ball's orthodox linear path is explained by local aethereal entrainment.

[HC-FP] what I understand you to say is that FP and the ball rolling, both stay on course because of the aether entraining it, i.e., an aether wind is surrounding it and carrying it along like a log carried by the current of a river.
[ROBERT B] The aether wind also penetrates everywhere within the referenced objects(ubiquity).
Despite the gainsaying, you do understand the analogy very well.

However, the aether river you are positing is not flowing in every direction and yet this ball can be rolled in a straight line, in any direction. Although I think it is true that there is no void/vacuum no matter how small (Aristotle's Physics, Book IV), I do not see a reason why there is any need to posit a cause for the ball or the pendulum not changing course.

[ROBERT B] Motion is change and change demands a cause.

[HC-FP] It seems to me that it does not change course because there is no cause exerting itself upon the ball (or pendulum) to cause a change in course. Similarly, there is no need to posit a cause (it seems to me) why a ball is at rest and not moving. A ball is not moving because no cause is making it move (Aristotle's Physics, Book V). Thus, whether or not the ball or pendulum is entrained in aether, I don't see this ball's (or pendulum's) continuation in one direction as requiring a cause.

[ROBERT B] *Metaphysics* offers more relevance in Libro 5:

"How is everything to be set in motion, unless there is actually to be some cause of movement? Matter is not going to set itself in motion - its movement depends on a motive cause."

"Nothing in fact will be moved by chance - but some causal factor must always be present. In our world, something will undergo natural movement in one way and enforced movement in another."

Here is the erratum. A FP or ball at rest requires no explanation, as there is no motion. But both demand a cause for their movement, as the aether's motion provides. You are apparently confusing lack of motion with motion lacking a visible cause.

It cannot be denied that the FP and ball are moving.....

The ALFA model - Absolute Lab & Flexible Aether – at [<http://alfachallenge.blogspot.com>] explains the ball's linear movement thus:

The ball was set in initial motion by a separate mover.

The ball's motion from rest dragged aether with the ball, in the same direction, as a boat would drag water with it. The co-moving aether sustains, as a persistent cause, the ball's motion in the initial direction, as a boat's motion would be sustained by its own wash, after the motor is stopped. The aether is in fact the true source of inertia, whether in resistance to starting motion, or to stopping it!

Aristotle said that motion demands a reason; Newton(First Law) and Galilei said that constant linear motion requires no reason. Aristotle was right... When you mess with the best, Isaac, you'll fall like the rest!

In the last quote from Aristotle motional causes are distinguished into natural(water in a river, whirlpool or Gulf Stream) and enforced(paddle or propeller) motion. Aether types in the ALFA model are the same!

What a great mind was The Philosopher.... Imagine Aristotle alive today...

[HC-FP] What I do see as requiring a cause, but which I don't understand, is how projectile motion continues after the ball leaves the contact with the cause, e.g., the man rolling the ball. This is a problem with Aristotelian Physics (Book V) which I have never solved. However, I don't understand how an aether theory would help on this issue.

[ROBERT B] You have been exposed above to our Best Current Thinking on the aether solution to this problem. Let us know what still is unclear.

Btw: There is a pile of old business still outstanding.... The queries to the HCs in reply to your initial questions are unanswered... see prior posts

[HC-FP] You say: The aether wind also penetrates everywhere within the referenced objects(ubiquity). I hold that two bodies cannot be in the same place at one time and that therefore it seems that, if aether is a body, it cannot penetrate where other bodies are in place and is not everywhere.

[ROBERT B] Aether is not a body.

[HC-FP] You say: Motion is change and change demands a cause.

I agree that motion is a type of change. However, if a ball or pendulum does not change course, then it does not need a cause for staying in the same course.

[ROBERT B] Here is the conflict --- motion is a change in position with time – at least in physics it is. Both the FP and the rolling ball satisfy this definition.

Your sense that a certain simple pattern, like pendulum oscillations or linear translation, is not motion would be denied by Aristotle and all MS/HC scientists that I know – and by myself.

[HC-FP] Of course, as I said previously, “What I do see as requiring a cause ... [is] projectile motion continu[ing] after the ball leaves the contact with the [initial] cause, e.g., the man rolling the ball.

I think that what Aristotle says in Book V of the Metaphysics, as part of his fresh start after examining the views of other, is fully consistent although is not Aristotle’s full treatment of the issue, which is contained in Physics Book III. As I understand it, this is why Book V of the Metaphysics is only a brief summary of this and many other points that he proves elsewhere. Likewise, what Aristotle says about chance in the Metaphysics (which you quote), he proves in his full treatment of what chance and fortune are (in Physics Book IV, if my memory serves me correctly).

I agree that motion requires a cause, as I say above and as Aristotle proves in Physics Book III. However, we were talking in particular about the HC view that the pendulum need not be aware of the positions of the stars in order to stay in the same plane. Since HCs would say that FP stays in the same plane, with the world twisting below the pendulum, there is no need for any cause of the FP continuing in that same plane, since that continuation in the same plane is not a change. Thus, the HCs have no need for FP to be aware of the location of the stars, as you said it did.

[ROBERT B] What you call an HC view is inconsistent even with mainstream positions.

Please cite HC scientific views that do not associate the FP motion with the distant stars or the far universe. Or claim the FP has no need of a cause for its motion.

This is covering the same ground as before, mainly because there are unresolved issues and unanswered responses pending.

Here are my prior inquiries still outstanding:

...The first HC statement says the FP needs no reference frame.

The second HC statement says the FP refers its orientation to “it”, the distant stars.

This contradicts the first HC statement of stellar agnosticism.

- 1) Please indicate why the HCs are contradicting themselves?
- 2) Ask the HCs how does the FP sense to rotate with the distant stars, but not with the Sun, the nearest star?
- 3) Why is the Sun – which is a star - excluded?
- 4) Ask the HCs why the distant stars are used as references by FP and not the nearest?
- 5) If the FP need not sense the stellar configuration then why is the correlation of rotation with the ‘fixed’ stars but not some other cosmic object, like the Moon, the closest?
- 6) How can the stars have intrinsic proper motions, yet be fixed?
- 7) How can the galaxies all be expanding from us and each other, yet be fixed?
- 8) Why is the FP’s ignorance of where the stars are, yet still knowing their rotation period, not irrational, contrary to axiom 3 - an effect without cause?
- 9) If the Earth is rotating – in the HC mind - the FP swings will be subject to a sideways Coriolis push, using Newton’s laws, conflicting with the claim that the FP feels no sideways push. Please indicate why the HCs are allowed to contradict themselves.

[HC-FP] However, your explanation of projectile motion is very similar to Aristotle’s explanation (Physics Book III, if my memory serves me correctly) that the air around a projectile comes around the back and pushes the projectile. I am respectful of everything Aristotle says but have not (at this point) seen that he is correct (or that you are correct with your aether pushing from behind theory).

[ROBERT B] Aristotle differs with ALFA in 2 ways:

- 1) It’s AETHER, not air, that explains horizontal projectile motion.

2) Aether doesn't circumscribe the projectile and then push it. The aether within the projectile is set into motion by the launcher and continues to carry the projectile in the initial direction. The analog is a log floating in a river, where the log moves as if part of the surrounding water (technically, convection). "aether pushing from behind" is an ALFA strawman.

[HC-FP] For starters, I don't see that a boat's motion is sustained by its own wash nor that a boat drags water with it. I do see that water rushes in to fill the place from which the boat departed.

[ROBERT B] The bow wave shows that water is being dragged along with the boat. Take a boat ride and see!

[HC-FP] Your explanation and Aristotle's explanation on this point does not seem to fit with my observations, which suggest that a boat has a greater difficulty pushing water (ahead of it) out of the way, than any supposed benefit received from water pushing from behind.

[ROBERT B] Where did I state otherwise?

Never said water pushed from behind.

[HC-FP] I don't see Aristotle's (or your) position is true, although I also do not know how projectile motion does occur. I agree that all motion must have a cause during the entire course of the motion until it ends. Thus, I can't explain the cause of continued projectile motion but it does seem that Newton's 1st Law is wrong in denying the need for a cause.

[ROBERT B] Denial that something moving is in motion is problematic – a formidable obstacle to any understanding.

[HC-FP] You say: motion is a change in position with time

I don't use that definition nor do I hold it is a good one.

I do not say (nor did I say) that a swinging pendulum or a rolling ball are not in motion, nor did I say that they do not need a cause of their motion. Further, although they need a cause of their projectile motion, (it seems to me) they don't need a cause why their motion continues on the one linear course. That is, it seems to me that FP does not need the stars to keep going in the same plane.

[ROBERT B] Whatever common ground there was in our positions is rapidly disappearing. How can separating motion and speed be justified?

With respect to the earth the course/path of FP plane rotates and the rolling ball does not. Yet it is said that their motion continues on one linear path.... The FP plane clearly does not.

It's also clear that it is pointless to continue ... that certain moving objects are not in motion is an indefensible and logically inconsistent position. The dialog now seems to be directed at ignoring challenges to HC beliefs and unique personal definitions and observations as a basis of equivocation.