

### Is the Cavendish Experiment really a valid experiment of gravity?

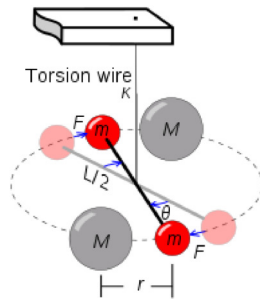


Michael Brenner

Studied Mechanical Engineering & Comparative Linguistics at Vienna University of Technology · 3y

When you go to the market to buy an apple and the vendor puts it on a scale which never comes to rest, but still claims he has measured the weight of the apple to the **50millionths part** while watching the scale in full swing, you will just turn around, leaving him standing as the fraud he is.

When Cavendish does exactly that, the world accepts it with applause, awestruck by his performance. The Cavendish experiment is NOT a measurement of weight, it is not a torsion **balance** because the scale **never balances**, that is, never reaches equilibrium:



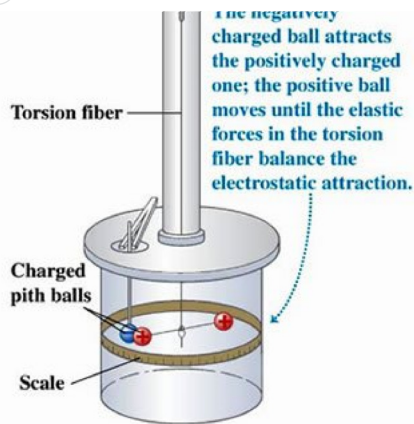
*"Actually, the rod was never at rest; Cavendish had to measure the deflection angle of the rod while it was oscillating." 1798*

So what Cavendish got was a torsion **pendulum**, not a balance. The amplitude of the swing was 4mm, but he had of course no idea where exactly the two forces really balanced out - simply because they never did.

This is in stark contrast to how Coulomb operated his **actual** torsion **balance** in 1777:

*"If an unknown force is applied at right angles to the ends of the bar, the bar will rotate, twisting the fiber, **until it reaches an equilibrium** where the twisting force or torque of the fiber **balances** the applied force. Then the magnitude of the force is **proportional to the angle of the bar.**"*

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(a) A torsion balance of the type used by Coulomb to measure the electric force

As the Cavendish experiment represents a **dynamic** situation where masses never come to rest, the **law of inertia** totally destroys any validity of the outcome:

Law 1: "Every **body persists** in its state of being at rest or of **moving** uniformly straight forward, *except insofar as it is compelled to change its state by force impressed.*"



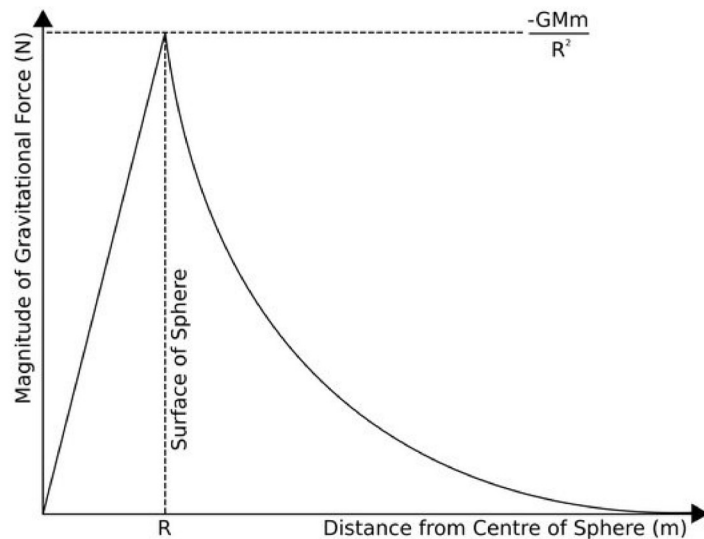
stop and re-accelerates it in the other direction, where again they will overshoot and the whole dance repeats..... if it never reaches an equilibrium, you have no idea what you are measuring.

$F=k\theta/L=GMm/r^2$  Here, if you don't have a stable reading for  $[\theta]$  you have nothing.

This overshooting is directly reflected in the result: the **calculated** density of earth with  $5g/cm^3$  is some 80% higher than the **actually measured** density of  $3g/cm^3$ , which then has to be compensated for with a fictitious "dark" dense mass in the center of the earth.

*"The result of  $5.4 g/cm^3$  is 80% higher than the density of the Earth's outer crust, suggesting the existence of a dense (iron) core."*

BUT, a solid iron core embedded in the liquid mantle of a rotating sphere is a complete dynamic impossibility, nothing would hold it there, as gravity at the center of a body is zero:



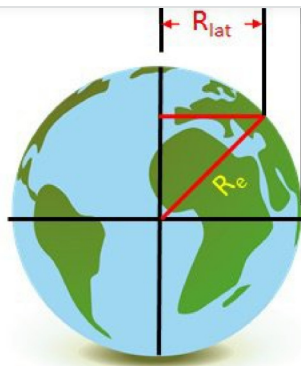
On the contrary, because a rotating vessel containing viscous materials is per definition a **centrifuge**, all heavier mass particles will want to wander towards the periphery, and not towards the center, driven outward by the inertial force per unit mass  $F/m=\omega^2r$ .

Again, Cavendish claims to measure with this swinging setup 0.000000174N, which leads to the postulate of an even less number ironically called "big"  $G=0.0000000000661$ ..... that is so far beyond reasonable, it is mind numbing. When this fantasy number actually met the really big guys - i.e. Galaxies - in the 1930ies, it became obvious what a scam that "measurement" really was, but hey, we never admit anything, we just move forward with postulating new dark stuff which again cannot be verified, as well as very conveniently not be falsified: how do you falsify something that cannot be directly accessed?

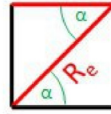
While we are in the swinging business, let's have a look at another showpiece: the **Foucault pendulum**, as Cavendish and Foucault are two of the most popular arguments supporting accepted notions about the condition and motion of our earth.

Right off the bat: all modern exhibition pieces are driven in order to make sure the audience always gets the right "impression". When you look into accounts of historic non-driven pendulums, you will find their behavior is all over the place, rotating wrong direction, wrong period, erratic altogether, in short very unpredictable. And that is only to be expected, because a long wire moving through air will inescapably be set in micro-vibrations which will influence the swing. Sometimes it was just a matter of switching the same wire end over end and the direction of precession would switch too.

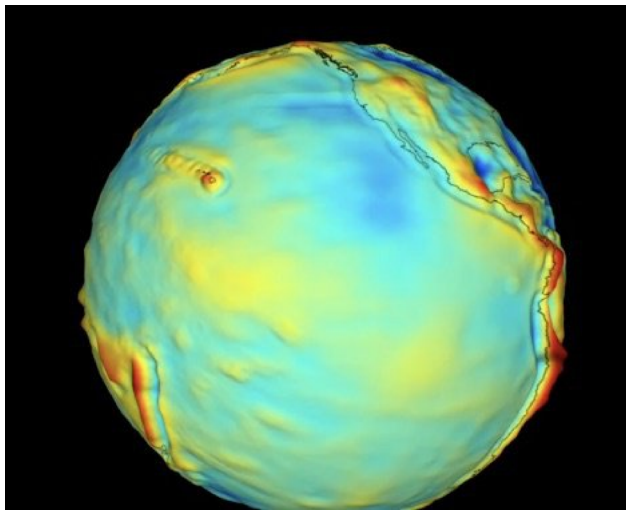
Apart from that, what such a pendulum would really show is the asymmetry between **radial** gravitational acceleration  $g=GM/r^2$  and **axial** rotational acceleration  $a=\omega^2R\cos\alpha$ . This asymmetry is NOT observed, wherefore the whole exercise is certainly not showing what it is said to show, but clearly shows what nobody wants it to show: absence of sphericity as well as absence of rotation



$R_{lat} = R_e \cos(\alpha)$   
where  $\alpha$  = latitude



And while we are talking rotation: we know experimentally how freely rotating objects behave: they will always adjust their rotational axis to the minimum energy state, that is, they will always rotate with maximum momentum. In case of a freely spinning earth with viscous interior allowing for the dissipation of energy, the rotational axis will be such that the land masses are spread out over the rotational equator: is this the case? does the rotational axis of earth go through the Pacific? clearly not, and thus the earth cannot be a freely spinning ball.



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Richard Russell · 3y

Thanks for the amusing collection of flat earth fails in one answer. Not worth taking it apart, if anyone has questions about any of it, I recommend asking someone who actually knows something about science to explain. Happy to give it a go, or [\(more\)](#)



7



Reply



Steven Spielman · 3y

I think his interactions with professors went like this: MB: "For the mass going in a circle, it really seems to me that the acceleration is outward. But that leads to contradictions." Professor: "Michael, come by office. I can clear this up in [\(more\)](#)



2



Reply



Samuel Turnberg · 3y

Lmao thats a lot of words to say "I don't understand physics."



5



Reply





threads to prove the point in case you haven't seen :-)



Reply



**Richard Russell** · 3y

For those following at home, you, like most undergraduate physics classes, can actually test these claims yourself: 1. How to do the Cavendish experiment - you'll find that with the right equipment, you can measure a reasonable approximat (more)



8 Reply



**Michael Brenner** · 3y

Repeating a card trick at home doesn't make the fact go away that it is a trick, basically a lie. Nobody will keep you from lying to yourself.



3 Reply



**Zero Elevation** Yes, all experimental evidence is a card trick to you, math is not physics,...



**Zero Elevation** · 3y

Oh, some new content to discuss? I see some of my points here, really great! And again completely into the wrong throat, as we say in german. The first big statement: "BUT, a solid iron core embedded in the liquid mantle of a rotating (more)



5 Reply



**Michael Brenner** · 3y

In your avalanche of rejection as usual are buried the key words to your world: "conclusion" and "useful": so all conclusions that are of no use to you - i.e. all conclusions that are non-confirmatory - will be rejected and your world k (more)



3 Reply



**Richard Russell** Speaking of following where evidence leads, which evidence convinces you...



**John Noble** · 3y

You're a little unclear. Do you believe gravity exists, but we just don't have a good measure for it, or do you not believe that gravity exists at all?



1 Reply



**Michael Brenner** · 3y

Nobody will dispute that apples fall to the ground, and if you want to call that gravity, that's fine. But everything that goes beyond measuring the rate at which the apple falls is a theoretical superstructure of very little use if you cannc (more)



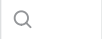
1 Reply



**Zero Elevation** Did you find a new victim for your debunked stuff? Is that your tactics? What...



**Zero Elevation** · 3y



usual. it is related to string theory guesses and had nothing to do with Zv (more)



Reply



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About the Author



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