## The Dzhanibekov Effect

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If you aren't familiar with this mystery, <u>go to this Youtube video by Veritasium for an overview</u>. In short it concerns a spinning object behaving strangely—flipping every few moments for no apparent reason. It had been known for many years, but in 1985 it was rediscovered by a Russian astronaut, who saw a wingnut spinning in a micro-gravity environment. It also hit the physics journals in the form of the tennis racket theorem, and many tried to solve it mathematically with an "intermediate axis theorem". The math is extensive, but we won't need to get into here, since I will show it is wrong from the foundation.

Back in the 1970s Richard Feynman was asked if there was an intuitive explanation of the phenomenon and said no. But Terry Tao offered a fairly short explanation of it in 2011, and Veritasium tries to sell it to you as correct. It isn't.

We know that, because more experiments in micro-gravity falsified the intermediate axis theorem, and Veritasium kind of admits that. He just doesn't admit he is admitting it. Or doesn't see that he is admitting it. Where does he admit it? At minute 11:20, where he shows the cylinder on the Space Station spinning about its *first* axis begins wobbling. Not its intermediate axis, its first axis.

Another place to key on in Veritasium's video is at minute 1:15, where he says that the flipping *wasn't* caused by torques applied to the wingnut, since there weren't any. But neither he nor anyone else has ever demonstrated that is true. Everyone has just **assumed** there aren't any uneven torques applied here, since they can't see any or think of any. Since they can't see them or imagine them, they must not be there, right? Well. . . no. That has been one of the primary mistakes of 20<sup>th</sup> century physics, and we see it again.

Since there were no obvious torques here, the mathematicians went to work finessing equations to *create* the necessary inequalities internally. They have been doing this for many centuries, most notably since Laplace and others fudged Newton's equations to include "remaining inequalities". I have proved what a mathematical catastrophe that was, leading to action and many other sleights of hand. Not surprisingly, these tricks or others like them are also used in the fake intermediate axis solution.

Many will ask how I can question the great Terry Tao, winner of the Fields Medal. But those people don't know me very well, do they? I know not to bow to Terry Tao on anything, since I know that if he were as smart as he claims to be, he would have discovered a lot of the things I have. Instead he is most famous for the Green-Tao theorem, which states that the sequence of prime numbers contains arbitrarily long arithmetic progressions. And? That's it. That's what he's famous for. Plus, he is a MacArthur Fellow, and I showed a long time ago all those people are promoted frauds. Like Edward Witten and many others, he has never solved a real physical problem or even been near one. Tao was a promoted child prodigy, but we know how meaningless that is: not one of these child prodigies has ever grown up to solve any real problems. And their promotion normally turns out to be due to ambitious and connected parents, rather than to any real abilities. We are told Tao has published

almost 350 papers and 18 books, being "prodigiously prolific". I have produced over 100 volumes of material, all of it far more important than arbitrarily long arithmetic progressions in prime number sequences.

What is being missed by everyone here again is the ambient charge field. I have solved hundreds of major problems using the real charge field, and I will do so again here. I have previously used this field to solve the two-slit experiment, Stern-Gerlach, beta decay, quark color, superconduction, Rayleigh scattering, the rainbow, the aurora, lift, buoyancy, atmospheric pressure, muon detection, the Stark effect, the dielectric, Coriolis, core theory, the Hall effect, the Casimir effect, hot air rising, and many others.

Mainstream physicists learned nothing from Tesla, since they always forget the Earth has a strong charge field rising straight up. Since all these phenomena take place on or near Earth, we have to take that into account. But physicists never do. They think that once they get rid of gravity or molecules, they are down to the vacuum, but they are very very wrong. Charge is still there even in a created vacuum or a zero-gravity environment. There is no such thing as a charge vacuum, and they never try to create one anyway. They just ignore it, usually treating it as heat if they notice it at all.

But charge is the simple "intuitive" answer to this question. A non-homogeneous object spinning will be feeling uneven forces from this ambient charge field. Why? One, because the field is moving straight up from the Earth, so we have to monitor all angles to that field. Two, because the field itself contains spin. The charge field is composed of real photons, and these real photons have real spins. Both the field and the spins are very powerful, due to the speed of the photons. Photons are very small compared to electrons, but are moving much faster. So they have high energies.

As you can see, this means that real vortices will be created around any object in that rising charge field. If the object is not the same in all dimensions like a sphere, those vortices will be variable over time, explaining the Dzhanibekov Effect.

Which is why I could see within moments that Tao's and Veritasium's answer was wrong. I intuited immediately that the charge field was the answer here, since it has been the answer in so many previous problems of a similar sort. And because I am the only one that has been using the charge field to answer physical questions in a straightforward and mechanical way, I knew not to be impressed by Tao or any other promoted "geniuses". I have been around the block too many times to fall for that old promotion.

Just pointing you to the right answer should do the job, and I could probably quit here. But I won't. Once again, I know from long experience not to assume anyone can see the obvious, even once I put it in front of their faces.

The reason the intermediate axis theorem has fooled a lot of people is that, if you don't look too closely at it, it almost seems to work. Both the math and Tao's thumbnail explanation do *almost* work. After the initial assumptions, the math is all standard analysis, and there is nothing much wrong with it. The problem is, for the math to work in the real world, it requires an initial cause, and that cause is lacking in the mainstream accounts. The math is lacking the first push, as it were. But since mathematicians are not physicists and can't or don't think physically, they always miss that. Or, if they see it, they pretend they don't. Hard for an outsider like me to really know if they are cheating on purpose or just making a fundamental error.

We have seen this fundamental error many times, including in General Relativity and tensor calculus, as you can see <u>here</u> and <u>here</u>. In that first link, I show that GR contains the same lack of first impulse, which means that no matter how correct the math is, it can't possibly explain any real motions.

In this problem, it is the same, and you can see that if you look closely at Veritasium's explanation at Youtube. He sets up uneven masses in the first part, which is fine, but then you can see him get in a bind when he needs to explain that first uneven push from the field. Following Tao, he sees that he can't get it, since the field "is providing no torques". So this is where they start fudging you. They do it in the usual way, by bringing in those slippery centrifugal forces at minute 7:30. Remember, Veritasium is just following Tao from MathOverflow, 2011. In bringing in centrifugal forces, Tao has just gone from inertial to non-inertial, and Veritasium admits that. We can see Veritasium kind of sweating here, and I think he realizes he is in the middle of a cheat. As I hope you can see, Tao is trying to get his uneven forces from *inside* the object, rather than from outside, which is why he has gone non-inertial. Inertial sort of means "forces" and he is getting your mind off that in a rather hamhanded fashion. Going non-inertial takes your analysis inside the object, traveling with it, so all forces *upon* the object have just gone out the window. You can now see why I implied Tao should stay away from physics and stick with his little "pure math" fake problems. It is probably why Tao refused Veritasium's request for interview on this. Tao likely knows his explanation here is transparent garbage, so the last thing he wants to do is defend it.

The trick is at minute 8:30, where he asks, "What if the disk is bumped?" HOLD ON. Wouldn't a bump be a torque, and weren't we just told the disk was feeling no external forces? So you see exactly where Tao has assumed what he is expected to prove. He has slipped in a torque here and no one has noticed. Because he slips it in there, no one remembers to ask him for a cause of that bump. Did the disk just bump itself? Did the zero-gravity field bump it, and if so, how? No answer.

But even with that huge cheat, Tao still can't get the disk to do what we know the wingnut does. So he cheats again. At minute 8:50 it is claimed the new centrifugal forces on the small masses, caused by the single bump, start *accelerating* them. How's that? A single force causes an acceleration? That isn't what we were taught in first-year physics, is it? A single force can only cause a velocity, it cannot cause an acceleration. An acceleration requires a series of forces or a constant force. It appears that Tao took a lot of math in school and almost no physics.

Tao tells us that simply by getting further away from the y-axis, the vectors of the small masses continue to grow, until they flip the object. Remember, we are in a non-inertial frame here, so Tao is telling us the disk is creating motions *upon itself*, by increasing distances from axes. Somehow, in the prodigal mind of Tao, an internal distance variable can create forces upon an object, causing it to move. It can do that just by labeling it a centrifugal *force*. A force is capable of an acceleration, you know. The label becomes the physics.

This should be highly embarrassing for all involved, but the video at Youtube has been up for almost two years and no one has noticed. It has gotten nearly 9 million views and 266,000 thumbs up, but no one has noticed these problems before me. Including Tao and Veritasium, that makes at least 9 million and two people who didn't comprehend or fully digest their first-year physics course.

I hope you can now see how the charge field solves all this. It not only provides Tao's bump, it provides a constant field force, allowing for accelerations. It also provides the angles Tao needs to explain uneven forces across the disk, since the charge field of the Earth works in the vertical or z-axis. These angles and uneven forces can then explain wobbles in any axis, not just the intermediate one.

Which takes us back to the canister spinning on the first axis on the Space Station, which then switches to the third axis. Veritasium also fudges you on that one, and at minute 11:40 he tries to solve this one with a different internal trick. He says that kinetic energy is not constant, and that it can be converted to heat. He says the liquid sloshing around inside causes uneven dissipation. Again avoiding any external field explanation.

I find it curious he is so intent on getting your eyes off the external field here. I suspect he has been hired and promoted to do just that. I suspect his whole explanation of why the Soviets hid this effect for years is also pushed. He tells us it had something to do with the danger conspiracy theorists might connect it to the Earth's flipping magnetic field, implying the entire Earth might flip like this. But I believe the danger was a different one. It was the danger mainstream physicists might see this and realize it was proof of a strong ambient field of some sort, like I am showing you. So the film had to be hidden for a few years while they decided upon a plan of misdirection. They needed to create a whole pile of mainstream misdirection, precisely to prevent mainstream physicists from coming to that conclusion. Tao's 2011 paper might be a part of that, and Veritasium's video almost certainly is.

The thing to take away from this brief analysis is that you have to be constantly on the alert for just this sort of fudging from mainstream mathematicians and physicists, who have been doing it for centuries. Because Newton missed the charge field buried in his equations, no one since then has recognized this fundamental ambient field, which enters every experiment we do here on Earth or in near space. Even after Tesla used it to great effect, no one got the primary clue. This has always forced famous mathematicians to hammer and fluff their equations to explain motions that are otherwise unexplainable. Going internal, switching to non-inertial frames, and misusing centrifugal forces has been one of their go-to tricks for a long time, and <u>I have been catching them at it for years</u>, which is why I saw it here immediately with Tao. He learned it well from his masters.