

Why do we have the principle of equivalence?

First, let's look at a definition of the **principle of equivalence** from the Britannica:

Quoting from the Britannica 2009 DVD "**equivalence principle**: fundamental law of physics that states that gravitational and inertial forces are of a similar nature and often indistinguishable."

The Britannica 2009 DVD also says, ". . . Einstein expressed these ideas in his deceptively simple **principle of equivalence**, which is the basis of general relativity: on a local scale-meaning within a given system, without looking at other systems-it is impossible to distinguish between physical effects due to gravity and those due to acceleration."

Well, I'll put my summary in too: The force of our earth's gravity is **equivalent** to an **apparent acceleration** of 32 ft per second squared.

Let's keep those three definitions firmly in our mind as we look further into this **principle of equivalence**.

Anyway, gravity = an **apparent acceleration** but why?

The answer can be found in the term c^2 in Einstein's famous formula $E=mc^2$.

Let's look at something else Einstein discovered:

Here is a *quote* from the *Britannica 1997 CD* telling about Einstein's tensor math which "*led him to an essentially unique tensor equation for the law of gravitation, in which gravitation emerged not as a force but as a manifestation of the curvature of spacetime.*"

Einstein is actually telling you more about what space is:

As you see in the above **Britannica** quote, there is **no** such thing as **force** in the tensor math of **General Relativity**. What you actually get - greatly simplifying things - is **more space**, than **average**, where **repulsive force** exists between two objects. In addition, there is **less space**, than **average**, existing between two gravitational objects that have an **attractive** force between them.

Now, you don't have to know the tensor math of **GR** but you do have to know it works or you wouldn't even have GPS today.

So essentially what Einstein discovered is that you can have either more or less space: therefore space is not simply empty space.

Space is something that is being produced and **GR** shows you that **the same thing that produces force also produces space**.

It's important that you know this much of **GR**: **Space and force are produced by the same thing**.

We know magnetic force is produced by the electron spin. We also know quarks are attracted to other quarks via the quark spin frequency: <http://adsabs.harvard.edu/full/1988AuJPh..41...11C>

When and if you click those links at the end of this paper and

read that other material then you will see all the reasoning behind all of the following but essentially this is what is happening:

From the spin frequency of the electron we get magnetic force, chemical bonding, c (the speed of light) and **our space**.

But **our space** is in the realm of the electron; **our space** is not in the realm of the quark.

Quark spin frequencies are all higher harmonics of the electron spin frequency. This results in a mean quark spin frequency, **which is the square** of the electron spin frequency, giving us the strong force, c^2 (the speed of light squared) which is **our space** times **our space** or an **apparent acceleration**.

Wow!

What this also means is that while the spin of the electron produces the magnetic force, the spin of the quark produces inertia, centrifugal force and **gravity, which because of c^2 will always be seen having this apparent acceleration**.

As Wheeler and Nobel laureate Feynman showed: we will not be able to measure this more compressed space of the quark like we do **our space** but we will be able to detect it and we do. We detect it as acceleration.

Now you know why gravity acts on all matter regardless of the electron structure. Gravity is a quark spin frequency action.

Next, to fully understand all of this, and to see that space is Machian after all and see that **Dr. Milo Wolff** is right, take a look at: <http://www.amperefitz.com/acceleratingexpandinguniverse.htm>

Then see: <http://www.amperefitz.com/aphaseuniverse.htm>

Also see: <http://www.rbduncan.com/schrod.htm>

There's a lot more too.

And this you can find out by buying my latest book **Universities Asleep at the Switch** at Amazon.com or by reading it FREE simply by clicking the following links:

<http://www.amperefitz.com/unvasleep.htm> (This link is faster if you have dial up.)

http://www.amperefitz.com/ua_20071020_ck_ds_jm_ds.pdf (This is the book FREE in Adobe.)

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Thanks for reading this. Let me know what YOU think. Th1nker@indiainfo.com

[Daniel P. Fitzpatrick Jr.](#)

Web pages are: <http://www.amperefitz.com> and <http://www.rbduncan.com>

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A link to this page is below, so if you think there is a possibility that this may be correct then copy, paste and e-mail this below to any knowledgeable physics friends.

Could we all be **asleep at the switch** about this?

Is this why we have the **Principle of Equivalence** or **why gravity acts like an acceleration**?

<http://www.amperefitz.com/principle-of-equivalence.htm>

(Click link above to read.)
