Quarks Do Not Exist
Everything is made up of only positrons and electrons

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One of the most commonly accepted physics theories indicates that protons and neutrons are made up of quarks which have fractional 1/3 charges. This article will seek to explain that quarks actually do not exist and that protons and neutrons can in fact be explained in terms of just positrons and electrons. This explanation also shows why the mass is similar between a proton and neutron. The nature of muons and pions is also explored as being composite positron/electron particles. It also explains how decay events happen and why.

1. Are Quarks really necessary?

It is commonly accepted that protons and neutrons are composed of 3 quark particles with up/down properties and hold a 1/3 fractional charge. The combination of these quarks give the +1 positive charge of the proton and the 0 charge of the neutron. However, science has never been able to directly observe a quark by itself and its existence is only based upon the most indirect of evidence. Back in 1966 when the existence of quarks was in question, almost 20 experiments had searched for them and found absolutely nothing. Even today, there is absolutely no direct evidence in any experiment showing a fractionally charged particle of any kind. The existence of the quark is actually founded upon a mass of theoretical blackboard calculations which indicate that certain particles like the psi meson should exist if they invented yet another quark. Other exotic short lived particles where theorized and found. So now we have this Rube Goldberg conglomeration of six quarks. If they ever find anything wrong with this theory, they can just invent a seventh quark to take care of it. None of this can really counteract the fact, that we have never, ever seen a quark in isolation even though there is no real theoretical reason why they shouldn't be seen (as is evidenced by the 20 unsuccessful attempts). No experiment has ever shown a quark in isolation, so the existence of the quark is basically and totally based upon blackboard calculations predicting the behavior of quarks that have never been directly observed.

I believe this complex quark view is completely unnecessary since you can more easily construct a proton and a neutron out of particles that we already know exist and can directly observe, namely the positron and the electron. A neutron would be a simple combination of positron and electron. What could be simpler than that? A positive charge and a negative charge combine to make a neutrally charged particle. The obvious objection to this idea is that the positron and electron would instantly annihilate each other leaving nothing but energy. So therefore, what I propose is nonsense and we can stop right here.

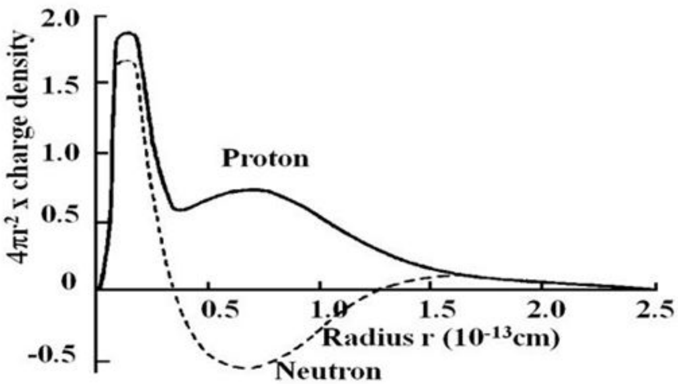
2. Do positrons and electrons annihilate?

However, how do we really know if the positron and electron were truly destroyed in the reaction and converted into pure energy? If you think this is an easy question, then answer this simple question. How does ponderable matter such as an electron turn into something which is "energy" which is basically physical motion? Even more mysterious, how can you take "energy" which is motion and convert it into ponderable matter which is expressed in the famous equation E=mc^2? If you're so smart, you should be able to answer those simple basic physical questions. Can you? If you can't, then you are relying on something you cannot explain at all. What you believe in is, in fact, complete magic and has nothing to do with 'science' which explains how things happen and just doesn't blindly believe that things like conversion of matter to energy simply happen on faith alone.

The radical alternative is that the electron and positron were not destroyed, but instead they formed a neutrally charged particle which is exceedingly hard to detect. The observed energy released is not from the conversion of mass to energy. What you are observing is the release of the kinetic energy of the positron and electron as they accelerate at each other at the maximum speed limit which is the speed of light c. So the kinetic energy of an electron moving at c is ½ mc^2. This is also the kinetic energy of a positron at c. Add them together E = 1/2 mc^2 + 1/2mc^2 = mc^2. So that's why the formula looks so much like the kinetic energy formula and why the value of c is in the formula. If you can let go of this mysterious conversion of mass to energy, then you can consider that a neutron is nothing more than a positron and electron held together by their mutual attraction. If neutrons are nothing more than this, then a testable prediction of this theory is that we should be able to create a beam of neutron-like particles from a collimated beam of positrons and electrons and we should be able to detect the kinetic energy of those neutrons as they slam into a detector. Until such an experiment is done, how can we say that the mass of the positron and electron were destroyed?

3. Do neutrons really have 3 charge centers?

The next objection to a positron/electron neutron is that a neutron is supposed to be composed of 3 particles, not 2. In my own independent research on the internet, I could not confirm any source that indicated that a neutron was composed of 3 point like objects. Some references appear to indicate that the results are not as predicted according to the various existing quark models - showing that the 3 quark model may be wrong. It would appear to me that most people have been ASSUMING that it had been confirmed that a neutron must consist of 3 point particles since quark theory is so well accepted. As far as I can see, this is an unproven assumption and I would be interested in anyone who can point me to more recent experiments that can actually validate the 3 quark neutron model. There are scattering experiments that have shown what they think the charge distribution is within a proton.



Using these experiments, one might conclude that the proton has 2 humps and a dip in the middle, so that might be a structure like a central positive charge, a middle negative charge and then an outer positive charge. However, I think this would only be speculation as it might also just be 2 separated positive charges where the central charge is stronger. The graph also shows the charge distribution for the neutron which shows a strong central positive charge, and a strong negative charge which then goes slightly positive. Some might conclude that means there are 3 charge centers in a neutron, but I also find this highly speculative. The vast majority of the data only indicates 2 charges of positive and negative. Another problem is that the neutron cannot be studied in isolation, it always has to be studied in combination with a proton and then they try to subtract out the contribution of the proton. Given that the outer region of the neutron appears identical to that of the proton leads me to think that they may not have done the subtractions correctly. There are also a massive number of assumptions that have to be made to even draw up these graphs which lead me to doubt whether the charge distribution actually looks like this.

4. What is a proton?

Now if a neutron is a positron/electron, then what is a proton? Quite simply, a proton is a combination of neutron/positron. The extra positron is what gives the proton a +1 positive charge. In this model, a proton always contains an embedded neutron. This explains a few puzzling facts about protons. For example, why is the proton/neutron weight so similar? The answer is that the proton contains all the mass of the neutron and the positron adds little additional mass. Another puzzle is why is the mass so different between a proton and electron if only the charge is different. The answer is that the proton is a composite entity which contains a neutron, while the electron actually is a lightweight fundamental particle. The actual fundamental particles of the universe are the positron and the electron and these have identical mass characteristics as you would expect. The charge opposite of an electron is not the proton, it is the positron.

5. Mass difference between protons and neutrons

An obvious objection to this idea is that the neutron is officially more massive than the proton. Shouldn't the proton be heavier than the neutron if it contains everything the neutron has plus another positron? As it turns out, when it comes to subatomic addition, normal math just doesn't work. The measured mass of a neutron actually varies quite a bit depending on how it is bound into any particular atom.

If you look at the difference in mass between He3 and He4, there is only a difference of .98 amu. This is much smaller than the standard value for a neutron which is about 1.008 amu. Strangely enough, the weight of a neutron can vary quite a bit if you determine the mass of the neutron by comparing atoms which only differ by a single neutron. The value of .98 amu is smaller than the standard mass for a proton, so certainly in some cases, the neutron can be lighter than the proton. More importantly, if you take a neutron and add a positron, you do not necessarily end up with something with a mass which is greater than a neutron.

I have other associated theories which indicate that mass is nothing but a measure of the volume of space that a particle actually occupies in space and if the binding is tighter or looser, this decreases or increases the measured mass. If we study a free neutron, this is probably very loosely bound since this isn't even a stable particle. This would make the free neutron appear more massive. When a neutron is bound in an atom, it is more tightly bound and therefore appears less massive.

6. Explaining B+ atomic decay

If we think of the proton as a composite neutron/positron, this does explain some puzzling phenomenon. One phenomenon it clearly explains is how B+ decay work. You would think that if a proton is composed of a neutron and a positron, then at some point you ought to be able to observe a proton decaying into these exact components. Well, an isolated proton never decays into anything, but heavy atomic isotopes do decay through the B+ decay process where a proton transmutes into a neutron and ejects a positron. This is exactly what we would expect - a proton turns into a neutron + positron.. How does the quark model explain this? A quark changes sign and a positron magically appears out of nowhere? The composite neutron/position also neatly explains why we see 3 scattering centers in the proton. We are looking at the positron/electron/positrion combination. Once again, I would be interested in seeing if any of these scattering experiments are more in line with a neutron having 2 scattering centers, since 3 doesn't appear to fit.

7. Explaining Beta decay

Another kind of decay called Beta decay can also be explained in terms of a composite proton. In this type of decay a neutron is transmuted into a proton and an electron and anti-neutrino is ejected. But what is an “anti-neutrino”? Neutrinos are neutrally charged, so how could it have an anti-matter counterpart which is oppositely charged like every other anti-matter particle? One way this can make sense is if the opposite of ejecting a neutrino is to “absorb” a neutrino. So when we say an anti-neutrino is “ejected”, we really mean the opposite that a neutrino was “absorbed” in the process. This means that Beta decay is actually a neutron which is combined with a neutrino to produce a proton and an electron. The reaction actually absorbs neutrinos instead of ejecting them. The reason why neutrinos were invented in the first place was to explain why the electron was ejected with random amounts of energy in the decay process. They presumed the decay must generate some constant amount of energy and that the energy that was not seen with the electron, came out with the unseen neutrino. This picture is completely wrong. The reason why the electron comes out with different amount of energy is because of the different amounts of energy that can be imparted by the incoming neutrino and that there is simply a maximum amount of energy that the electron can absorb from the collision.

In my associated theories, neutrinos are actually just a very special case of a wave through the aether that transmits energy like a Newton's cradle. This wave energy travels from one aether particle to another in a single connected line. This energy can sometimes cause the aether particle which is composed of a positron/electron dipole to combine with another particle like a neutron. The neutrino technically has 'no' mass because it is a wave. But the energy of that wave can cause a particle of the aether (which does have mass as a positron/electron dipole) to react with real matter. Let's see if the math works out for explaining Beta decay.:

A neutron n is a combination of just positron/electron (p e) A proton P is a combination of neutron & positron p (p e) A neutrino NU is just a fast moving neutral aether particle (p e).
If we plug this into the beta decay equation, we get:

(p e) neutron + (p e) neutrino -> p (p e) proton + e (electron)

Looks like the math works out perfectly. This also indicates that beta decay doesn't happen randomly, but is a specific reaction with a collision with a neutrino. If it would be shown that beta decay increases in the presence of a strong neutrino beam, this model would be confirmed. There is some evidence that this is the case as beta decay rates appear to vary with the solar neutrino flux.

8. What are muons and pions?

Muons and pions appear to be just heavier versions of positrons and electrons, so what could they be besides the quark combinations as is currently accepted? One way to look at it is just to see what these particles decay to and then make the presumption that the decay particles make up the original particle. This is a perfectly reasonable assumption, but one which is lost on mainstream science. The decay sequence starts with a pion which decays into a neutrino and a muon. The muon then decays into a neutrino, anti-neutrino and an electron. The electron is then stable. So it would follow that a muon is a combination of a neutrino, an anti-neutrino and an electron. In my model, when you see "anti-neutrino" what this really means is that an incoming neutrino triggers the decay event. So what we really have for a muon is really just a combination of neutrino and electron. The muon lasts a relatively long time because it must actually wait for an incoming neutrino collision to trigger the decay. So a muon is just an electron and a neutrino. My model also indicates that a neutrino is basically just a composite positron/electron. The negatively charged muon could be described graphically as:

(-) (+-) this is a muon

this is an electron (-)

this is a neutrino (+-)

A pion is a combination of a muon and neutrino. This effectively just adds another neutrino and could be described graphically as:

(-+) (-) (+-)

Notice that the + are facing the - due to natural electrostatic attraction. This geometric arrangement explains why there is both a positively and negatively charged pion and muon. The positively charged pion arrangement is simply:

(+-)(+)(-+)

The positively charged muon would be:

(+)(-+)

This is also why we don't see any other particles besides the pion and muon in the decay sequence, since there is just this simple geometric limitation on how single positrons/electrons can combine with a neutrino dipole.

There is also the neutrally charged pion, it could be described as:
(+-)(+)(-)(+-) neutrino, positron, electron, neutrino

This decays into either the separate positron/electron and the neutrinos are absorbed into the neutrino background, or the positron/electron react and generate gamma rays.

So the decay sequence can now be described as starting with a pion

(-+) (-) (+-)

Being highly unstable, it ejects a neutrino to form a muon:

(-) (+-)

This is struck by an incoming neutrino (which is counted as an observed anti-neutrino), it ejects a neutrino and leaves just the electron:

(-)

So here we have a complete argument for what a pion and muon are based just upon the observed decay products. It explains why we have positive/negative versions of pion/muon, why a muon has such a long lifetime, why we observe the decay products that we do and what is the possible physical structure for these particles.

9. Conclusions

All real free particles have a charge of -1 , 0, +1 - only quarks have fractional charges which I find unnecessary since all particles could be made up of whole charge positrons and electrons. This paper has described how protons, neutrons, muons and pions can be made up of nothing but positrons and electrons in an elementary manner. This paper has also explained how decay processes actually work. No particle just decays at random. Particle decay occurs as the result of a collision with another particle that transfers energy to cause the decay. This is why some decay processes like muon decay take a comparatively long time because they have to wait for a rare collision to trigger the decay. This explains a lot in a very easy manner that only requires the existence of only 2 particles – just the positron and electron. Is this not the simpler type of explanation that science seeks and not the Rube Goldberg quark approach that invents as many quarks as it needs to plug gaping holes in the theory? It is something to consider.

This work on the nature of particle physics is part of my Theory of Everything which links virtually all the forces as being electrostatic and mediated by the poselectron sea.

http://franklinhu.com/theory.html

I welcome your comments. Please send them to franklinhu@yahoo.com