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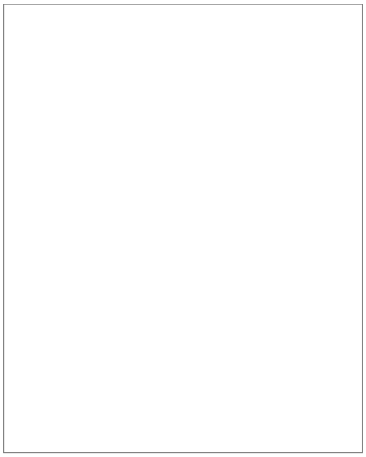
Nuclear Magnetic Resonance



by Miles Mathis

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I was asked to look at this problem by a physicist who works in the field of Nuclear Magnetic Resonance, using the big machines on a daily basis. Nuclear Magnetic Resonance was discovered decades ago and is now used in many fields, including medicine. The atomic nucleus is first hit with a strong magnetic field, which creates alignment. Then, radio waves are introduced. If the waves have the right frequency, the nucleus begins to vibrate in resonance.

In current theory, the cause of magnetic resonance is given to nuclear spins, but since these spins are said to be intrinsic—that is, *not* real—it has never been clear what is resonating with what. You cannot resonate an applied wavelength, which is real, with an intrinsic spin, which is not. I would have thought that would go without saying. The radiowave is real. The resonance is real. You cannot resonate with something that is not real.

Remember, if you try to diagram any of this, the mainstream gatekeepers throw a fit and tell you the spin they are talking about isn't a normal spin about an axis, as with a top or a gyroscope. Modern physicists have "transcended" physics, you know, and nothing at the quantum level is physical. It is all mathematical. But since math is also diagrammable—or was before the 20th century—they have to forbid the diagramming of math as well. Basically you are expected to just accept whatever modern particle physicists tell you, without asking questions or expecting any of it to make sense. "Sense" is just so, well, passé, in contemporary physics.

I will show you here that NMR is *not* caused by nuclear spin. The nucleus *is* spinning, and that spin is real, but the resonance is with electrons. The irony of this will not be lost on my readers, who know that I have disproved all historical electrons orbitals. I have shown that all the things now assigned to electron orbitals *outside* the nucleus are actually caused by nuclear charge channeling *through* the nucleus. But here, where electrons really *are* causing the resonance, the mainstream believes it is caused by the nucleus. The mainstream has developed the uncanny ability—honed over many decades—of being upside down to the truth in every possible situation.

If we look at the historical progression, we will understand why particle physicists wanted to give this resonance to the nucleus. For starters, this phenomenon was discovered when they were bombarding the nucleus. If you are bombarding the nucleus on purpose (aiming right at it), and if you think the electrons are not in the nucleus or on the nuclear border, you are going to assume that any resonance is caused by the nucleus. Beyond that, the wavelengths of resonance were nearly impossible to give to electrons with current theory, and they realized that early on. Although they now fudge an electron solution with Electron Paramagnetic Resonance EPR (see below), they preferred not to have to do that the first time around with NMR—and you will see why in a moment.

According to current theory, the wavelengths of NMR are very large, being about 1m. In current theory, the electrons don't have wavelengths like that. Electrons also do not have real spins or orbits, and resonating with probability clouds is a hard fudge to sell. But by assigning the resonance to nuclear spin, you can dodge this problem. The nucleus is even more occult and more poorly defined than the fake electron orbitals, so people are even less likely to ask questions. In current theory, they don't even tell you how the nucleus creates that wavelength. How does the nucleus resonate with a wavelength that large, seeing that the nucleus is a trillion times smaller? They don't say. They *can't* say, of course, since something with no linear or orbital motion and no real spin can't be creating a real wavelength in the field. To create resonance, you need a real wave in the field.

Another reason they assigned NMR to the nuclear spin is that they had actually gotten some things right about nuclear spin. For instance, they know that

two spin states exist (for a spin 1/2 nucleus): one spin up and one spin down, where one aligns with the magnetic field and the other opposes it. The difference in energy (ΔE) between the two spin states increases as the strength of the field increases....

Except for the spin ½ nonsense, that is exactly right. If they would just admit that these spins are real and then study them closely, they might get somewhere, but the Copenhagen Interpretation has foiled that idea for almost a century now. Since they still prefer to define these spins as intrinsic, they don't bother to assign the spins to anything. I have shown that the nucleus is channeling photons: that is what charge *is*. Charge is channeled photons. And these photons are either spinning up or down. That spin is real. The nucleus channels the up spinners up through the nucleus, from south pole to north, and channels the down spinners down. I call the down spinners antiphotons. As these two channeled streams meet in the nucleus, they can spin eachother up, and this is what we measure as magnetism. All real, all physical, all mechanical.

But it isn't just spin ½ nuclei that do that. All nuclei do that, although to different degrees. [To see the mechanism in full bloom, with diagrams, you can visit my analysis of through charge in Iron, where I show how to diagram the entire nucleus, including neutrons. I do this for most Period 4 elements in that paper, explaining many things that have never before been explained with mechanics and diagrams.] Current NMR theory divides nuclei into spin0, spin1/2 and spin1, but I will show below that is naïve. It isn't dipole, quadrapole differences or any of the other differences manufactured by the mainstream over the years that cause the possibility of resonance, it is basic nuclear structure. As you will see, it has a lot to do with neutrons suppressing resonance with electrons. In this way, the mainstream was roughly on the right track in following even numbers of neutrons. But the true mechanics has remained occult until now. That is why they have to do everything with unassigned math, forbidding you from diagramming anything or asking any questions.

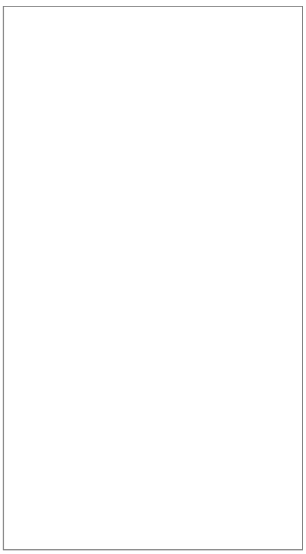
Now I will tell you how I knew NMR was caused by the motion of the electron, within five minutes of reading of the theory. I knew simply from the energy of the resonance, which is in the range of radio waves—UHF and VHF. Since I have proved in previous papers that the electrons in atoms have wavelengths in that range, I knew this was caused by electrons. I send you to my paper on Compton Scattering, where I correct and extend the historical equations. There I show that the Compton scattering equation is actually an equation that *gives* us this resonance between photons and electrons. It shows that the electron *must* resonate with the photon, because the electron radius is a function of the photon radius:

$r_e = r_\gamma/\lambda_\gamma$

In short, since the electron is a spun-up photon, the two particles must have radii that are in synch, just like two guitar wires when one is a multiple of the other. The resonance is a physical resonance, just like the resonance of wires. All we need then to complete the resonance is that the photon and electron are moving at velocities that are also in resonance. Although the electron can't match the speed c of the photon, it will naturally achieve a velocity that resonates with the photon. Why? Because the photon is driving it. The photon is the cause of the motion of the electron, so one speed must be a function of the other. Not only that, but *the size of the particle determines its velocity in the field*, so the velocities are straight functions of the radii above. This is what physically creates the resonance.

Although the electron cannot go c in the field, it can achieve a large fraction of that in a strong magnetic field. So according to my corrections and extension to the Compton equations, we would expect electron wavelengths in NMR experiments to be in the UHF and VHF range. To find that, I simply scaled up from the local electron radius, which I have previously calculated to be about 10^{-17}m. But if the electron is moving at near c, then its measured or macro wavelength will be c^2 times that, or about 1m. That is where the wavelengths in NMR are coming from.

But there are a lot of electrons in most elements, and each will have a different energy, even according to my own equations and diagrams. Which electron is the field resonating with? It is normally resonating with the outermost or valence electron, which is orbiting the hole of the proton (or protons) on the south pole of the nucleus. This electron is caught in the eddy where the charge goes into the nucleus, so it is just outside the nucleus. This allows for an easy resonance. You will see that this position also explains the relationship of the magnetic field to the radio field, which is normally perpendicular. In the diagrams below you will be able to see the right angle of the fields. Since I just diagrammed Oxygen17 and Oxygen18 in a previous paper, we will use those diagrams to illustrate NMR. O17 is used in NMR and O18 is not, since it is said to be a non-spinner, or to have S=0.



That is O17. The black disks are protons, the blue disks are alphas, and the green circles are neutrons. Six other neutrons are bound in the alphas, and aren't diagrammed. The little purple disks are electrons.

That nucleus is spinning around its axis, like all nuclei (or at least the three blue disks of the nuclear interior are spinning around the axis). Amazingly, the mainstream gets that right as well, although they don't know it. At Wikipedia, you will find,

A spinning charge generates a magnetic field that results in a magnetic moment proportional to the spin.

That's right, but the spinning charge has to actually be spinning. It can't have a virtual or intrinsic spin. The three blue disks here represent the nuclear core, and they are spinning around the nuclear pole with a real spin. The photons going through these protons and neutrons are also spinning, with a real spin. That is the "spinning charge" that is generating the magnetic field in a real and mechanical way.

And if this unbalanced nucleus of O17 weren't locked vertically by a strong vertical field (magnetic or electrical), it might also spin clockwise. But since it IS locked vertically by the NMR field, its pole orientation is not free to move. It is *polarized*. So you can already see that the mainstream theory of nuclear spin can't work. The odd neutron does indeed give the nucleus an imbalance, and this imbalance might cause a real spin or wobble in other situations. But in an NMR situation, it doesn't. The strong magnetic field *prevents* the neutron imbalance from causing a CW spin here, so the theory fails on a first look. This is why they have to make the spins intrinsic. Anyone who actually draws them sees immediately that the given theory is a non-starter.

You may be interested to know they admit this at Wikipedia:

The principle of NMR usually involves two sequential steps:
1) The alignment (polarization) of the magnetic nuclear spins in an applied, constant magnetic field H.
2) The perturbation of this alignment of the nuclear spins by employing an electromagnetic, usually radio frequency (RF) pulse.

Notice that step one is the alignment of the nuclear spins. They admit the nuclear spins are aligning to the applied magnetic field. But if that is so, how can they claim later the magnetic moments are *not*

aligned? To create a Larmor precession, the magnetic moment *can't* be aligned to the applied magnetic field. If it is aligned, we have no angle and no precession. [See below for much more on this.]

NMR experimenters *know* the nucleus isn't spinning or even leaning either CW or CCW, since if it were, the pole orientation would be constantly variable. They need the nucleus to be relatively stable, in order to know where the perpendiculars are. If the charge pole weren't fixed, they wouldn't know where to align their magnetic field. They would need a magnetic field spinning at the same rate as the nucleus. We know that isn't happening. The magnetic field is freezing the nuclear pole in relation to it, and this is simply because the field has to travel up the pole. You will tell me they are talking about an axial spin here, but an axial spin wouldn't cause a resonance. Since the magnetic field is aligned to the nuclear axis, no resonating wavelength could be created. But all that is almost beside the point, since the mainstream gives the nucleus no real motions. Their spins are intrinsic, and no resonance can be created with an intrinsic property.

So let us return to my diagram to discover the real answer here. Charge is coming in both poles, but since the field on Earth is imbalanced toward photons, we will concentrate on the south pole. More charge is coming in there, so that is where any resonance will be created. In many cases the resonance can be created on both poles, but we don't need to get into that here. Now, if we look at electrons, we find the six inner electrons are bound up with the blue alphas, so we can ignore those. We then have the two electrons with the outer protons (black disks).

Since the top electron is also tied up with neutrons, it cannot resonate. Study the diagram above closely. The neutrons are channeling along their white lines, through the hole in the proton. This will silence the orbit of the electron around that hole. That electron is no longer in an expanding vortex, you see, it is now in a tightly focused vortex, which greatly reduces its natural orbit. That electron would normally orbit in the eddy above the proton hole, an eddy made by photons entering. But the neutrons on opposite sides have focused that eddy, to the point it no longer has its natural freedom. The orbit and therefore the resonance has been "silenced." But the bottom electron is still free to orbit, and is thereby to express its wavelength and resonate. This is why O17 is a candidate for NMR.

But of course O18 won't be a candidate for NMR, since the neutrons are silencing the electrons on both ends. O18 has two neutrons top and bottom. This is why O18 is not a resonator in this situation.

From this we can see that the pole electron is like a lighthouse beacon, spinning either above or below the nucleus and residing just beyond the nuclear boundary proper. In atoms higher up the periodic table, more than one electron can reside at the pole, and since all these electrons will resonate at the same energy, they all take part in NMR.

Now let's look at the angle. NMR normally requires a perpendicular radio field, and I assume you can already see why. In Oxygen, the valence electron isn't right on top or bottom of the nucleus. The upper pole of the nucleus is actually to the side. This is because that bottom proton is emitting N/S in a circle. That is the proton equator we are looking at from the side. Which means the proton pole is pointing E/W. Let me say that again: the nuclear pole is pointing N/S, but the pole of the bottom proton is pointing E/W. Therefore, when the valence electron enters that eddy in the proton pole, it is also pointing E/W. Any resonance it has will be E/W. That is your perpendicular right there.

It becomes very interesting when we look at O16, or normal Oxygen. In our local field on Earth, O16

isn't a candidate for NMR. This seems strange at first, because according to my theory of nuclear diagramming, we should be able to put one neutron on each end. That would free up both electrons for resonance, right? Well, if Oxygen acted like that in the lab, yes, but it doesn't. That would be my diagram of Oxygen in a balanced field, with the same number of photons as antiphotons. But since our field is not balanced, the standard diagram of O16 doesn't apply here. All our labs are in the field of the Earth, and the local field here is unbalanced. In fact, the standard diagram of O16 would hardly ever be applicable in any galaxy whatsoever, except in limited cases. Since there is more charge coming in the south pole of our O16, both neutrons will be attracted to that end of the nucleus. They will therefore silence that primary electron.

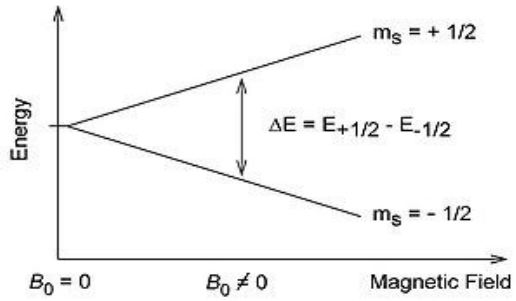
So why isn't the other electron then free to resonate? Because the opposite electron on the pole must follow the lead of the primary electron. Remember, our primary field here is the powerful applied magnetic field, and a magnetic field is caused by through charge. Through charge is charge that goes straight through from pole to pole, instead of being emitted from the nuclear equator. So there are two opposing lines of charge going up and down the pole, and the mainstream knows this in a way, as I showed above. But since these two channels are parts of the same larger field, they have to maintain their original balance at all times. If the ambient field was 60/40, any boosted field will remain 60/40, since our machines are simply boosting the ambient field. Well, this same logic applies on a smaller scale as well. Any smaller change we make to the up field must be matched by the down field. So if we silence the bottom electron, the top electron will also be silenced to the same degree. This is why O16 is not a resonator in our field.

However, on Venus it might be. If the local ambient magnetic field were strictly balanced, containing the same percentage of photons and antiphotons, then the neutrons would be attracted equally to both ends. In which case both electrons would be free to resonate. The only problem there is that if we have O16 in a completely balanced field, that field is non-magnetic. In a balanced field, it is not only the neutrons who don't know which end is up, it is charge as well. Charge doesn't know which end to go into. You get photons and antiphotons going in either end willy-nilly, the spins cancel, and your magnetic field goes flat. So although we would find the possibility of resonance with O16 on Venus, we couldn't power up that resonance with the magnetic field. We would have to power it up with the electrical field. On Venus, you could have resonance, but we would have to call it NER. Nuclear Electric Resonance.

Since I have given NMR to electrons, what will I give EPR to? There exists a similar technology that uses microwaves to create a resonance with free radicals, and they call this Electron Paramagnetic Resonance. Since a magnetic field is again used, this name is a misnomer. They don't call Nuclear Resonance “diamagnetic,” do they? They are just making up theory and names here, as before, but in this case the hash is even greater.

What they do is give every single electron a spin quantum number of ½, just as with the nucleus. But then they give this spin quantum number two separate components of +½ and -½ . They then call these two components an upper state and a lower state, and assign the electron an energy caused by the separation of these two states.

Stop there and take breath. You have just been royally fudged, and I want to be sure you savor the full effect. As you think deeply about this, you may wish to consult their diagram of this:



They need a resonating wavelength for the electron, right? Well, this is how they create it. ΔE is the wiggle that creates the wavelength that allows for the resonance. So they draw that gap between lines for you, and imply that is the physical thing that is resonating with the microwaves. Unfortunately, none of that can work. To start with, it suffers from the same problem as their nuclear spin explanation. Since the spins on the electron are intrinsic—*not real*—they cannot possibly resonate with anything real. You cannot resonate math or a diagram with a real wavelength. Math is an abstraction, and abstractions don't resonate with real things. Only real things resonate with other real things.

But *even if* they give the electron real spins, this analysis *still* fails. Why? Because they are assigning one electron two opposite spins at the same time. They start by giving the electron a spin of ½. But because they refuse to assign that spin to anything real, you don't assign it to anything either. You don't remember that assignment has to mean something physical. The number ½ also acts to confuse you, which is one reason they use it. Physically, what is a spin of ½? Nobody knows, so most people don't ask the question. But physically, the spin has to have some direction. A real spin would be something like "east" or "clockwise". In which case it would be clear that a particle spinning east could not also be spinning west, or that a particle spinning CW could not also be spinning CCW. But because they have fudged you from the first word here, you are in a confused state that will accept that one electron can have a spin that is both +½ and -½ at the same time. [To study a variant explanation of this using the Larmor precession, see my analysis of that below.]

Just think about it: it is like saying that a gyroscope has upper and lower states of CW and CCW spin. Why would it have that? Wouldn't it have to reverse spin every moment? What is the physical cause of that reversal, and what is the time period of that reversal?

In addition, why would that spin reversal create a wavelength that resonates with microwaves? Logically, such a spin reversal on an electron should create a wavelength equal to the radius of the electron. But since in mainstream theory the electron has no real radius, it can't create a wavelength like that. And if it did, that wavelength would be way too small. The microwave wavelength is around 1cm, while the electron radius is at least a trillion times smaller.

A reader, thinking to have caught me in a contradiction here, pointed out that I said above that Wiki was right when they said this:

two spin states exist (for a spin 1/2 nucleus): one spin up and one spin down, where one aligns with the magnetic field and the other opposes it. The difference in energy (ΔE) between the two spin states increases as the strength of the field increases....

But isn't that what they are diagramming in the last figure above? No. The quote from Wiki is right,

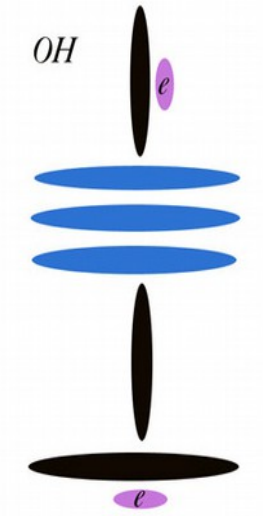
the diagram is wrong. To understand this, you need to have read my paper on through charge in Iron, where I diagram what is going on in this Wiki quote. The important part of the quote is this: "where one aligns with the magnetic field and the other opposes it." Is that what they have diagrammed? No. If one vector is *opposing* the other, then the angle between them is 180 degrees. You cannot create a wobble, a differential, a precession, or a lean with a 180 degree angle. That is why they have sneakily drawn a small angle of about 30 degrees between +½ and -½. But their vectors are not *opposing*, are they? They are trying to manufacture a wobble they can then use to create resonance.

You see, this is why they like the spin ½ nonsense. Although they admit that the vectors are opposing, the spin ½ idea confuses anyone looking at this. With the "spin ½" tag they have removed this from mechanics: you the reader can't make sense of a ½ spin. What is a ½ spin, physically? No one knows, so they can stir your mind. They can tell you these ½ spins oppose eachother, then draw a 30 degree angle between them, and most people are so confused they accept it. It is perfect mystification.

When I said the quote was right, I meant it was right in that there *are* opposing vectors here that cause magnetism. But it is not fake or virtual or intrinsic opposing ½ spins that are causing it, it is opposing real spins on real charge photons. You have charge moving up through the nuclear axis, and anticharge moving down. They meet and spin one another up, which is what we call magnetism. This is what I have called through-charge, that moves from pole to pole. But nothing about it is ½, nothing about it creates a 30 degree angle, and no differential in the through-charge creates a ΔE that we could assign to our resonance.

I said above that fudging a resonance with electron clouds would be difficult, and we can see why they initially avoided it with NMR. While NMR field theory is bad, EPR field theory is much worse.

So what is the right answer here? To find out, we have to look at the elements that are exhibiting it, and diagram them. Turns out EPR isn't used on elements, but on free radicals like H, OH, and HO2. In other words, on "molecules with unpaired electrons." Just from that, we can already see they have vastly overcomplicated this problem, like all others. They think this has something to do with unpaired electrons in orbitals, magnetic moments, and gyromagnetic ratios, when it simply has to do with pole electrons in molecules that aren't suppressed by the bonds. To see this most clearly, we only have to look closely at OH.



I have drawn the H on the bottom, and only the relevant electrons. In a lot of the free radicals studied in EPR, the "unpaired electron" turns out to be the electron of the Hydrogen, as here. In other cases, we have a "free electron" by a similar mechanism, which is very simple to show with my diagrams. Since these pole electrons are the important ones in ionization, bonding, and resonance, we can solve all this by only looking at them. The important thing to notice about OH is that the north electron is orthogonal to the south electron. So no matter what direction you "measure" OH from, one of those electrons will look "unpaired." Why? Because when we "look" at OH, we always see it from one place and not another. Our machines are either magnetic or electrical machines, and they "measure" from one direction or another. So if you are studying the main E/M field of this free radical with any magnetic field device, you are going to be looking at the charge field running north/south here. You will therefore "see" the field of the bottom electron, but not the top one. Since the top one is in an orthogonal field, it won't be part of the main field. The same thing applies to resonance. The bottom electron will be resonating to the south while the top electron will be resonating to the east.

The same thing that our machines see, the elements that are bonding must see. They will "see" one another just like our machines see them. Any ion or element that enters the vicinity of this OH will encounter the free radical from a specific direction. If it comes in from the south, it will feel the field along the pole, in which case it won't feel the E/W field. And if it comes in from the east, say, it will encounter the field of that top electron, but not the bottom one. So no matter what direction the ion comes in from, the OH will appear to have an extra or unpaired electron. This is what *physically* gives the OH radical its minus sign.

Now, when you magnetize this OH radical, you will be magnetizing along the pole. In theory, you should be able to resonate with either one of those electrons, but to resonate with the bottom one you would come in parallel, while to resonate with the top one you would resonate perpendicular. It is easier to resonate with the top one, because then you don't get your magnetic field interfering with your introduced wave. Notice that if you come in from the bottom, your wave will be accelerated by your magnetic field. If you put your microwave in line with your magnetic field, it will be affected by your magnetic field. So if you want to resonate with the bottom electron here, you have to do it with what is called pulsed EPR. Why? Because you have to create a longitudinal resonance rather than a transverse resonance. Your two fields are resonating in a line, in other words.

And since we are dealing with molecules instead of elements with EPR, the wavelength will naturally drop. The reason has to do with the molecular bond. The bond between Oxygen and Hydrogen above looks just like a fusion bond in my nuclear diagrams, so I have to remind you it is not the same at all. Molecular bonds are far easier to break, which of course means they aren't as strong. What this means for us here is that charge leaks much more around molecular bonds, and that means that in the same magnetic field, the electrons will not be moving as fast. If they aren't moving as fast, they aren't expressing as large a wavelength. So the resonating wavelength drops from radiowave to microwave. Of course this also affects the relaxation rates, which are orders of magnitude longer for EPR. With less leakage, things happen faster with fusion bonds than with molecular bonds. Any time we have molecular bonds involved, we will see a lag we don't see in fusion bonds.

Which brings us to the Larmor frequency equation, which will be offered to me as proof they understand what is going on here. Unfortunately, any cursory analysis shows the equation was back-engineered from data and then massively fudged. Here is the equation:

$\omega = egB/2m$

Where ω is the angular frequency, e is the charge, m is the mass, B is the magnetic field, and g is the g-factor. They admit

Because the nucleus is so complicated, g-factors are very difficult to calculate, but they have been measured to high precision for most nuclei.

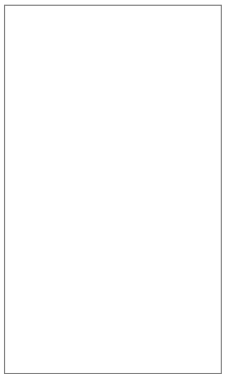
So you can immediately see that g is one of the many fudge-factors here, since it can take any value they need to match the measured value of ω. But that brings us back to the main problem. The variables B, m, and e are real here, while ω is intrinsic. If all these quantum entities have no real spin, what exactly does ω apply to? Remember, according to the mainstream, $\omega = 2\pi/T$, which is a real angular velocity. An intrinsic spin would have no real time of revolution, so this equation contradicts their field assignments. To say it another way, we can rewrite that last equation like this

$2\pi/T = egB/2m$
$T = 4m\pi/egB$

The Larmor equation gives us a real time. That time is the time of what? The time it takes a fake spin to not really spin?

We see the same problem when we look at the definition of Larmor precession. The Larmor frequency is a measurement of the Larmor precession, which we are told is the precession of the magnetic moment of the electron or nucleus. To simplify this as much as possible, let us just consider the proposed precession of the electron's magnetic moment. If the electron is a point particle with no real spin, how can they be proposing a precession here? Is that an intrinsic precession? If so, how does it create a real wavelength that then resonates with a microwave? You can tell the theory is garbage before you even get past the definitions.

But supposing we forced them to admit that the electron is real particle with a real radius and real spin. Would the current theory work then? No. Why? Because they tell you that the magnetic field applies a torque to the magnetic moment. But since the magnetic field and the magnetic moment should be in line by definition, there can be no torque. To see what I mean, let's borrow their illustration:



Why aren't the two red vectors in line? I will be told it is because

when a magnetic moment is subject to a torque in a magnetic field that tends to align it with the applied magnetic

field, the moment precesses (rotates about the axis of the applied field). This is a consequence of the angular momentum associated with the moment. [Wiki]

But even supposing that is true in some cases, it isn't true here. That torque only happens when the magnetic moment isn't free to align to the applied magnetic field. In that case, you have a greater and a lesser magnetic field, and so you have the two vectors they have drawn above. In that case you *would* have a precession. But in the case of NMR, we don't have that. The strong magnetic field sets the field and the nuclei align to it. The entire local charge field aligns to it, and the nuclei and electrons are in that charge field, so they will align to it. Since we don't have two magnetic fields, we don't have the two vectors drawn. Without them, there is no torque and no precession. They have just manufactured the second vector to suit themselves.

Remember, I quoted from Wikipedia above, confirming this. I will repeat it:

The principle of NMR usually involves two sequential steps:
1) The alignment (polarization) of the magnetic nuclear spins in an applied, constant magnetic field H.
2) The perturbation of this alignment of the nuclear spins by employing an electromagnetic, usually radio frequency (RF) pulse.

Again, the applied magnetic field *polarizes* the nuclear spins. So the magnetic moment cannot be anything but aligned. There is no second vector.

Just think about it. Say we stick to NMR, so we are talking about nuclear spin. We let the nucleus be that blue ball. The big red vector is the applied magnetic field. What is causing the little red vector? Why doesn't the nucleus just line up its pole with the applied magnetic field? In fact, we know that it *does*. If it didn't, we wouldn't know where the perpendicular was. We wouldn't know what angle to send in our radiowaves. The precession here is faked. It is manufactured. It doesn't exist.

I will be told we have evidence of it, but we don't. We have data that we *read* as evidence of it, but that data is easier to read as evidence of my theory, as you will now see. Go back to the last illustration and notice how the green arrow works. If we follow it all the way around, we see that it creates an eddy at the north end of the nucleus. A whirlpool. That green arrow could either be representing precession, or it could be representing the circular motion of some real particle at the north pole. I hope that something just clicked in your head, because that is exactly what my north-pole electron does. I have been saying for years that the electron orbits the pole of its proton like a pingpong ball too big to go down the drain. It is caught in the charge whirlpool or vortex, trying to follow the photons into the nucleus.

So the mainstream was actually close on this one. They knew they needed to create that green arrow somehow, but since their electrons were orbiting the entire nucleus at some distance, they had no particle they could put at the pole. Instead, they manufactured a torque and then created a fake precession with it.

Amazingly, I didn't propose my electron positions—at the pole or anywhere else in the nucleus—to answer this question. When I ditched the current electron orbitals and paired my electrons with individual protons in the nucleus, I had no idea I was matching mainstream diagrams of Larmor precession. I hadn't closely analyzed NMR and Larmor precession until a month ago, and my diagrams are much older. No, I ditched the electron orbitals because they contradict their own field definitions, as I have shown in detail. And once I had discovered charge channeling by the nucleus, the

electrons had to be influenced by the channels. The electrons could be *captured* by the charge field at the orbital levels now taught in school, but they couldn't remain there. They would naturally go down to the nucleus and take positions there. Since our machines see them arrive and depart from those levels in the charge field, particle physicists have understandably thought they had confirmation of their orbitals, but the evidence is illusory. Charge channeling allows us to explain all the current data much more quickly and simply, and it allows us to do it with straightforward mechanics, where particles, spins, and locations are all real.

This means that the nucleus does have a whirlpool top and bottom. When we get data confirming that (as with the green arrow above), we think it means we have confirmed this precession or nutation of the nucleus. We haven't. What we are seeing is confirmation of the pole electron eddy. The nucleus is *not* wobbling in experiments like this, and we know that from other data. If the nucleus were wobbling, the perpendicular would wobble, and it doesn't. If the nucleus were wobbling, the charge emitted at the equator would wobble, and it doesn't. If the nucleus were wobbling enough to resonate with 1m radiowaves, this would interfere with magnetism itself, and we don't see that. What we *are* seeing is the charge vortex top and bottom of the nucleus, caused by charge channeling. This can mirror the precession data in many ways, but it isn't equivalent to it.

What makes this all even harder to unwind is that some nuclei and molecules *do* have precessions. The precessions of these configurations are used as proof of the Larmor precession. But there are at least a couple of things the mainstream is covering up here. One, these precessions aren't great enough to cause the resonances we see in NMR and EPR. Two, these precessions aren't caused by magnetic torques. They are caused by particle imbalances. For instance, O17—which I diagrammed above—will have a wobble in some fields, but it isn't caused by a field torque. It is caused by lateral imbalance. Three, none of this can be applied to the magnetic moment of the electron, simply because the electron has no lack of homogeneity to exploit. Either as point or sphere, the tiny electron has no imbalance. Without two fields competing, it can't have a precession, which is why the mainstream tries to sell you the two vectors. But in EPR, there aren't two magnetic vectors. Charge would run with the applied strong applied magnetic field, so there is no possible torque. They would have to give the introduced microwaves a field effect on the electron, but that couldn't work because a perpendicular field would have to work more on one pole than the other in order to create the torque. We have no indication that the microwaves can or would do that. I hope you can see that in both NMR and EPR, it is far easier to solve with my charge channeling than with the mess of manufactured motions in mainstream theory.

One of my readers proposed that the Earth supplies the second magnetic field here, but that doesn't fly either. As you can see from the picture under title, they don't build these NMR machines at some acute angle to the level. And even if they did, the Earth's field is not strong enough to wobble the applied field. The applied field has a flux orders of magnitude stronger than the Earth's field, and any wobble would be completely swamped. The wobble would also be dependent on the angle of the machine, and it could therefore be damped by leveling the machine. We don't see this. We don't see some machines that create different precessions with the same elements.

Although the Larmor equation is based on a false mechanics, it has been pushed to match data, so we can still use it to find the right math and mechanics. To rewrite this equation and de-fudge it, we have to make a lot of corrections. What we want, obviously, is to calculate the wavelength of that resonating electron in my diagram, so that we can match it to our B-field and our radio or microwave. To do that, we should solve for wavelength instead of angular velocity. We can also remove *e*, since we don't need *e* if we have B. They are expressions of the same thing in this case*. In the Larmor equation, *e* is only

acting as a scaling constant, to get the number for ω down to where it should be. In other words, if we included B but not *e*, ω would be way too large. But that isn't the right way to scale. We should scale with $1/c^2$ instead. That way we can incorporate the electron radius, scaling it *up* to B, instead of taking B down to the quantum level. They currently use *e* as the scaler instead of $1/c^2$, only because they don't know how to calculate the radius of the electron. They know the classical electron radius is wrong, but they don't know how to correct it so that they can use it in equations like this. So they tell you the electron has no radius, and fudge their equation in other ways.

Since *e* and $1/c^2$ are off by about 68.5, which is half of 137, we see the fine structure constant rearing its ugly head here once more. [See my paper correcting Rutherford's equation to understand where it is coming from in more detail.] But $1/c^2$ is the correct transform here, not *e,* so we can drive right around the fine structure constant. So let's make that first correction:

$$\omega = egB/2m$$

$$\omega = gB/2mc^2$$

Now we need to get rid of ω. That opens a whole can of worms, since when the mainstream solves for a wavelength from this equation, they use the equation

$$\lambda = 2\pi v/\omega$$

As you see, they either need to know v, or they need to know the radius of the wobble (so that they can backcalculate v from $v = r\omega$). *They don't know either one*. Not only do they not know how fast the electron in orbit is going, they have no way to calculate it. That is why they hid in probabilities decades ago, you know. They also don't know and can't calculate the speed or radius of the nuclear wobble. Some have proposed that the electron is going c or near c, but the nucleus *can't* be spinning at a rate anywhere near c. So what they do is backcalculate all this from the known resonance. They assume the nucleus is creating a wavelength that resonates with the radiowave, they assume it does so with precession, and so they backcalculate all the variables above from the resonating wavelength. You see, they are given λ from the experiment. They then use their fudged equation to calculate ω, and from that they can backcalculate v and r. But since we have already seen that the equation is a hash, the values of r and v are very likely wrong.

This likelihood is greatly increased by the fact that the equation $v = r\omega$ is wrong. The correct equation in this situation is $v = \omega^2/2r$. And the equation for wavelength is $\lambda = 8r_e v_e^2$. Since my velocity variable in both equations is a true linear velocity, we don't have to solve with π or a circumference or even a circular motion. Although I have shown that the electron is in a circular eddy, it is the electron's stacked spins that are causing the wavelength, and it would have that wavelength even going in a straight line, as we know (see de Broglie). It will have the same wavelength in a line or a curve, provided we use its *tangential* velocity to solve. The mainstream has never been able to solve this way because their velocity was always an orbital velocity. That orbital velocity could not provide them with this linear wavelength.

To calculate a wavelength for the electron, all we need to know is its speed. Since in my theory we already have a radius for the electron, and since the wavelength is just a simple function of radius and velocity, the velocity will give us the acting wavelength in the field.

$\omega = \sqrt{[2r(\sqrt{v^2 + r^2}) - 2r^2]}$
$2r(\sqrt{v^2 + r^2}) - 2r^2 = g^2B^2/4m^2c^4$

With the electron, r^2 in the equation above is a vanishing term, so we can simplify.

$2rv = g^2B^2/4m^2c^4$
$v = g^2B^2/8rm^2c^4$
$\lambda = 8rv^2$
$v = \sqrt{(\lambda/8r)}$
$\lambda = rg^4B^4/8m^4c^8$

If the magnetic field is very strong, and we are resonating with the nucleus and not with molecules, we can simplify that again by recognizing that the electron will be going near c. In which case we can let v=c to estimate a wavelength.

$\lambda = rg^4B^4/8m^4c^8$
$\lambda = 8rc^2$
$\lambda^2 = r^2g^4B^4/m^4c^6$
$\lambda = rg^2B^2/m^2c^3$

After all those corrections, we are almost back to where we started. However, we still aren't even close to being finished, since the gyromagnetic ratio $eg/2m$ is supposed to be telling us what nucleus we are using in NMR. Unfortunately, it is also derived from the equation L = mvr, which is dependent on $v = r\omega$, so it is also false. The gyromagnetic ratio γ is defined as the ratio of the magnetic dipole moment μ of a particle to its angular momentum L:

$\gamma = \mu/L$
$\mu = IA = (ev/2\pi r)(\pi r^2) = eL/2m$
$\gamma = e/2m$

Since $L \neq mvr$, that derivation is false. But it is false even before that, since the equation for the moment of inertia is also wrong. In correcting the equation $v = r\omega$, I threw the moment of inertia I out altogether. There is no moment of inertia. The moment of inertia is just another fudge factor, required to fill in a hole caused by the historical conflation of tangential and orbital velocity. In other words, because the historical equations for circular motion that go back centuries were wrong, the moment of inertia was developed to push them part of the way back to sense. It fails to do that, and some physicists have recognized the problem over the years. But because it was so difficult to unwind, no one ever unwound it. I had to go all the way back to Newton's Lemma IV from the *Principia* to correct the errors.

Obviously, this impacts this Larmor equation in several places, and the whole thing has to be rewritten from the ground up. Since we have no moment of inertia, we have no magnetic moment, and we have to rebuild that whole theory from scratch. Since the moment of inertia was always the attempt to calculate the spin energy of a body, the magnetic moment must represent the spin energy due to magnetism. In other words, it stands for the amount of charge the body can channel in a given time, in a given field. As we have seen above, they currently calculate the magnetic moment like this:

$\mu = IA = (ev/2\pi r)(\pi r^2)$

But that isn't even close to correct. Since in current math, $v = 2\pi r/t$, we could rewrite that as

$\mu = IA = Ae/t$

That implies that the rate of charge channeling is dependent only on the frequency and the area. That part of the theory isn't completely wrong, since the rate of charge channeling is dependent on frequency and *radius*. But it has nothing to do with area. They imported the area equation into this only because they needed that r^2. Remember, the moment of inertia at the macrolevel is written as mr^2. The old problem with $v = r\omega$ is what created that flying r^2, but after my correction, it gets dropped completely. Therefore, we can simplify the magnetic moment equation down to this:

$\mu = er/t$

Notice that I just jettisoned *both* the area and the moment of inertia. The moment of inertia *I* doesn't exist and the area *A* isn't needed.

Now we move on to the gyromagnetic ratio $\gamma = \mu/L$. Before we correct the L part of that, let us ask if we even need a gyromagnetic ratio. Why are they dividing by L here? Since we already have the frequency in the equation, as well as r, we don't need L. The only reason we would need L is if we needed to divide by the mass for some reason. Do we? No. As I have shown previously, it is the charge channeling that determines the mass, not the mass that determines the charge channeling. The radius is already telling us a size, so we don't need mass as well. But even if we did, we would put it in the numerator, not the denominator. More mass implies more energy, and more energy would cause more charge channeling. Therefore the magnetic moment would be proportional to mass.

So we can see another way they fudged this. They divided by L only because they wanted to simplify back down to from $eL/2m$ to $e/2m$. They knew what they wanted in the Larmor equation, so they just divided out any number they didn't want.

So we are down to this equation:

$\mu = er/t$

But since I have shown there is no moment of inertia, we have to rename that first variable. It can't be called the magnetic moment, since the whole idea of a "moment" is based on a fallacy. We should call it something like the charge driver. This real spin drives both E and B, so it is imprecise to call it "magnetic." It is submagnetic. It is charge channeling.

So we return to this equation

$\lambda = rg^2B^2/m^2c^3$

We now have to dump the rest of the gyromagnetic ratio, replacing it with the charge driver.

$\lambda = 4er^2B^2/tc^3$

Now we just have to get rid of that t. Since the electron's spin speed is 8r/t = c, t = 8r/c.

$\lambda = erB^2/2c^2$

Since I tracked the electron's linear velocity through this whole derivation, the radius of the eddy doesn't matter. The radius r in the equations was always the radius of the electron proper, not of the eddy. So to clarify, we should write the equation like this

$\lambda = er_eB^2/2c^2$

But we still aren't finished. Since we already replaced *e* with $1/c^2$ way above as our field transform, we don't need that *e* in this equation. I imported it with the charge driver, but it isn't needed here. Although we will normally need it in our rewrite of the old magnetic moment μ, we don't need it here. We don't need it because we already have the radius of the electron in the equation, as well as the scaler c^2. When we scale the radius of the electron up to our level using the size transform c^2, we have already scaled r_e to B, you see. For the same reason we didn't need *e* in the first equation way above, we still don't need it here. It is superfluous.

And since we imported r_e into the numerator (as we imported the charge driver), we have to move c^2 into the numerator as well. We originally put c^2 into the equation to scale the charge level up to the B-field level, and because they had *e* in the numerator we put c^2 in the denominator. But now that we get near the end of our derivation, we can see we need the scaler in the numerator with r_e. We are now scaling r_e up to the B-field instead of *e*, you see. So the equation becomes this:

$\lambda = c^2r_eB^2/2$

And that is great because it confirms what I said above before we started making any of these corrections. Go back to page 3 of this paper, and find where I say this:

[To discover the resonating wavelength] I simply scaled up from the local electron radius, which I have previously calculated to be about 10^{-17}m. But if the electron is moving at near c, then its measured or macro wavelength will be c^2 times that, or about 1m. That is where the wavelengths in NMR are coming from.

As you see, the last equation is telling us the same thing. Since I have previously calculated the radius of the electron to be 2.244×10^{-17}m, the term $r_ec^2/2$ has a value of 1.0098. Of course that is assuming a velocity for the electron of c, and we know it must be just under that.

[One of my better readers stopped me here, saying—like Salieri to Mozart—"*you go too fast!*" He said, "I don't understand the import of the number 1.0098. It looks important, but I am not following you here." It is important because that is the wavelength we are finding in NMR. Remember, the wavelength in NMR is around UHF, which is around 1m. I just found a wavelength of 1.0098m, using nothing but the equation $r_ec^2/2$.]

Obviously, this means we can drop B from the equation as well. If we calculate up from the real radius of the electron, we don't need anything else but its velocity. We can even backcalculate the velocity of the electron in any experiment. Say the resonating wavelength in a real NMR experiment is .9m. That means the electron must be going .944c. So the final equation is simply

$\lambda = r_e v^2/2$

I encourage you to notice how that has the same form as $E = mv^2/2$. The similarity is not a coincidence.

I will be told that the dimensions don't resolve, but since we are using c^2 or v^2 as a size scaler instead of a velocity, we can drop its dimensions. We are just scaling up from a quantum or local wavelength to a macro wavelength, and the velocity is only a size scaler. A size scaler has no dimensions.

I will be told that we want to calculate a resonating wavelength without using an unknown like the field velocity of the electron. The current equation calculates the angular velocity of the nucleus from B, *e* and other known quantities. But does it? Not really, since we have seen that *g*/2m is neither a known quantity nor even a real parameter. It is a manufactured term, fudged in about 10 different ways. In applying it to the nucleus, they have to not only backcalculate from data (which they admit), they also have to go through another round of fudges. If they wish to assign that term to the magnetic moment of the nucleus, they have to calculate how charge passes through the baryon configurations, and they have no way to do that. It will be hard enough for me to calculate the charge channeling strengths of each individual baryon in each nucleus, and sum up, and I have a diagram for each nucleus. Since the mainstream thinks of the nucleus as a bag of marbles, and thinks of the baryons as point particles with no spin, there is no way they could even begin to do such a thing. That is precisely why I found a way to solve without doing any of that. Fortunately, none of that was necessary, since the nuclear spin isn't creating the resonance. The pole electron is creating the resonance, so we can solve this straight up from the electron radius.

That said, it would be nice in some situations to write v as a function of *e* and B. It is probable that I *will* soon be able to calculate the charge channeling of each nucleus straight from *e* and B, using my diagrams. But since this paper has hit 17 pages, I will save that for the near future. However, you should realize I have already calculated the radius of the pole eddy on Chromium. Beyond that, I have shown that magnetism is caused by through charge, so we only have to look at baryons *on the axis* when we sum the channels in magnetic problems. We don't have to sum the "magnetic moments" of all the baryons in the nucleus, which already falsifies one of the primary assumptions of the mainstream.

Conclusion: we have seen that the current theory underlying NMR and EPR is another massive fudge. As with all other quantum problems, it has been mucked up ferociously over the decades, making it much more complex than it needs to be. The problem started long ago with bad equations inherited from previous centuries, the worst of which was the angular velocity problem. The inability to solve that embedded problem and others forced all of quantum mechanics underground. Not only were particle physicists forced to hide from and disavow mechanics, they were forced to invent an entire underworld of pretend interactions—gyromagnetic ratios, *g*-factors, and many others. Since all the spin equations were so compromised, they made spin "intrinsic" or virtual. If you then complained that the equations made no sense, they could tell you the spins weren't real, and that the quantum world wasn't sensible anyway. They have been leading all their courses with that caveat for about 90 years now, and have even found a way to make it seem like a selling point.

In correcting the NMR theory, I was forced to completely throw out most of the variables and manipulations, since they were all compromised at the ground level. There are no magnetic moments, no moments of inertia, and no orbital velocities (all orbital motions are accelerations, rigorously). Pi also has to be jettisoned from all of quantum mechanics, which is huge in itself. Beyond that, the fine structure constant has to be redefined, reassigned, or driven around. Particle wavelengths have to be scaled up from real particle radii, with velocity as the scaler. And most importantly, all quantum interactions have to be redefined in terms of charge channeling by the nucleus instead of electron orbitals.

Addendum: Sometime later I heard from a researcher in the field of NMR, which led to this interesting exchange which went some way to proving my analysis above is correct.

*The B-field is just a boosted charge field. Our machines boost it. Since the charge field is *e*, we don't need them both in the same equation.