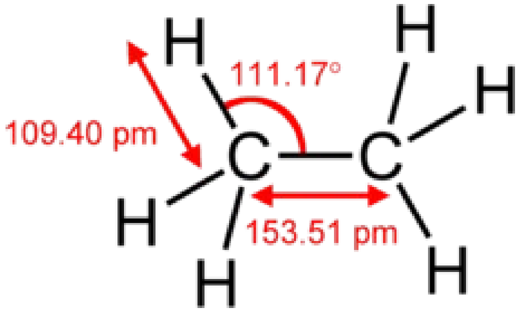
Ethane



plus a peek at HCl and combustion

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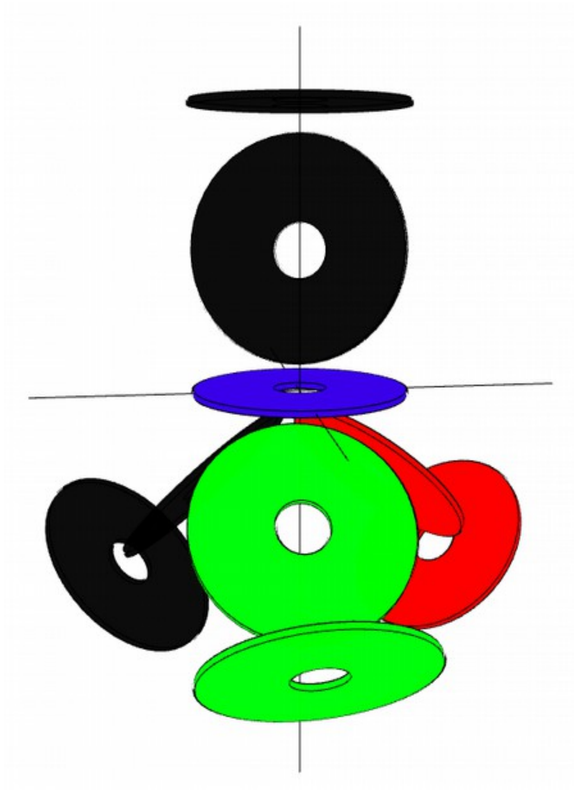
I am back today to do Ethane. You may think this is just a continuation of my 2013 paper on Methane, and in a way it is, but it is more than that. I had thought back then my nuclear diagramming and charge papers would spark a quick revolution in chemistry, but fourteen years on I can see that isn't going to happen, at least not quickly. Mainstream theory is far too entrenched. So if the Physical Chemistry textbook is going to be rewritten from the ground up, it looks like it is up to me, working pretty much alone as usual. You can't say I didn't give others the chance to join me, saving face to some extent, but it wasn't to be. They have preferred to hunker down and pretend I don't exist. The Muse of Chemistry and Physics, along with the Muse of History Clio, have also preferred to let me have all the credit for this, and who am I to argue with that? I am not getting any younger, so I better get busy.

I didn't come to this from my old papers, to be honest, I came to it because I bought a stack of Chemistry textbooks to go through page by page, and the problem of Ethane came up early in the first chapter of the Organic Chemistry book (Carey Giuliano). The authors weren't selling it as a problem, of course, but I saw it as one. They use Ethane as the first example of the Lewis diagram and covalent bonding. But since I destroyed covalent bonding and electron sharing here and many other places, I knew that was all wrong. I assume anyone with any sense knew the theory of electron sharing had to be wrong from the start, but they kept it because they had nothing better. It was enshrined as dogma back in the 1920s and no one has been allowed to question it since then. The usual. But I have proved that atoms and molecules bond not by electron sharing or swapping, but by aligning real charge fields of real photons. Electrons are there, but they are just along for the ride. “Orbital” distances are distances of electron capture, but electrons do not remain at those levels, moving on down to their nuclear positions, the important ones being at the poles. It is real photon fields, moving like winds and channeling directly through the nucleus, that create all bonds and other forces, both at the quantum level and our level. That is what charge is.

I know mainstream chemists will say there is no evidence of a real charge field of real photons running through all matter. But there is, and their colleagues in physics are now admitting it. Back in April we saw the big announcement by the Department of Energy that their top physical scientists had confirmed a phenomenon of "strange metals", in which these substances transferred current, but not in discrete particles we call electrons. In this case, the current was transferred in a continuous "soup", which I commented on here. That soup is my charge field, since a photon charge field would have exactly that signature. Using shot noise they have finally detected the ether, and the ether has turned out to be my charge field. It is not vacuum energy or zero-point energy, it is the same charge they have always given to quantum particles, but it is composed of real photons in the known spectrum.

We have already seen in dozens of previous papers that by using this mechanical theory I have been able to quickly and visually explain many things that were mysterious to the mainstream, including bond angles. I will do so again here. The diagram under title I found at Wikipedia, and from it you can see they have admitted the Lewis diagram was always wrong. Electron sharing can't begin to explain all those strange bond angles. I have also proved that in several other papers. They don't even try on the Wiki page, though they do hit the Ethane barrier, which is just the energy it takes to rotate the two ends of Ethane around that central bond between the Carbons. They admit they don't know what causes the ability to spin, or the energy to spin, but suggest it might be due to repulsion between Hydrogens on opposing ends.

We will get to that, but let us start at the beginning. As we begin to build Ethane, the first thing to recognize is that it is not built up from DiCarbon. No, as you might expect even if you know nothing of Chemistry, it is built up from Methane, which is why it is nice I already have that paper in the can, showing how Methane is built and fully explaining all the angles. So I won't go through all that again, just taking Methane as given and then building Ethane from that.



That's my final diagram of Methane from that paper, thanks again to Arlo Emerson for the assistance. The blue central disk represents an alpha, and all other disks represent protons or Hydrogens. The three colors below are just to separate the three legs at a glance, and I normally diagram them all black, since protons are black in my color scheme. In the Kolbe process, an acetate is stripped of its COO, leaving CH_3. Meaning, we lose the top "cap" Hydrogen in the diagram there, and two of those radicals then bond end-to-end, both y-axis black protons plugging into the central blue alphas vertically, side by side. I have a call out to Arlo Emerson to do his magic again, but I am moving ahead regardless.

You will say that is just a fancier diagram of the one provided by Wiki, with colored disks instead of lines and capital letters. But it is far more than that, because my disks and holes provide the plugs and sockets of channeled charge, allowing us follow the charge streams as they run through the architecture. I beg you to notice that, using the mainstream diagram, you would have no idea that the lines moving out of Carbon are a physical part of the Carbon nucleus, not just bonds in the ether or vacuum. But in my diagram, you see that the Carbon nucleus creates the bonds itself via its own structure of alphas and protons. That is why you don't need electrons to explain anything: the bond lines are already explained by the nuclear structure. I still can't see how anyone can fail to be floored by this.

In other words, in my diagram, the bonds aren't just represented by lines. The bonds themselves are protons in the nucleus, which are channeling charge. I have replaced lines by protons in the nucleus! Charge is real photons with real energies, real spins, and real radii, so we don't need electron bonding to explain anything. The electrons are there, but they simply don't explain any of this. All bonds and bond angles are given to protons or alphas in the nucleus. [And remember, the electrons are channeling charge themselves.]

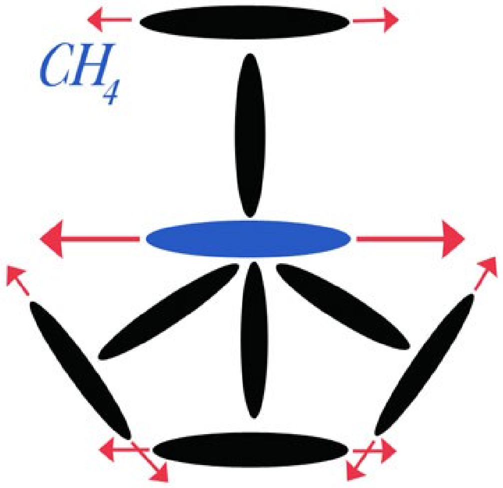
That is why I am able to immediately explain the bond rotation. That bond isn't a covalent electron bond in my diagram, it is a direct bond between the two carbon nuclei, pole to pole, via their charge fields, and the bond is the plug of the upper and lower protons (black) into the opposite central alphas (blue), connecting the two Carbons core to core.

Also notice that it should be drawn as a double bond, and my diagram makes it clear why that is. It is composed of the two axial protons of the two opposing Carbon nuclei. It seems to me that it used to be drawn as a double bond, though as you can see it no longer is.

It is free (ish) to rotate 1) because it is linear along the nuclear pole of both Carbons, which is the main line of charge channeling. Charge is moving straight up and down that line, so rotating the bond won't much affect the millions of charge photons moving through there. It is like rotating the outer part of a straight water hose while water is running through it. With a big hose, only the water on the outside is much affected, and even then not much unless you rotate fast. It is also easy to visualize the resistance there, explaining why it takes some energy to rotate. The water inside will resist the rotation. You will say we have two hoses, not one, but that isn't really true. Though that is probably why they no longer draw the central bond as a double one. Both protons plug into in the alphas in the same place, in the same plug, so there is still only one hose. It simply has two streams through it. So it doesn't much affect my argument here.

But the mainstream isn't completely wrong about the external resistance as well, though it isn't caused by the opposite Hydrogens of Ethane. It is caused by that central blue disk (alpha) in my diagram, which of course the mainstream doesn't have any representation of.

All these bonds we have been looking at have been along the nuclear pole, since that is they way they most often work. But all nuclei and molecules are also recycling pole to equator, since that is actually the default and main channel, as we saw in my first nuclear paper in 2011. In at the poles, out at the equator, creating both electrical and magnetic paths from the nucleus. So in my diagram of Methane above, we would have charge exiting the molecule to the side from the blue alpha, in a circle.



I have called that the carousel level of the nucleus, since in large elements that level is more complex, with protons pointing out, and the whole thing can spin like a carousel. In fact, I assume the central blue alpha here is spinning, though it doesn't much come into the current question. What does come into the question is that charge stream exiting along the equator, since it will exclude charge streams above and below. So the Hydrogens north and south in my diagram will not exclude one another, but they will be excluded by the exiting charge stream of the central blue alpha. As we saw in my paper on Methane, it is that strong exiting charge stream that causes all the angles, and it is from that equator that all the angles should logically be measured. But of course the mainstream can have no idea of that, because, again, they have nothing like my central blue alpha in their diagrams. In their theories they are trying bounce Hydrogen influences off one another here, when they should be bouncing them off that central exiting charge stream.

Actually they aren't bouncing anything off anything, since the mainstream explanations aren't physical or mechanical, and haven't been for almost a century. At first they were just heuristic, and very poor heuristics, but they soon replaced that by huge slag mountains of cloaking math, and by warnings not to question anything or expect anything to make sense. Which is just as well because it never did.

This also explains why the angles of Ethane aren't the same as those of Methane, even in the same ambient field. Ethane is pulling in charge from the North in a different manner than Methane, since their top structures are so different. So although their bottom structures are the same, they can't be channeling at the same total rate. This will affect the rate of emission from the central blue alpha as well, affecting any exclusion angles.

That rate of charge channeling will also affect resistance to rotation from the inside as well, of course, since it will be like more water running through the hose per second. The mainstream treats these factors as constants, since they don't treat charge as real wind, but they aren't constant. Nuclei and molecules have maximum charge rates determined by their structures, but their actual charge rates will depend on the ambient field strength and the molecule's specific angle to it. That is why many experiments vary depending on whether they are run in the vertical or the horizontal, since the Earth's own charge field often interferes.

This also explains why the angles of Ethane are different depending how you measure them. That main angle to Carbon varies from 111.1 to 111.9, depending on whether you are measuring with microwaves or electron diffraction. So your device doesn't just measure, it becomes part of the field, and since microwaves have a different energy from electrons, of course you are going to get different numbers. These charge fields and devices don't just use fields, they use real particles with real energies. We have seen that in many other papers, most famously in the proton radius puzzle. It also helped us solve the two-slit mystery.

As far back as 1890–1891, chemists suggested that ethane molecules preferred the staggered conformation with the two ends of the molecule askew from each other.[22][23][24][25]

Then there is that, which has turned out to be true, but they also can't explain it. I can. These are real exclusions using real charge fields of real photons, so larger particles will naturally exclude one another as much as possible. Those end protons aren't just spreading out to fill space, they are spreading out to maximize charge exclusion. You might think, given what I just showed you about the equatorial charge stream emitted by the central blue alpha, that top and bottom protons wouldn't affect one another at all, the central stream being a complete barrier. But I never said it was a complete barrier. The main charge effect the protons feel is from that central alpha, but it isn't the *only* charge effect they feel. The charge stream is a not a perfect or impenetrable barrier, so opposite protons do know about one another, not only by residual forces through that equatorial stream, but via internal forces. The bottom protons are being “watered” by protons at the top, and vice versa (since charge is moving in both directions), so there are channels of influence both internal and external to the nucleus proper here. To return to the hose example, if you are feeling forces from a rotating hose (or any other vortex), it will rotate the water within it, and that rotating water will try to rotate you when it comes out. If you are perfect sphere, it won't do much but rotate you, but if you are three spinning disks in a given configuration, the disks not evenly spaced, it will tend to rotate you in specific and calculable ways.

Which is just to say that if you now freeze that total configuration to fit to a diagram, you will find top and bottom protons maximizing their charge exclusion, which of course is a staggered configuration. If it *weren't* staggered, the protons wouldn't be as far as possible away from one another, and the water moving through wouldn't be excluding as much as possible. So again, the stagger isn't just to fill space, it is to represent real charge exclusion of real particles by smaller real particles.

But let us move on. It is known that halogens like Chlorine can steal a proton from Ethane. How? Proton sharing? No, we are told it is by free-radical halogenation. Wow, sounds like another fudge, doesn't it? So let's see what that is:

Ultraviolet radiation splits (homolyzes) a chlorine molecule to two chlorine atom radicals.

A radical abstracts a hydrogen atom from methane, leaving a primary methyl radical.

And what is a radical? Just another name for an ion. The chlorine is a negative ion, one that "needs" a proton, I guess. Seems like they used to represent this with a "-", but now it is just a dot. Moving away from that, for obvious reasons. The new method is more abstract and so begs fewer mechanical questions, such as "why would Chlorine need a proton?" If Chlorine really got another proton, like other elements get an electron in bonding, it would be Argon. So why would Chlorine want to be Argon? Why steal a proton from Ethane when it could just jettison an electron and be happy as Chlorine?

Did they go to this dot notation in answer to me?

And how does a radical "abstract" a proton? Well, they have a Wiki page for that as well, since is is called HAT, or Hydrogen atom transfer. It is the usual runaround:

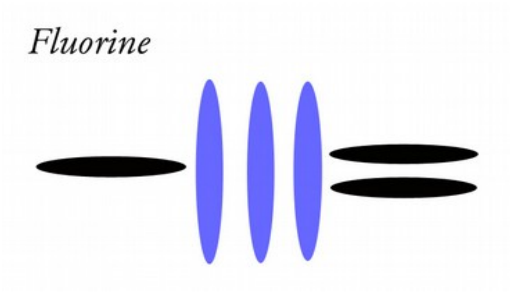
Hydrogen atom transfer can occur via a mechanism known as proton-coupled electron transfer.

So we are being led on another wild goose chase. Each page refers to another page, and I am guessing the final page has either nothing or circles back to the first page. Who wants that bet? As you might expect, proton-coupled electron transfer isn't a mechanism at all, just another runny fudge.

A **Proton-coupled electron transfer** (PCET) is a chemical reaction that involves the transfer of electrons and protons from one atom to another. . . . In PCET, the proton and the electron (i) start from different orbitals and (ii) are transferred to different atomic orbitals. They transfer in a concerted elementary step. CPET contrast to step-wise mechanisms in which the electron and proton are transferred sequentially.[6]

Yep, another explanation by naming. Infinite piles of empty terminology. The whole page is like that. I really recommend you go read it. One question: since when are protons in atomic orbitals? Did I miss something? But the important thing here is that there is no mechanical explanation of why or how Chlorine takes a proton from Ethane. Not even the rudimentary beginnings of an answer, just page after page of misdirection, waffling, and embarrassing flapdoodle.

So what is my answer? My answer is that ionized Chlorine captures a proton from Ethane because it has a stronger real charge vortex, enabling it to do that mechanically. Chlorine, at 17, is much larger than the two Carbons of Ethane at 12, so it will be recycling far more charge in the same ambient field. In addition, the nuclear structure of the halogens is such that they naturally create a very sharp, pointed vortex with a lot of penetration, as we saw in previous papers with Fluorine.



Carbon normally has one proton north and south, but as you see Fluorine has a larger core of three alphas plus two protons in the south pole (Chlorine has an even large nuclear core, of course, but the same pole configuration). Because it has more protons in one pole than the other, charge moves more strongly in one direction, minimizing offset, and allowing for the greatest current. We also see this with Silver and Copper. It also allows for a sort of focusing of charge or current as it moves up from south to north, so that when it is released north it creates what I call a sharp or pointed vortex with a lot of charge density, explaining why the halogens are so reactive.

Now, when you ionize or radicalize a halogen, you can only lose an electron, you can't add one, because elements don't want any more electrons. So the Chlorine ion should be positive by the old rules, not negative. If it has lost an electron, it should have a net positive charge. But that doesn't work with the standard model, so they give halogens a negative charge, or now a dot to hide that problem. But Chlorine doesn't steal a proton because it is negative or positive, it steals it because it has a place for it. An empty plug, as you see. That north pole can take two protons but only has one. As long as the north electron is in place, it is partially clogging that charge exit, and also dissipating it. Aerosoling, if you like, spreading out the vortex. But once that electron is jettisoned, the exiting charge stream is maximized and focused, and the ion becomes very reactive. In fact, the charge stream becomes so powerful the one proton north can't handle the flood, and the nucleus flips to correct that imbalance. If it didn't it would blow that proton out the top and fracture the nucleus.

That's right, when Chlorine is “radicalized and homolyzed” by ultraviolet radiation, the nucleus flips in relation to the ambient field, so that the two protons are now north and the one is south. This gives us an open position in the south, in the incoming vortex, and so you now see why the nucleus “needs” that extra proton. It has enough protons north to pull out two parcels of charge, which is of course the genesis of its “proton affinity”. The stolen proton it get from Ethane enters the open hole and (nearly) allows the halogen to maximize its charge profile. I say nearly because of course HCl isn't a variant form of Argon. It remains a molecule, not a new nucleus. Meaning, the new proton isn't fully plugged into the nucleus like the other three. It is backed out some distance, allowing HCl to maximize charge as much as possible given the structure and the pressure involved. It would take far more pressure than the ambient field has to push the new proton all the way into that position.

So could Argon have that HCl configuration in a star? At first I thought it might be possible, but I now believe it isn't. Why? Because these variant Noble Gas configurations are only possible at a percentage of maximum, but not at full. I have said that an alpha can take two protons plugged into it, but that is only under ideal conditions, ones that can never be met in real life. Remember, here on Earth all elements are recycling in both directions, north and south, so an alpha in the core of a halogen or any other element isn't just recycling two parcels of charge, it is recycling four. You will say it has help from two others, so three alphas are recycling four parcels of charge. The core would seem to be at only 4/6 or 2/3 maximum. And besides, both currents aren't equal, with the weaker opposing current being about half the stronger main current. Putting the core at 3/6 or ½ its potential. But that isn't how it works in practice, since each of the three alphas has a maximum that isn't able to be spread or commutated. From studying actual outcomes, it looks to me like alphas can take a large percentage of two, but not fully two. So that fourth proton couldn't be plugged into Chlorine even by a star. Or, it could, but it would fracture the nucleus.

What else have I got for you? How about combustion? Ethane combusts with Oxygen, producing water and CO2. So what's going on there? As usual, they can't tell you. Or, they have a lot to tell you, very little of it to the point. See the Wiki page on combustion.

Combustion in oxygen is a chain reaction in which many distinct radical intermediates participate. The

high energy required for initiation is explained by the unusual structure of the dioxygen molecule. The lowest-energy configuration of the dioxygen molecule is a stable, relatively unreactive diradical in a triplet spin state. Bonding can be described with three bonding electron pairs and two antibonding electrons, with spins aligned, such that the molecule has nonzero total angular momentum. Most fuels, on the other hand, are in a singlet state, with paired spins and zero total angular momentum. Interaction between the two is quantum mechanically a "forbidden transition", i.e. possible with a very low probability. To initiate combustion, energy is required to force dioxygen into a spin-paired state, or singlet oxygen. This intermediate is extremely reactive. The energy is supplied as heat, and the reaction then produces additional heat, which allows it to continue.

Wow, after centuries, that's all they've got? Sean Carroll's "physicists that know everything" have to resort to that when it comes down to it. Oxygen is triplet and ethane is singlet, with their interaction a forbidden transition. So combustion happens because it is forbidden? OK. But no, if you add heat, apparently oxygen is forced somehow into singlet, which is not only not forbidden, it is required to combust. So all singlets combust with all other singlets? Is that what they are saying?

This is all part of MOT, or molecular orbital theory, which is one of the biggest hashes in the history of anything.

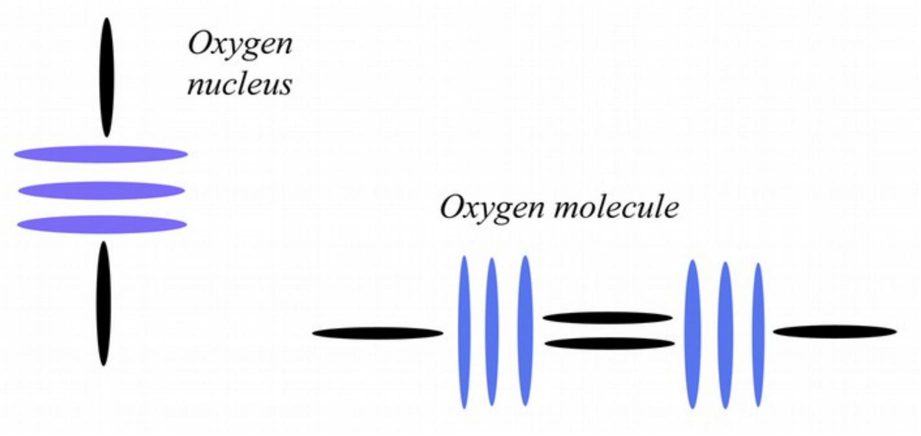
In molecular orbital theory, electrons in a molecule are not assigned to individual chemical bonds between atoms, but are treated as moving under the influence of the atomic nuclei in the whole molecule.[1] Quantum mechanics describes the spatial and energetic properties of electrons as molecular orbitals that surround two or more atoms in a molecule and contain valence electrons between atoms.

Since I already disproved electron orbitals, that is all out the window. But just so you know, what they did when the old orbital theory fell apart in the early years is come up with an even bigger and stupider theory based on even less data (or ignored more data), one that allowed them to cross pollinate atoms, having electrons orbit entire molecules for no reason. They dreamed up hundreds of assumptions and rules, which is why your Physical Chemistry book is so long and unreadable, and of course ignored any and all contradictions and begged questions, which were legion. The people to blame for this mess were Hund, Mulliken, Slater, and Lennard-Jones, if you are interested. Add them to your wall of shame.

By 1950, molecular orbitals were completely defined as eigenfunctions (wave functions) of the self-consistent field Hamiltonian and it was at this point that molecular orbital theory became fully rigorous and consistent.[14] This rigorous approach is known as the Hartree–Fock method for molecules although it had its origins in calculations on atoms.

That's a laugh, since it was the opposite of rigorous or consistent. Rather, it buried the awful and completely wrong physical explanations under a gigantic sexy math, which was the whole point. That has been the point of all new math for over a century. Once it was swamped under a thousand pages of manufactured equations, MOT could no longer be questioned, mainly because no one could figure out what any of the variables or eigenfunctions applied to. They only applied to manufactured states dreamed up by these daffy theorists, who never saw a fudge they couldn't out-fudge. The only other thing required at that point was giving all these people major awards and cementing the whole mess into textbooks, at which point it became too late for correction.

So what is the right answer? Well, it should be obvious after what I have told you already about the halogens. Oxygen isn't a halogen, but it is highly reactive for the same reason, or similar reasons. To start with, it is again bigger than Carbon, allowing it to bully Carbon's weaker charge field, stealing protons from it under the right circumstance. Carbon is 6, Oxygen is 8. And of course Oxygen attacks Ethane as a dimer, which is even more powerful.



Given those diagrams, you can see we don't need the endless unsightly noodling of MOT. The oxygen molecule is linear, with strong conduction potential through the poles and little loss from the equator. Meaning, those six alphas in the extended core can be releasing charge out equatorially, but because there is no extended carousel level, that release is weak and can be overridden. Oxygen wants to channel strongly down the pole, but under normal circumstances it isn't sure which way to channel. It has the same number of protons north and south, giving it a lot of cross traffic and making it diffident. It can accept a proton either end, since it has a space open, as you see. It has a proton affinity, and that affinity can be seen by straight mechanics. But it can only take a proton on one end, since it is releasing on the other end. It has a “pull” only on one end, where the charge vortex is going in.

Fortunately the Oxygen molecule is not completely uncertain of itself in our field, otherwise we would have no combustion regardless. The ambient field here on Earth is twice as strong in one direction as the other, due to the spin of the Earth, Sun, and Galaxy (and due to returning charge from the Jovians), and charge outweighs anticharge by about 2 to 1.* So we have something to work with. But Oxygen doesn't combust with Ethane on its own, as we know. It requires a spark. Why? Is it something to do with triplet and singlet states in triplet Oxygen? Of course not. It is so much easier than that. What is a spark? It is a small area of very high heat, with a definite direction. Meaning, it is a velocity or acceleration. So apparently we need to speed up that Oxygen molecule before piercing it into the Ethane, or we need to speed up the charge field moving through Oxygen. But the charge field is photons, so it is already going c and can't be sped up. It can only be given greater density. Just as Schrodinger correctly guessed. Does a spark do that? Yes, because a spark accompanies a flow of electrons, like an electrical current, and those electrons are carried on a charge field. So any time you see a flow of electrons into an area, they are being carried by charge. So you are also seeing a quick rise in directionalized charge density. By directionalized I mean that you not only have a rise in charge density, you have that rise along a sharp vector that gives charge a path. The genesis of a spark requires the creation of a sharp vector in space, by a fast motion, like a little lightning bolt. Sparks aren't caused by bumps, no matter how quick or heavy, they are caused by sideways strikes, and the reason is because those strikes create line in space, or a vector for charge to follow. This doesn't allow charge to move faster, since charge is already moving c, but it allows the charge density flux to move faster, you see.

Therefore, what we are seeing is the spark entering the vicinity and 1) telling the Oxygen which way to channel and align, 2) quickly increasing the charge density and therefore the charge moving through the Oxygen. This allows the Oxygen to interact with the Ethane where it couldn't before. But the reaction is so positive, it doesn't just pull off a proton, as with Chlorine, it blows the entire structure to constituent pieces, which then have to re-form. They don't reform into Ethane because they have to obey the post-combustion rules, where Oxygen now trumps Carbon. The protons go with the stronger Oxygen instead of going back to Carbon, simply because Oxygen had more powerful charge vortices pulling in charge. The protons, like the electrons, follow those charge vortices.

All of this is made possible by the charge field, as you see. In trying to explain combustion, the mainstream has totally ignored the charge field here, though it is the main player and the fundamental cause of everything. They treat charge as simply an undefined quality of quanta, as a heuristic method of explaining attraction between the nucleus and electrons, but ignore it beyond that. They don't talk about a charge field because they don't have one in the sense that I do. That is precisely what has prevented them from explaining bonds sensibly, and what has required them to dive into the ever deepening pit of Molecular Orbital Theory, which we have seen continues to morph into ever more gruesome forms even today.

*So we *do* have spin here, which they were tying to get at with the triplet/singlet mess. But it is a real spin of real particles, and it applies to the photons moving through the Oxygen as charge, not to the Oxygen itself. And we don't have eigenfunctions or pseudo spin-states, we have real mechanics of real moving particles, which we can express without difficult math and fancy new names.