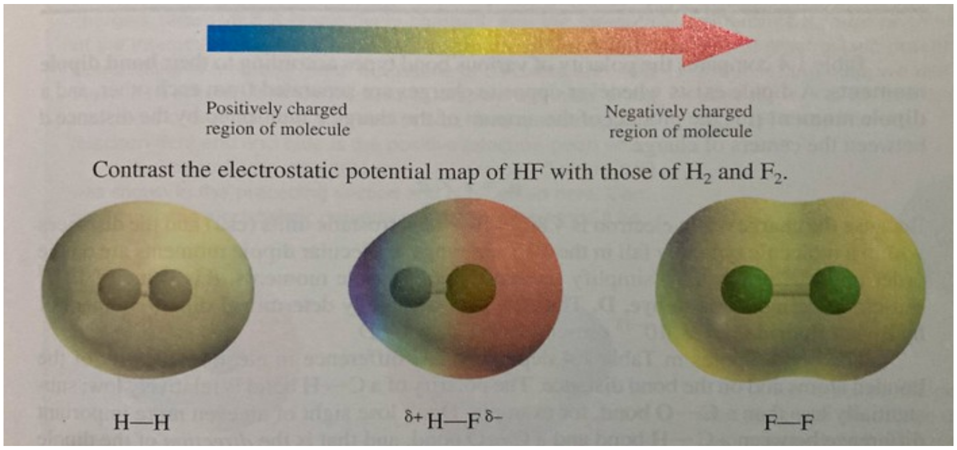
BOND DIPOLES

and polar covalent bonds



by Miles Mathis

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Today I am back to continue my rewriting of the Organic Chemistry textbook, focusing on bond dipoles. But I will be taking a necessary break from this starting with my next paper, due to current events. This month the mainstream decided to take things to the next level on Youtube, promoting a new flame war between Michael Peskin and Sabine Hossenfelder. This is a spin-out of the manufactured flame war between Sean Carroll and Eric Weinstein, but the arrival of Peskin signals a major acceleration of the propaganda. All to keep eyes off me, but it is the usual tempest in a teapot, with zero real content. Comments from Anonbots are leading with the idea that Peskin "wrote the book" on quantum field theory, and is therefore a big bear here, which is all it took to wake me from my winter slumbers and call me out from my cave. In attacking Peskin, I will at first appear to be defending Hossenfelder, which admittedly would be droll, but of course I am not. Peskin popping his head up is just my excuse to switch books for a few weeks, destroying his *An Introduction to Quantum Field Theory* instead of *Organic Chemistry* to finish off this year. My readers will know I destroyed Peskin's book a long time ago, by destroying its subject and most of its precursors like Feynman and Gell-Mann, but since none of that was aimed at Peskin specifically, it might be best for me to now aim at him specifically. But you will have to wait a few more days for that.

Today we are still at p. 11 of our Organic Chemistry book [Carey/Giuliano, 10th ed., remember], where we are sold the current theory of bond dipoles, starting with the diagram under title above. Yes, they are still teaching that as of 2025, which should tell you how much progress has been made in the past century: almost none. As regards major theory: none. This theory of EM dipoles goes back to the 19th century, and the basic idea behind this hasn't changed since then. This diagram could just as easily have come from 1890. You would think that someone would have come up with something more advanced than these ridiculous eggs to explain charge variations around the nucleus, but no. Here is how section 1.4 starts:

Electrons in covalent bonds are not necessarily shared equally by the two atoms that they

connect. If one atom has a greater tendency to attract electrons toward itself than the other, the electron distribution is polarized and the bond is described as polar covalent. The tendency of an atom to attract the electrons in a covalent bond toward itself defines its electronegativity.

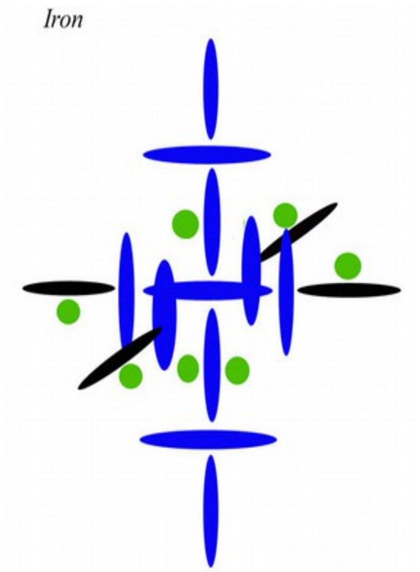
How has any scientist ever been satisfied by that? There is no real and mechanical field below that of the electron, so everything has to be explained with the electron. . . although nothing CAN be explained by the electron. Notice this isn't a field theory, since THERE IS NO FIELD. According to mainstream theory, electrons aren't shared because a real field compels them to with real densities, pressures, or forces. They are shared just because some guy came up with a bald idea and sold it somehow to the universities, probably via bribes or other malfeasance. We aren't told *why* or *how* electrons are shared unequally, so this isn't even a theory, it is just a statement. No mechanics or theory is involved, so you should be mystified to hear it is called quantum mechanics or quantum theory. It is just a form of sympathetic magic sold as physics, though even sympathetic magic makes more sense than this.

But of course they had to do it this way because no one back then knew what the charge field was or how it worked. They didn't realize they had a sea of real spinning photons to work with, so they had to explain all forces as being due to sharing or egg shapes or tendencies or wish fulfillment. These old scientists needed electrons to do a thousand things they couldn't possibly do, and were known *not* to do, so they just pretended they did and taught it to their witless students, the students buying it to get a grade.

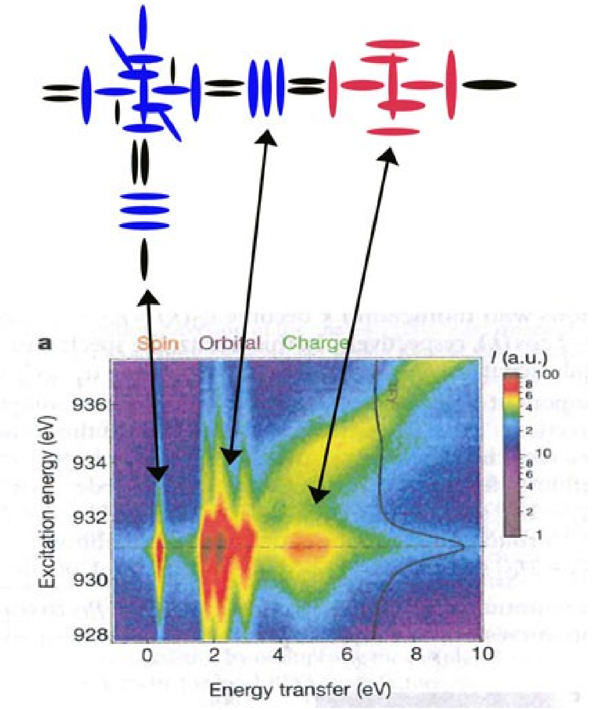
You will say they knew about charge back then. Yes, but given their understanding of it then (and now), they couldn't use it to explain anything, since a charged electron didn't give them any way to generate the multiple degrees of freedom they were encountering or the complex quantum interactions among atoms. Not even a bunch of fake electron orbitals could give them that, no matter how much *post hoc* gerryrigging they did (and they did decades of it). Without the idea of nuclear channeling of charge, and the correct nuclear diagrams, it was simply impossible for them explain anything physically, no matter how much fancy math they added later.

We saw the exact same thing in Celestial Mechanics, where they were also doomed by ignorance of the real charge field. Newton already had a Lagrangian, as I have shown, but he was no better off than physicists now because, like them, he didn't realize it was expressing a dual field, with charge being the second field. Without that realization, not only was unification impossible, but the field math was doomed to remain forever incomplete and therefore chaotic. Or, it wasn't so much chaotic as it was just *wrong*. The foundational and theoretical mistakes were fatal, dooming any math from the first line. Math relies on postulates and the postulates were dead wrong. The math could only become correct and deterministic by understanding exactly how the two fields fit together. Any math that is wrong could be called chaotic, since the mistakes prevent solution.

Before we get to the so-called polar covalent bond, I want to hit the simple covalent bond one more time. I never get tired of ridiculing it. We are told that with F_2, the two Fluorines each share one electron, so that they can have eight in the outer shell, matching Neon. Not sure what matching Neon has to do with anything, or what use it is to Fluorine, since the original point of this theory of opposite charge was to charge-match Fluorine to itself, **having the same number of electrons as protons**, and therefore a charge neutrality and balance. But for some reason not stated we are supposed to believe being like Neon is more important to Fluorine than keeping that balance it already had, since F_2 is now out of balance with its own protons. If it is sharing charge, each Fluorine atom now must have either ½ or 1 extra negative charge, depending on how you look at it, giving F_2 either a 1 or 2 extra negative charge. *Which we know it does not have*. So the theory is contradictory from the first word. Fluorine cannot both share and not share charge. It either does or it doesn't, and the charge profile of F_2 proves by itself that it doesn't. You will say that F_2 is highly reactive, but strictly it isn't. As F_2, it isn't reactive at all, only becoming reactive AFTER dissociation. This is why the oxidation state of F_2 is zero. So we have a mass of theoretical contradictions here.



But we hardly need go there anymore, since my nuclear diagrams prove electrons have almost nothing to do with this. They certainly aren't shared. Molecular bonds are not a result of electron orbitals, or electrons at all, they are the result of aligning nuclear charge channels among adjacent atoms.



The atomic nucleus is a charge recycler, acting like a charge engine, and each element has a distinct architecture, as you can see there from Sr_2CuO_3. I can explain molecular bonding, and most other interactions, without diagramming the electrons at all, and I have already done it in dozens of papers across decades. As I often say, the electrons are just along for the ride. It is proton configurations that determine almost everything, along with the real charge field they are channeling. Electrons also channel charge, but they are always in larger fields and do not determine those fields or any of the interactions in them. Most often they are little more than buoys, indicating the field direction at that point, but doing almost nothing to determine it.

Now, returning to polar covalent bonds, we see what a disaster that must be, since we are told the red arrow above points to the "negatively charged region of the molecule". Maybe it does, but we then need some explanation of why that region is more negatively charged. Can't have anything to do with eggs, pears, or electrons, since only two electrons are being shared in HF and there is no reason for them to be on the far side of Fluorine all the time, more often, *or ever*. To draw this farce out, we are sent to p. 13 and an inset called Electrostatic Potential Maps. We start reading, and, as expected, we get nothing but bloviating for many sentences, until we get to this:

Computational methods make it possible to calculate and map these interactions.

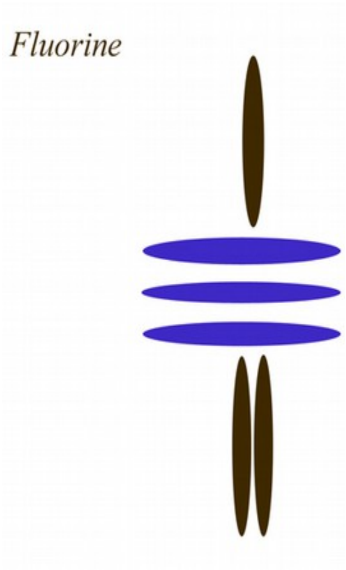
Oh, wow, computational methods make it possible to calculate, you say! But wait, isn't that redundant? Isn't a computational method the same as a calculation? So this is like saying "walking makes it possible to walk". Just flapdoodle. And we have a greater problem, since mapping these interactions is still not explaining where these charge densities come from, or what they are densities *of*. That is what this special section was supposed to be telling us, remember, but it is just telling us that calculating makes it possible to calculate. We are then shown that HF is polarized opposite to HLi, with H being blue in the first map and red in the second, and that this is because H is more electronegative than Li. But again, that is just talking in circles, since electronegativity is defined relative to charge maps like this, and we haven't been told why charge is splitting in this way. Why, exactly, is H more electronegative than Li, and what does that mean mechanically? What in the field is causing it and how? No answer. So like the rest of this chapter, and indeed the entire book, this inset section is pretending to tell us something while telling us absolutely nothing.

You will say they will tell us later in the book, but they won't and don't; and given how simple it is (as I am about to show) there is no reason for them not to tell us in the opening chapters. That explanation would be the perfect selling point of the theory, useful to every student, so if they had it they would definitely lead with it instead of all this misdirection about sharing electrons.

You will say there are quantum mechanical answers to these questions, they are just too complex and mathematical for laymen or college chemistry students. That isn't true: there are not in fact *any* sensible answers to these questions from quantum physicists or chemists at any level, and you should intuit that even without studying it for years: if these people had any sensible answers to these questions, they would find some way to gloss them for students, instead of selling them this century-old malarky about electron sharing. No field that starts with electron sharing is going to end with anything sensible. It is just going to become progressively *less* sensible, which is what has happened, as we all know. Quantum mechanics has since devolved to inverse time, backward causality, vacuum fluctuations, quasiparticles, spooky forces, tunneling, multiverses, electron holes, hopping on Cayley trees, and every other species of tomfoolery. How could it not, when it was born from gaslighting like electron sharing?

Just so you know, Hydrogen is more reactive than Lithium not because Linus Pauling told us so and then won a Nobel Prize (as the textbook implies); Hydrogen is more reactive because it is a single proton, so we only have to track the charge field straight down that one nuclear pole when we are looking at charge channeling and molecular bonding. With Lithium, we have three protons, or a Helium core with a proton plugged in the south pole, and the Helium is recycling most of the charge out on its equator, instead of along its pole. So if we put that Lithium in the same field as our Hydrogen, the Lithium's charge is split while the Hydrogen's isn't. Only part of the charge passes along the pole as what I call through charge. The rest is recycled out the equator by the Helium core. But that part of the charge that moves out equatorially isn't used in bonding. These nuclei bond on the poles, so only that charge applies to bonding. **And that is the simple mechanical reason why Lithium is less reactive than Hydrogen.**

You will say that according to that explanation, Fluorine should be even less reactive, because it splits the charge channeling even more ways. But it doesn't, as we see from the diagram:



To start with, charge channeling can be split only two major ways, not nine ways, so my critic fails immediately. Charge either moves through a nucleus pole-to-equator or pole-to-pole. You can see that Fluorine has three protons on the poles pushing charge through, so in that way it is thrice as powerful as Hydrogen off the top. Of course we then have to take into account the six protons in the core that are also driving some charge out equatorially, but that drive relies on angular momentum and these smaller nuclei don't have as much spin (for reasons you are about to be told). They don't have a full-fledged carousel level like the larger elements, so their equatorial channel is weaker. Still, some charge will be lost equatorially, driving down the increase from 3 to about 1.81.

The other thing that drives down the polar channel is the fact—unknown until I showed it—that the south channel is twice as strong as the north. The mainstream is aware that the aurora australis is stronger than the aurora borealis, but it doesn't realize that the same effect is in play here at the nuclear level, all driven by the ambient charge field. The Solar field is split 2-to-1 at the distance of the Earth, with twice as many photons as antiphotons, or twice as much charge as anticharge, so that proton on the north pole of Fluorine is not really "pulling" one proton's worth of charge through the nucleus, you see. We should only give it a strength of ½, making our polar stream 2.5 times that of Hydrogen. So only 2.5 – 1.81 = .69 is due to loss from the equator. Which would mean each of six core protons is sending .115 out equatorially. Or 1/8.7.

And why 8.7? Why are those core protons recycling at 1/8 or 1/9 that of the south pole protons? I can tell you that, too. It is because the south pole protons are working with the north proton in tandem or triplet, pushing charge linearly along that pole. But the core protons are not working linearly, are they? They are taking a charge stream that came in on the south pole, one that was originally linear, therefore, and turning it via angular momentum and centripetal forces into an equatorial stream. So we need a divisor to turn a linear stream into an angular or circular stream, and I have shown you how to do that in many papers, starting with this one, and including this one on particle hierarchy, and also including this one on the Balmer series. **In all of those the divisor is simply eight.** Not π or anything to do with π, simply 8.

That leaves us with an error of .01 from each of six protons in the core (.125 – .115), or a total miss of .06 from a start of 3, or an error of 2%. That error is due to neutrons between the core protons, which I have ignored in these primary calculations. I told you I could get close just by following charge through the protons, and I just proved that. I have very easily estimated electronegativity differentials by almost completely ignoring neutrons, and completely ignoring electrons.