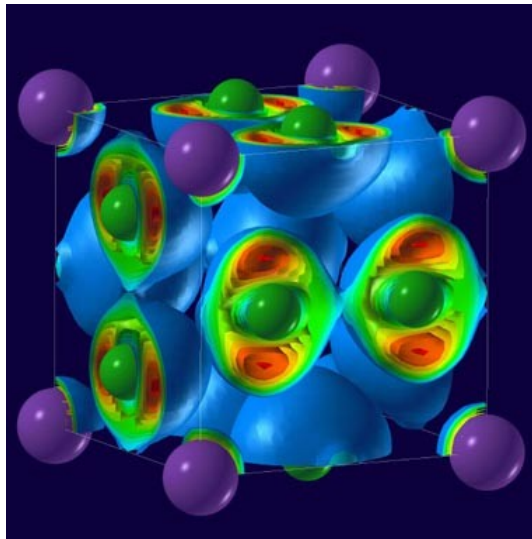


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# SALT IS NOT WHAT WE THOUGHT

**and neither is molecular bonding**



*by Miles Mathis*

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In late December, 2013, [many mainstream science journals](#) published the announcement of new experiments with salt by a team of researchers at Stony Brook University. This report is of [data published in \*Science\*](#) on December 20. What these scientists did is put common rock salt under high pressure and heat under a diamond anvil, to discover if any new compounds could be created. Interestingly, before they ran the actual experiments, they created computer models to try to predict what they might see under these pressures. To create the computer models, they simply ignored the current laws of physics and chemistry, putting atoms where they wanted them. As it turned out, they *did* find some of these compounds, roughly, which led them to think they had confirmed their models. But I will show below that their models fail, which means their experiments don't really confirm their assumptions.

Before I continue, I would just like to point out how odd it is that experiments like this haven't been done before. These sorts of straightforward experiments are just the kind we need in physics, and the electron bonding theory should have been tested in this way decades ago. How hard is it to heat up and pressurize rock salt? I would suggest that they haven't been done (or the data released), because it was known they were a threat to electron bonding theory. Electron bonding theory has always been pathetically weak—with its mechanisms conflicting with its own field definitions—so the last thing they needed were straightforward experiments like this showing how it failed.

But back to the current problem. The basic assumption going into these experiments was that the current rules of bonding hold only under low pressure and heat. Given enough pressure and heat, the researchers theorized they could build “forbidden” molecules. They were correct in the latter, so they

are using that as confirmation of the former. They are telling the magazines that the current rules only work for low pressure and heat.

What no one is admitting is that these experiments are actually far more profound and important than that. This is because the old rules were not rules that should have been trumped by pressure and heat. The new experiments don't just disprove the old rules at high heat. They disprove the old rules, period. The old rules and models disallow these bonds *under any conditions*. Therefore, the creation of these new molecules disproves the old rules and models.

Why? Because according to electron bonding theories—all of them—allowed bonds are not a function of heat or of pressure. They are a function of orbital structures. Since the orbital structures should not change *in kind* in high pressure or heat, allowed molecules should not change. Given electron orbitals, high heat or pressure should only compress the orbitals. An orbital compression cannot explain what we are seeing. Even if the orbital shapes were somehow affected, that would still not explain these new molecules. Orbitals would have to be destroyed and many electrons ejected, and we have no evidence of that. In some of these experiments, Sodium is accepting *seven* Chlorines. To explain that with electron orbital theory, you need to give Sodium a valence of +7. That would create an absolute typhoon of free electrons, and we don't see that. There is no evidence Sodium is being ionized down the level 7, and lots of evidence it isn't.

For instance, I will show below that even with NaCl<sub>3</sub>, only one new electron is being ionized, not two as would be expected. They have ways to measure these things, but they don't. They don't even *try* to measure them, because doing so would compromise their facile new theories.

What they should have done while they were creating computer models is to model what was possible under high pressure and heat using the standard model, with current physics and chemistry laws and equations. They didn't do that, because they already knew the answer: *nothing* should have happened. No bond should have been formed, but especially not a permanent bond. Once the pressure was released, any exotic molecules should have immediately cratered. Which of course means the experiments don't confirm the current physics and chemistry laws and equations—which is what I have been saying for years.

One of the co-authors, Alexander Goncharov, was good enough to admit it. He said, “We discovered that the standard chemistry textbook rules broke down.” The main author, Weiwei Zhang, also admitted it. She put it this way: “We found crazy compounds that violate textbook rules – NaCl<sub>3</sub>, NaCl<sub>7</sub>, Na<sub>3</sub>Cl<sub>2</sub>, Na<sub>2</sub>Cl, and Na<sub>3</sub>Cl. These compounds are thermodynamically stable and, once made, remain indefinitely; nothing will make them fall apart. Classical chemistry forbids their very existence. Classical chemistry also says atoms try to fulfill the octet rule – elements gain or lose electrons to attain an electron configuration of the nearest noble gas, with complete outer electron shells that make them very stable. Well, here that rule is not satisfied.”

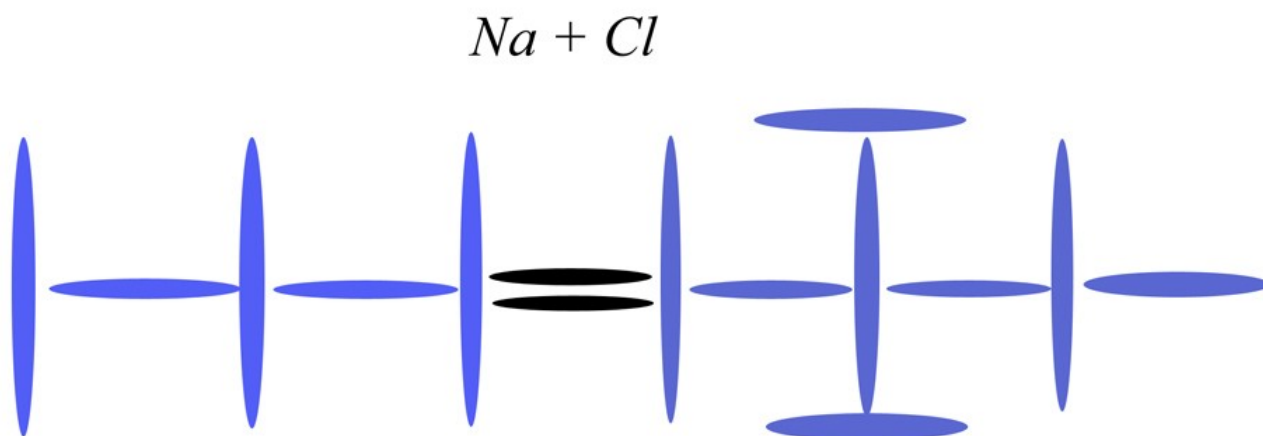
I have shown that this is not a new problem. Neither the octet rule nor the overarching theory of electron bonding has *ever* worked—not from the very beginning. It has been taught not because it works, but because it was all they had. It “works” in even the simplest cases only by massive fudging and by ignoring all begged questions.

Nor is this the first time they have admitted it. They admit it every time a new experiment comes in—and have for about 80 years—but rather than throw out bonding theory, they always just find some way to push old theory in line with new experiment, usually by adding another round of fudged theory and

math. That is what I expect they will do here. If the past is any indication, they will take this bad miss as an opportunity for decades of new pushes. New jobs will be created for those manufacturing these new pushes, and an entire new subfield of faux-chemistry will be born.

But I have already provided the simple answer: the bonds are not electron bonds, so Nature cannot possibly match old theory. Nature is working with charge channel bonding, not electron bonding, so no amount of new pushes to electron bonding can *predict* anything. Again, I will prove that by showing how these new compounds are created. I will be able to do that very quickly, without pushing or fudging anything.

To start with, the nucleus is channeling charge. Charge is made up of real photons, and these photons are channeled through the nucleus in defined channels—channels that are different for each element. To understand how molecules are made, we have to follow these charge channels, not electron orbitals. If we do that, we can solve each problem with straight mechanics, requiring no complex math, borrowing from the vacuum, virtual particles, shifted orbitals, or any of that slop.



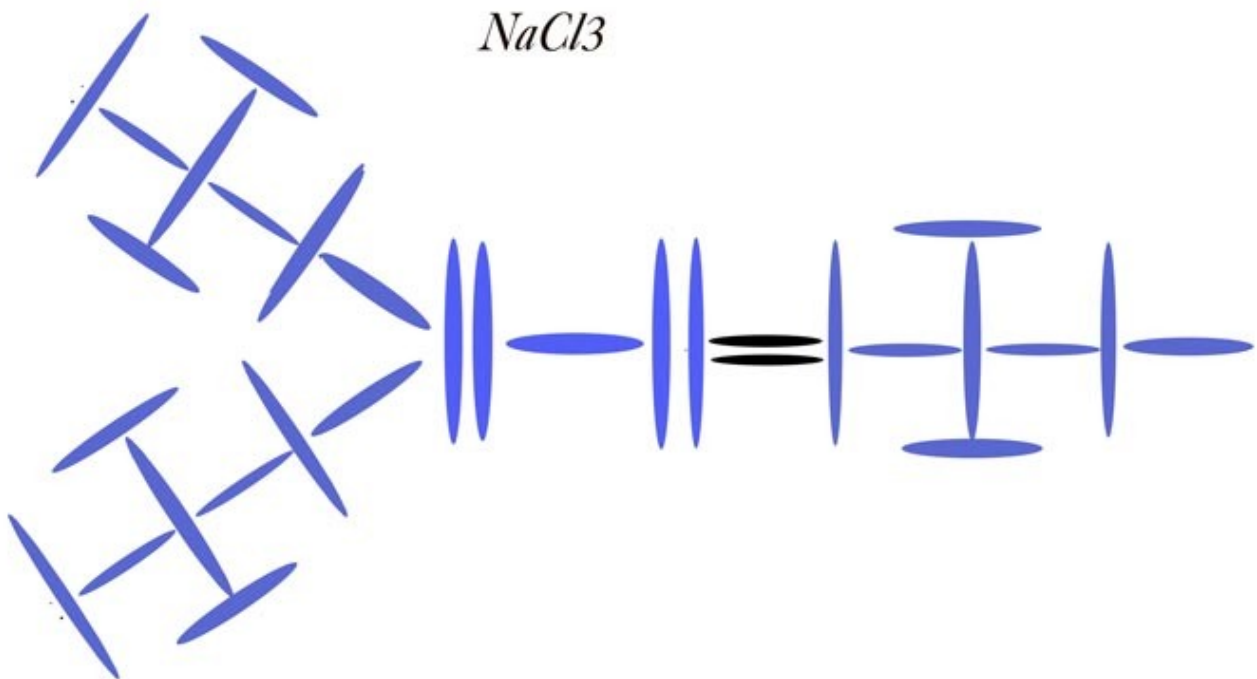
That is the diagram of NaCl I have previously published. The blue disks indicate alphas, the black disks indicate protons. We can leave the neutrons out of it, in the simplest explanation. The molecular bond is in the middle, and is create by charge being channeled from one nucleus to the other. As drawn, the disks indicate the direction of charge channeling.

You will need to have read [my previous papers](#) on charge channeling to fully comprehend the mechanics, but it is quite simple. The spin of the proton or alpha creates charge field maxima and minima around the particle, drawing in photons to the poles and emitting them most heavily at the equator. This happens at all sizes—proton, Earth, Sun, and galaxy. The nucleus uses this simple field requirement to channel charge, preventing dissolution and allowing protons to come near one another without any strong force. I show all the fundamental *mechanical* rules of this channeling in those previous papers. These mechanical rules are simply the same rules we have at the macrolevel.

Under normal circumstances, Sodium and Chlorine bond one-to-one like that, not because of electron orbitals or electronegativity, but because that is what the given charge channels allow. To understand what I mean by that, you need to understand that charge always has a direction. Specifically, in that diagram above, (summed) charge is moving left to right. Each nucleus takes in the most charge at the

south pole, so both Na and Cl were channeling left to right even before they met. The diagram above is on its side, you see, so that the south pole of each nucleus is to the left. What this means is that there is no other easy plug in the diagram above. Given a second Cl in the field, for instance, there isn't anywhere for it to bond. Under normal circumstances, we won't see NaCl<sub>2</sub>, because there is nowhere to put it. You will say, "Sure, just plug the single (north pole) blue disk of Cl into the south pole of Na. The directions all match, according to your theory." But that doesn't work under normal circumstances, because that puts more charge channeling through Na than it can take. You can channel charge *from* Na *to* Cl, but not from Cl to Na. Since Cl is channeling more charge than Na, it won't plug in that way. It would be like trying to plug a hose carrying 2x amount of water into a hose that could contain x amount of water. If you could force the plug, the smaller hose would explode. But what actually happens in that the connection can't even be made. Try it with real hoses and you will see that—without turning off the water—you can't make the connection. The pressure simply won't allow it. That is what is happening here. Any second Cl passing nearby won't be able to make a connection.

So how are they building NaCl<sub>3</sub> under high pressure? Until recently, I couldn't have told you; but fortunately I have [written a paper](#) on Carbon Dioxide and Methane, showing how the Oxygens can rearrange the Carbon between them. A similar thing is happening here. When a smaller nucleus is very close to a larger nucleus, the stronger charge channel of the larger nucleus can rearrange the alphas in the smaller. So instead of an explosion at high pressure, we instead get a compression.



As you see there, the central Sodium nucleus has been compressed, and alphas have been turned to allow for a variant configuration. I encourage you to compare that to [my diagram of Methane](#), which uses a very similar field mechanics to explain the known structure. Just as Carbon is rearranged by the charge field of two Oxygens, Sodium is rearranged by the charge field of three Chlorines. But in this case, the normal charge field isn't enough to create the compression. Because Sodium is larger than Carbon, we need extra pressure from the diamond anvil.

This is what is really happening with the newly discovered structures, not any “electron localization function.” If you read the new paper at *Science*, you find these scientists are not just reporting data, they are using the new data to quickly compose new theory. But since this theory is based on electron orbitals, it proves my prediction above. Even before reading the paper, I knew this is what they were going to do. But in the mainstream reports, we aren't told that. You have to read the original paper to see that they are indeed trying to fudge the old electron orbital theory to explain this. As I have just shown, the new structures have absolutely nothing to do with electron orbitals. Yes, the electrons are there and they are still important in my theory. But not in molecular bonding. Molecular bonding is explained by charge channeling, not by electron bonding. In this bonding, the electrons are only along for the ride: they do not *cause* anything.

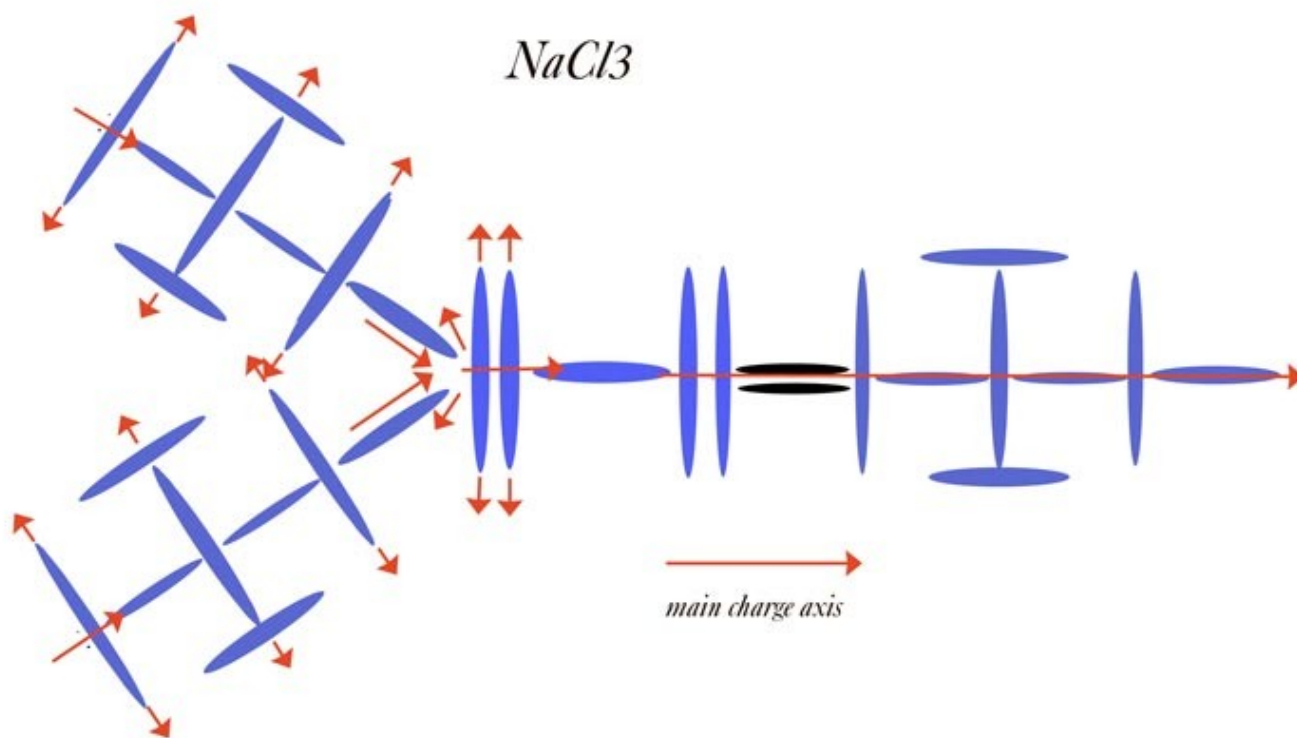
Before I get to a closer analysis of their new theory, I will answer a couple of quick questions about my diagram. Some might look at those last two parallel alphas of Sodium (nearest the new Chlorines) and ask, “Isn't one of your previous rules that an alpha can only channel an alpha's worth of charge? Well, that works for those two alphas at the bond, but once we get into the Sodium interior, it doesn't work. You only have one alpha along the main line there. How can that one alpha channel all the charge coming in from two alphas? The Sodium still looks like it would explode, or at least be radioactive and unstable. But we know from the new experiment it isn't.” That does indeed look like a problem, but the configuration has a straightforward way of dealing with it. Those first two parallel alphas at the new bond are able to recycle more charge out laterally. That is the main difference from our original Sodium configuration, remember. The original configuration didn't have two alphas in parallel at any point, so it could only recycle one alpha's worth of charge out laterally at any one place. But these two in parallel can recycle twice as much out laterally (by that, I mean recycle in a circle parallel to the left-to-right main line of charge).

Let me put it another way. We have charge entering the Sodium nucleus from the left. As I have shown before, that charge can either be recycled from pole to pole, or pole to equator. If it moves from pole to pole, it is what I call through-charge. The photons move straight through along the main line. But charge can also be recycled from pole to equator, in which case it is emitted out laterally, in a circle. Depending on the circumstances, it can do either one. It depends completely on the nuclear configuration, and on the specific potentials created in the charge field. But to simplify the mechanics, you may think of the charge that enters nearest the center of the hole or pole as most likely to pass through. Charge that comes in nearer the edges, or that enters on an angle, will be forced by centrifugal forces into the equatorial whirlpool and will be recycled out the equator. Individual atoms tend to recycle their charge from pole to equator, since there are no potentials to “pull” charge from pole to pole. The charge instead follows simple angular momentum laws created by the spin of the nucleus, and this spin forces charge out laterally. But when we have many atoms together, as in molecules, through potentials are created. The atoms will align pole to pole, and in this way through potentials are created by charge field density variations.

With this in mind, I encourage you to study the rest of the  $\text{NaCl}_3$  molecule. If you go past the alphas we have been studying, you will see that all the axis alphas to the right are single. Those two black protons act the same as a blue alpha, so along the main line we have one alpha all the way across. This means that the molecule as a whole is only drawing (at maximum) one alpha's worth of charge through from end to end. That will be true no matter how we re-arrange the Sodium nucleus. Since the right side of the molecule is drawing only one alpha's worth, the left side cannot be channeling more than that. Which means the Sodium must immediately channel half the entering charge out laterally. Fortunately, our new configuration allows for that. Those two alphas in parallel only have to channel

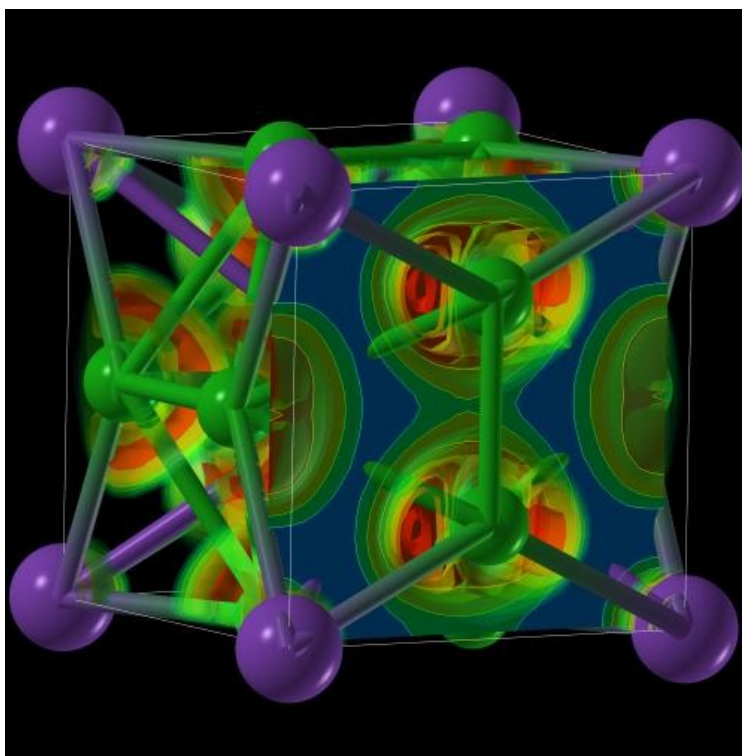
out half laterally, allowing the other half to channel through. This maximizes the channeling capability of the Sodium, but does not exceed it. Therefore the molecule is not radioactive or unstable. It persists, as Dr. Zhang tells us.

In fact, the angle of entrance helps in this. As with Methane, the bond of  $\text{NaCl}_3$  is angled. What this means mechanically is that charge coming in from the left is more likely to enter the Sodium at that angle, which keeps it from passing straight through the pole, you see. The real trajectory of the photons coming in the pole pushes them to the edge of the hole, where they are captured by centrifugal forces (or simply by angular momentum), forcing them to be recycled laterally. And because this is a molecular bond, not a fused bond, it will be much less tight. *We would expect an angled molecular bond to leak charge.* I predict that our finer new machines will soon be able to detect charge leakage at that bond, which means that the Sodium is not recycling at full capability even in this configuration. This gives us just one more reason why the Sodium is not overwhelmed by taking in charge from two Chlorines. The Chlorines have to be forced into that position, and the Sodium has to be re-arranged, but once that is done, the charge channels are stable.



As you see, we also have a mechanical explanation for the angles. As with Methane, we don't have to be satisfied with a mathematical solution only. The angles aren't created just to fill space evenly, that is. The new Cl's move away from one another because they are *driven* away from one another by charge.

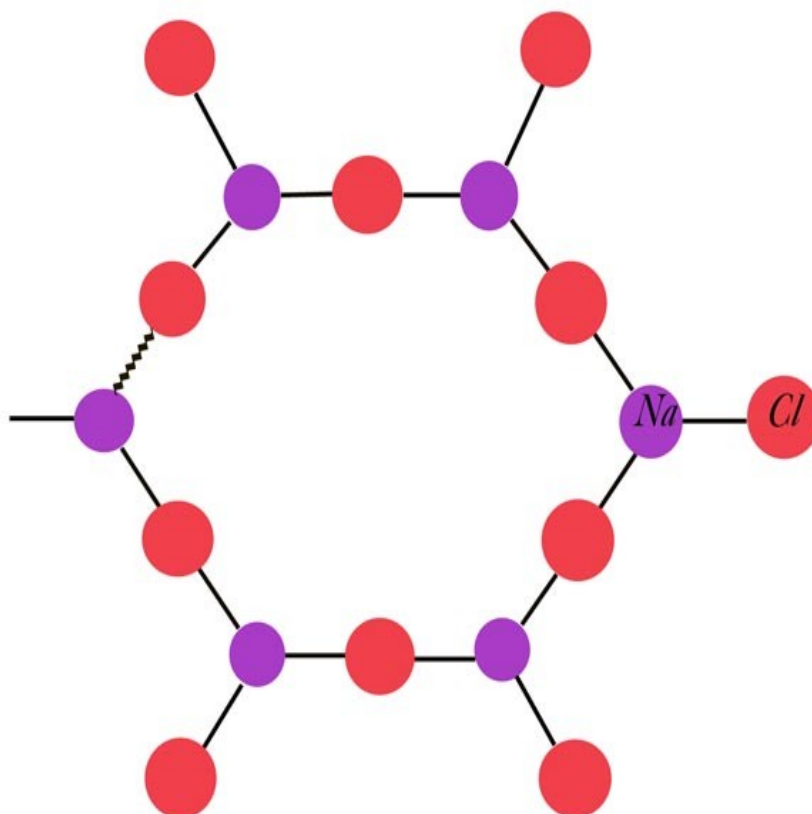
This configuration happens to match the computer model of Zhang et al. in many fundamental ways.



You can see the similar bond angles there. It may look like there are five linkages drawn there, but it is the purple spheres that are Na. Each purple sphere only has three linkages, which matches my diagram. As for the rest, this computer model is wrong. They have drawn five linkages from their green spheres, which—to keep the NaCl<sub>3</sub> numbers correct—must be representing the Chlorines. But since this implies the Chlorine is bonded to other Chlorines, we know they have drawn too many bonds. Those linkages don't exist, and aren't necessary to the structure anyway.

But we should know this building block is wrong even before that, since it doesn't link *out* in any way. Another way to say that is that charge has no way of getting into or out of that block. The charge channels are all completely contained. Matter doesn't work that way, as they should know. That diagram simply can't be right. As we see from my diagram, there should be only two bonds out of each Chlorine. This shows their confusion, since they seem to think they need to draw all these linkages. They seem to be aware they don't have to link the Sodiums to one another, since they aren't. So why are all the Chlorines linked?

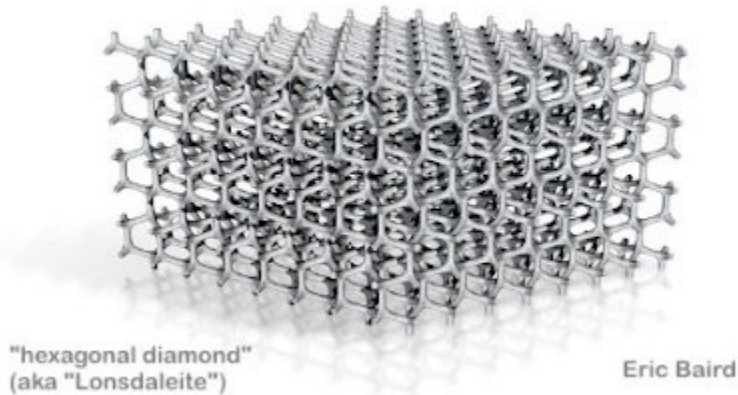
Since we can plug an Na at the back end of each Cl, the 2D building block of NaCl<sub>3</sub> will actually be this:



Note the one jagged line, which is caused again by the fact that charge always has a direction. Therefore, we can't really draw a bond there. Charge is going the wrong direction to plug that Chlorine into that Sodium. This fact leads us into the next recognition: to make this 2D diagram 3D, we just have to turn each Sodium 90 degrees compared to adjacent Sodiums. Each molecule is planar, but adjacent molecules don't have to be planar to one another. The twist is not only allowed, it is required: it helps get adjacent Chlorines as far away as possible from one another.

This gives us Chlorines coming into and out of the page, and it breaks our 2D hexagon above. But since the hexagon was already broken at the jagged line, we don't care. I can't draw this new structure in photoshop, but it resembles the computer model from Zhang et al. above, except that—as I said—it doesn't contain all those fake linkages. It also isn't contained in a cube at that level of construction. The configuration is cubic only if we link together many Sodium atoms—eight won't do it. I scoured the internet to find a diagram that would give you an idea of how this broken hexagon looks in 3D, and I found this illustration, which I am borrowing [from Eric Baird](#):





That shows how you get a cubic structure from a twisted hexagon, like we have in our current problem. If someone wants to create a better diagram for me, they are welcome to work on it. I don't have the software to do it. I would have to build the structure from balls and sticks and then photograph it, which I don't really have the inclination to do.

What I think we should get is that basic structure of Baird, but not as complete as his Lonsdaleite diamond. In other words, that cubic structure will be created, but it will contain a lot more air. More missing linkages.

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But can my theory explain  $\text{NaCl}_7$  as easily? Yes. All we have to do is link the Chlorines in a line. Chlorine gas is diatomic, remember, so although it doesn't want to link to itself in solid structures like this at STP, it can be forced to at very low temperatures or very high pressures. It can be forced into chains of three or more with enough pressure.

Which leads to a question no one has asked. Why can they create  $\text{NaCl}_3$  and  $\text{NaCl}_7$ , but not  $\text{NaCl}_5$ ? The answer to this question will clarify my previous paragraph. Once again, it has to do with charge potentials across the molecule. Let's try to create  $\text{NaCl}_5$  and see what goes wrong. To create  $\text{NaCl}_5$ , we would put the two extra Cl's on the left side, in line with the existing Cl's. Why isn't that stable under pressure? Because there isn't enough pull (or strictly, potential) from the right side. The right side isn't "drawing" enough charge through via potential differences, because there is only one Chlorine over there and four on the left. The central Sodium must get overwhelmed in that scenario. But if we put *three* Chlorines in line on the right side, they are able to draw more charge through, preventing dissolution.

But why do we need three? Why wouldn't two do it? Why not  $\text{NaCl}_6$ ? This will be a bit more complex, but I conclude with it to show that my theory not only allows us to ask these questions, it allows us to answer them. The answer lies in studying closely that first angled bond, where I said there would be some leakage. Remember, we found the Sodium needed to recycle about half of the incoming charge laterally via those parallel alphas, to keep from being over-filled. A little less than half, given the leakage. But if we plug in four Chlorines on the left side, instead of two, we increase the charge again.

We don't get twice as much, because the streams aren't additive like that. Two Chlorines in a line won't channel twice as much charge as one Chlorine. The first Chlorine can only channel so much charge, and a second Chlorine can't force it to channel twice that amount. But the draw of the second Chlorine *can* increase the through charge, provided the first Chlorine isn't already at or near maximum. Notice that in my second diagram, I have drawn little red arrows coming out of all possible routes on the Chlorines, to show why the Chlorines repel one another even though they are channeling charge through. Any nucleus will channel both through and laterally, unless it is not spinning. At high temperatures like this, it will be spinning very fast. Only near absolute zero would the spin stop. Therefore, these little red arrows indicate not only a repulsion between those Chlorines, they represent more lateral "leakage". Any charge that is being recycled out laterally can not also be channeled through. Which should indicate to you that the axis alphas in Chlorine are never channeling through one full alpha's worth of charge.

What that means is that if we go back to the two angled Chlorines pushing charge into Sodium from the left, we find that even without leakage at the bond, we still don't have 2 alphas' worth of charge entering. We always have somewhat less than that. Even if we now put two Chlorines in each line, giving us four on the left side, we still don't have two alphas' worth of charge. The draw of the second Chlorines simply takes us *closer* to the full through charge channel of the alphas, which is of course one alpha's worth.

All this simply goes to show that as we increase the charge incoming from the left, we have to increase the draw from the right proportionally. Two Chlorines on the right can't balance the potential from four Chlorines on the left, because that would indicate the Chlorines on the left were channeling through only half their charge. But we have already seen that they must be channeling more than half but less than all. They cannot be channeling all through, because that would imply no lateral emission, which would imply no spin or zero temperature. We know that isn't the case. They cannot be channeling less than half, because that would indicate no draw from the Sodium and the right Chlorine(s). This is why I can solve this for you without any difficult math. We don't need firm numbers, we just have to realize that the through charge must be  $\frac{1}{2} < C < 1$ . Therefore, two Chlorines on the right is not enough, and four is too much. We would need four Chlorines on the right only if the Chlorines on the left were channeling at 1. Since they aren't, we know that 3 Chlorines on the right will do it. I have answered the question. This explains why NaCl7 is preferred over NaCl4, NaCl5, NaCl6, or NaCl8.