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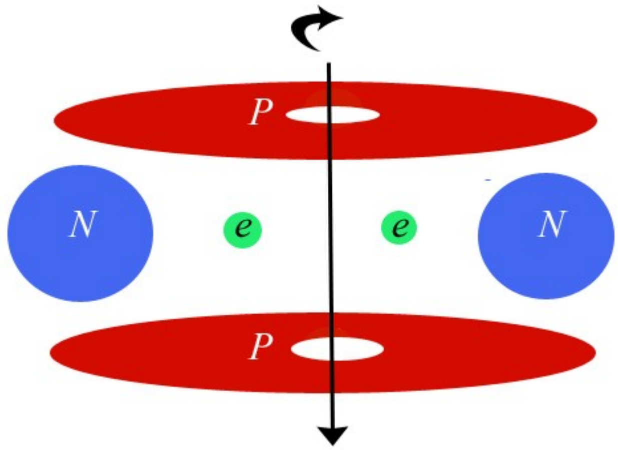
Why is anti-helium4 so hard to create?



by Miles Mathis

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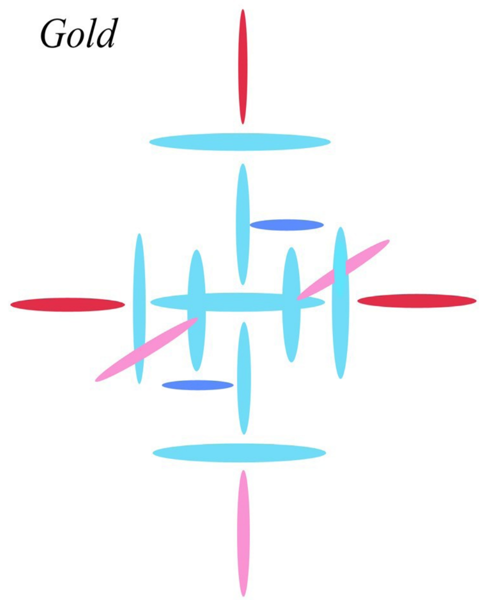
In 2011, the STAR experiment at Brookhaven National Lab found anti-helium4 for the first time. But why are larger anti-nuclei so much harder to find? We are told each extra baryon in the nucleus makes it 1,000 times harder to create. Why? And why the number 1,000? We are told it has something to do with the time for annihilation, but does it? Let us see.

In a previous paper, I have shown that the standard model doesn't have a clear understanding of what an anti-particle actually is. We are told it has the opposite quantum numbers of a particle, but that is just a theory. This theory doesn't really pan out, since it isn't capable of explaining a lot of data. It explains some data, but it doesn't explain other data. The data it doesn't explain, like this number 1,000, is simply given to other criteria. The reason quantum numbers can't explain much is that they aren't physical. They don't have any mechanical assignment.

But I showed that the anti-particle was a result of mechanical spins, not unassigned quantum numbers. Given four stacked spins, a baryon can display 16 (2^4) possible spin configurations. Four of these are protons, four anti-protons, four neutrons, and four anti-neutrons. Now, if we have four of these baryons in a nucleus, what are the odds of finding all anti-particles? Again, only 1 in 16. But anti-helium isn't any four anti-baryons, it is two anti-protons and two anti-neutrons. What are the odds of finding that? 6 in 256, or about 1 in 43. So we can calculate that a star creates anti-helium that way at those rates.

However, the experiment at Brookhaven was not building anti-helium from free baryons, hydrogen, or from re-assembled helium, it was searching for anti-helium in gold-gold collisions. Gold is 79 protons and 118 neutrons. Two golds is 158 protons and 236 neutrons. Current theory assumes that helium and anti-helium are “created” by the collision, but I assume each are just parts of the original nuclei that were chipped off or fused. I have shown that larger nuclei are composed of alpha particles to begin with, so they will naturally shatter into alphas in collision. Any nucleus of helium4 or anti-helium4 can be called an alpha. Current theory assumes all elements must be composed of particles rather than anti-particles, or alphas rather than anti-alphas, but I make no such assumption. If gold was disseminated from nearby supernovae, as we are taught, these big stars could have built gold in any number of ways, and these variant forms would be indistinguishable to us until the gold nuclei disintegrated into alphas.

So let us look at the nuclear structure of gold. In my paper on the element Mercury, I have already provided the diagram.

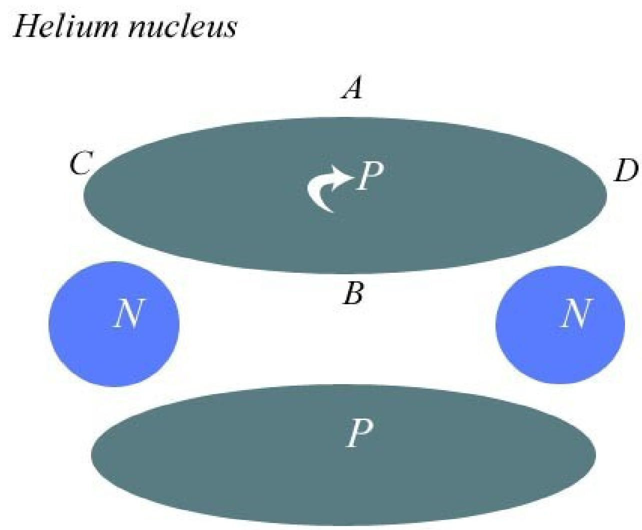


Since each cyan disk represents three alphas, each gold nucleus contains 27 alphas at its core. The other colored disks do not represent alphas: they are not internally bonded in that way, and we may assume they disintegrate into free protons and neutrons upon collision. So in the collision of two gold nuclei, we have 54 alphas in play. Since 1/43 of those should be an anti-helium, each gold-gold collision should yield about 1.26 anti-heliums.

But that is assuming every collision is capable of shattering or chipping the nuclei. In fact, very few collisions do that, even at high energy. Why? Because in collisions of gold, it is those outer protons and neutrons that feel the first force. Because they are in the outer fourth level, they are hit first. Also notice that gold is well-protected from all directions. It has multiple fourth level baryons all round, in each of the six major positions. Again, the magenta disks represent three protons and the red disks represent four. Not diagrammed are fourth level neutrons that also exist in those six positions. So the alphas in the inner levels are well protected by a wall of baryons in the fourth level. This means that gold is actually a poor choice for anti-helium creation. A much better choice would be the noble gases, which have no fourth level. The alphas of the noble gases are right out in the wind, so to speak.

So we assume that alpha creation from gold isn't happening by shattering the nuclei completely. Those inner alphas are never hit at these energies. If they were, each discovery of a free alpha would come with a discovery of 26 others. Either that or we would find the gold disintegrating into smaller elements. That isn't what is happening.

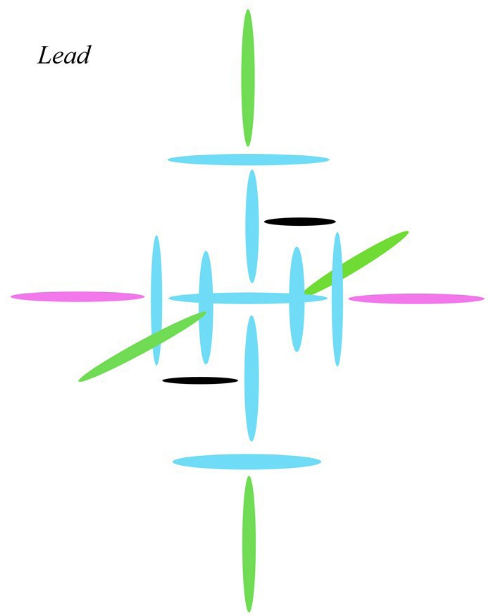
What appears to be happening is that in very rare collisions, two fourth level neutrons are forced into alpha positions between adjacent protons, as so:



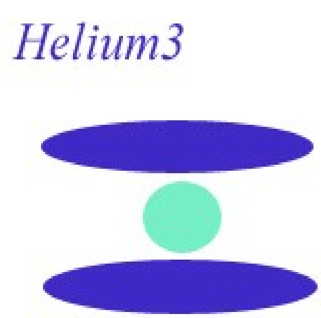
Although the fourth level neutrons aren't normally in those positions between adjacent protons, a high-energy collision can force them into those positions with a lucky hit, creating an alpha by main force. But of course this means that for every such alpha created in this way, some smaller element must also be created. In other words, if the gold loses those two protons, it is no longer gold. The press release tells us that 18 samples of anti-helium4 were found from a billion gold collisions, and if that is so, there should also be 18 samples of iridium nuclei or 36 samples of platinum. Either one gold nucleus lost two protons, or each of two gold nuclei lost one proton. I guess they can't admit that because it smacks of alchemy. They can admit of alchemy when it comes to uranium decay, but not otherwise. And even then they don't call it alchemy.

But back to the number 1,000. Remember the press releases don't say anti-helium is 1,000 times harder to locate than helium after the collision. They say that anti-helium4 is 1,000 harder to produce than anti-helium3. So let us run the numbers on that. If we have three baryons in a nucleus, the odds of finding all anti-particles is 1 in 8. The odds of finding two anti-protons and one anti-neutron is 3 in 64, or about 1 in 21. Those would be the numbers if we were looking at helium creation in stars.

However, once again, anti-helium isn't being created that way in collisions. It is created that way in stars, which can pick randomly from baryons. But since anti-helium3 isn't any form of an alpha, nuclear collisions won't produce anti-helium3 simply by shattering nuclei. As with anti-helium4, anti-helium3 is only produced by fusing two protons and a neutron in the outer fourth level of the nucleus. Anti-helium3 has been created either by bombarding a nucleus with a proton, or by smashing nuclei directly. Of course to calculate the relative odds of creation, we have to know what nuclei are being used. Very recently, anti-helium3 has been created by lead-lead collisions, so we will assume that the 1,000 number is coming from comparing anti-helium4 production with gold to that experiment with lead. I have also previously provided a diagram of lead:



The green disks represent five protons. This means that lead is an even worse choice for helium production than gold. It has 26 protons in the fourth level, while gold has 21. If we were trying to get various alphas from shattering the nucleus completely, lead would be a terrible choice. But, as I showed above, we aren't. We are just trying to get protons and neutrons in the fourth level to bond into anti-helium3. We do this by colliding lead and lead, forcing the fourth levels to smash together. In this case, we only need to get one neutron to assume the correct position between protons, as so:

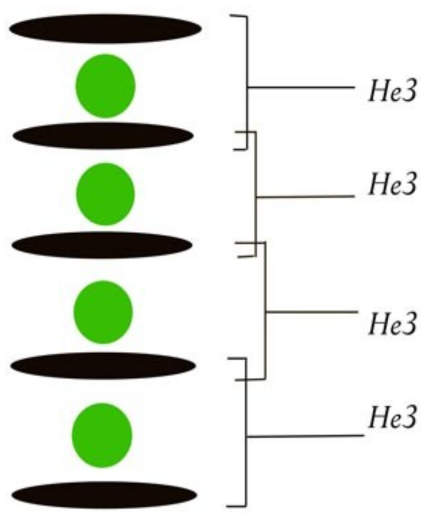


[Ignore the colors here, this is an old diagram, from before I came up with my full nuclear diagrams.] We can already see that it is much easier to create this configuration than the previous one, not only because we have only one neutron to force into a position, instead of two; but also because in the case of lead and other elements, neutrons are already found in that position between protons in the fourth level. The only difference is, no charge is moving down through the configuration, to create the necessary bond and make that configuration an alpha. In the fourth level, charge is moving out radially from the center of the nucleus. It is not moving at a tangent to the nucleus, which is what we need here. So the collision needs to do two things: 1) break off the proper triplet of baryons in the fourth level, 2) create a vertical charge channel down through the three particles, to create the permanent bond. As we have seen, the odds of that happening are low—about 18 in a million—but not zero.

And of course this means that the experiments with lead, which generate anti-helium3, should also generate equal amounts of mercury or thallium. They should generate 1,000 times more mercury or 2,000 times more thallium than the former experiment created iridium or platinum. To say it another way, if they find 18 samples of anti-helium3 in a million collisions, they should also find 18 samples of mercury in that million. And, of course, they should find the mercury in the *same* samples as the anti-helium3.

Now to compare the two experiments. We have already seen the basic mechanics of the second experiment (lead), so let us study the first experiment (gold) with a bit more rigor. We now see that we not only have to get two anti-protons and two anti-neutrons together, we have to get the anti-neutrons *between* the anti-protons, as in my diagram above. This changes our odds again, to only 1 in 256. Only the PNNP configuration is a possible anti-helium4.

Since with anti-helium3 and lead, the neutrons are *already* between the protons, we don't even have to calculate odds. The fourth level of lead provides us with these configurations to start with. So the odds are 1 in 1. No, they are even better than that, because in each lead nucleus, we have 4 of those configurations existing in the outer level. Notice that my diagram of lead above has 4 green disks in the outer level. In each of those four disks we have five protons. Between the five protons are four neutrons. So in each green disk, you have 4 possible He3 configurations you could chip off and fuse, getting a He3 nucleus of some form.



With four of those in four fourth-level positions in lead, we get 16 total He3 configurations. But, according to my math above, only 1 of 8 of those will be in an *anti*-helium3 configuration. So, 2 of them will be in an anti-Helium configuration. But we have two lead nuclei meeting in collision, so we have 4 total.

Now we compare that to the odds from the anti-helium4 experiment, which was 1 in 256. So we have to compare 4 to 1/256. The difference between them is 1,024. What will happen four times with anti-helium3 will happen 1/256 times with anti-helium4. That is where the number 1,000 comes from.

Anti-helium4 is 1,024 times harder to produce than anti-helium3.

Notice that I was able to calculate that without even looking at the actual odds of fusing. I have no easy way to calculate why the odds of creating anti-helium3 is 18 in a million, or why the odds of creating anti-helium4 is 18 in a billion. That would require much more extensive calculations than I have done. I have only shown you a shortcut for calculating the relative odds between them, based on the rather simple mechanics.

It is also worth circling and underlining that the data from these experiments indicates (if not proves) that common nuclei and elements are made up not only of particles, but of anti-particles. No odds would create anti-protons or anti-neutrons in these positions if no anti-particles existed in the known elements. If it were known that elements are made up only of particles and never anti-particles, then my odds would be useless in any solution. But since these mainstream experiments are popping anti-particles and small anti-nuclei out of common elements, the logical assumption is that the elements contain them in some form already. The mainstream assumption has always been that anti-particles are really "created" in these collisions—as if they come out of the vacuum or are reassembled from the quark-gluon soup or something. But that assumption isn't necessary. A much more straightforward assumption is the one I have made in this paper, and it has never been disproved. Although mainstream physicists have an allergy if not a fear of anti-particles, stars have no such allergy or fear, and that is where these elements were made. They were not made in particle accelerators, here or anywhere else. They were fused from baryons, and baryons are not limited to +forms in the bellies of stars.

Finally, we are told that these collisions of gold and lead are very high energy, creating a vast fireball. But that isn't true in either case. The energy of the lead-lead collision chamber is 158GeV, and although that is above the recent Higgs energy claim, it isn't that great. It is about 1/6th the energy of a flying mosquito. On the scale of atoms, it is a fireball, but on the scale of gnats it is hiccup. It is also only about 170 times the mass/energy of the single baryon, which has a mass that can be expressed as .938GeV. Since two lead nuclei have over 400 of these baryons, the energy of collision doesn't even match the mass of the baryons present, much less the charge present. Remember, the atom is not just composed of baryons, it is also composed of the energy of the charge field, which is what bonds the baryons together. What all this means is that the collision can't be turning the atoms into soup, or pulverizing them into constituents. As I have shown, the collision isn't even penetrating to the atomic core, which I have diagrammed as the first three levels. At this energy, the best that they can do is chip off a few baryons from the fourth levels, which very rarely fuse into combinations.