

Iran Will Probably Still Get Nukes – Here's How

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SUMMARY

The discussion centers on Iran's nuclear program and the complexities surrounding negotiations following the U.S. withdrawal from the nuclear deal. James Actton, a theoretical physicist and expert on the topic, argues that the U.S. has lost leverage in negotiations, and Iran could potentially detonate a nuclear weapon within the next three years. The conversation highlights the intricate details of Iran's nuclear capabilities, the implications of recent conflicts, and the challenges of reaching a comprehensive agreement.

- The U.S. lost a war to Iran, resulting in a memorandum of understanding that favors Iranian interests.*
- Iran currently possesses significant amounts of highly enriched uranium and has mastered the technology for enrichment.*
- The U.S. and Israel's military actions have not effectively dismantled Iran's nuclear program, which is largely hidden in deep underground facilities.*
- The likelihood of Iran developing a nuclear weapon is high, with estimates suggesting a 50/50 chance within the next three years.*
- Future negotiations must focus on specific, detailed agreements that address both breakout and sneakout capabilities of Iran's nuclear program.*
- The Iranian regime's financial stability, bolstered by sanctions relief, reduces the likelihood of its collapse.*
- The best-case scenario involves Iran remaining a nuclear threshold state, with ongoing tensions and potential for future conflict.*
- Effective negotiation strategies should prioritize specificity in agreements and leverage technical expertise to ensure compliance and verification.*

When Barack Obama signed his nuclear deal with Iran, I was a US intelligence analyst charged with monitoring the aftermath. We all know what happened next. Donald Trump tore up that deal and went to war to get a better one. Now, Iran's nuclear program is again the subject of highstakes negotiations that the whole world is watching. But if I learned anything from being inside this thing, it's that the details really matter. You simply can't rely on politicians or headlines to understand anything as complex and important as Iran's path to a bomb. For the real story, I turn to James Actton. He's a trained theoretical physicist who's spent decades tracking Iran's nuclear program and knows the history of this saga inside and out. James walked me step by step through precisely what remains of Iran's nuclear program and what paths this negotiation could take.

You're going to hear us nerd out on underground tunnels and enrichment levels and grand strategy, but I won't hide the ball here. James thinks the US lost this war and that Iran has a 50/50 chance of detonating a nuclear weapon in the next 3 years. In other words, Iran could still go nuclear on Donald Trump's watch. I'm John Baitman and this is the world unpacked. >> James Actton, welcome to the world unpacked.

>> Thanks so much for having me. >> The topic today is Iran's nuclear program. This is something that has vexed US presidents, world leaders for 25 years now. Uh you've studied it for how long? This is the issue that got me into the field. >> Okay. >> I I I I' I've been doing nuclear policy for over 20 years now. And a large part of that is non-proliferation originally about preventing Iran from getting the bomb. >> And here we are again still trying to prevent Iran from getting a bomb. I should also say for viewers, you are a theoretical physicist by training. One of the reasons I had wanted to have you on today is Iran's nuclear program has been in the news consistently for a long time, but a lot of what people hear about this program is from the mouths of politicians and political leaders or their opponents who also have a political bent to their characterizations of the programs. But I think what you can offer us today is a grounded independent assessment of where Iran is, where it was, where it could be. Um, and obviously the reason that we're talking about this is we just fought a big war that was in part over Iran's nuclear program. How did that go?

To be very blunt, the United States just lost a war to Iran. And I'm sure we're going to unpack in more detail exactly why and how we lost that war to Iran. But it turns out wars have a scorecard. You know, just like World Cups going on at the moment, there is a scorecard. there is a clear winner and loser because who scored the most goals in the case of a war. You can basically tell who won by the post-war agreement or or by the end of war agreement I should say. Uh which in this case is the so-called Islamabad memorandum of understanding or as it kind of might waggishly be called the Versail Treaty given that Trump signed it in Versailles. Uh anybody listening I know it's not a treaty so please don't at me.

It's a it's it's it's a it's a memorandum of understanding. But the you know, if you look at the memorandum of understanding, it's clearly a lot better for Iran than for the United States. >> In what ways? >> The most fundamental points are that Iran, if this memorandum of understanding is ever implemented in full, will get an enormous source of revenue from that. and all the United States got in return. Um, it got the reopening of the Strait of Hormuz, which is obviously something that was opened before the war. And there is a vague, fairly unspecific commitment to talk about Iran's nuclear program. So, you can tell who won the war because at the end of the day, this agreement is much closer to Iranian interests than it is to US interests.

Yeah. Part of what theou this memorandum of understanding illustrates is there's a lot of issues on the table regarding this war. There's the straight of hormuz there's the nuclear program. President Trump and Netanyahu originally had other goals as well um to potentially replace the regime in Iran. Uh you could argue that they affected a leadership change at least but not a regime change. um Iran's conventional military, its missiles, which is crucial for the nuclear question and its proxies. Uh right now there are active negotiations ongoing between Washington and Tyrron.

How much of this is focused on the nuclear issue right now and what are the main sources of contention there? >> Mhm. >> Well, one of the interesting things about the memorandum of understanding is what it doesn't contain. You know, the previous deal we reached with Iran, the joint comprehensive plan of action, was criticized because it didn't do anything about terrorism. It didn't do anything about proxies. This is Obama's nuclear deal. >> Correct. It didn't do anything about Iran's ballistic missile program. The Security Council resolution that enacted the deal did have a little bit on ballistic missiles, but not much. And there was a huge

amount of criticism of the Obama era deal because it didn't deal with all of this stuff. And lo and behold, one of the chief critics of that deal, President Trump, has now made a deal with Iran that doesn't include any of these other issues either. And at the end of the day, that's because it's very clear Iran is simply not willing to negotiate on them. And the US has sensibly chosen to prioritize.

So, you know, there's actually not a ton we know about the negotiations that have just happened in Switzerland. Um they mostly appear to have concerned the straight of Hormuz and reopening that. Um the Iranians say there was no discussion of the nuclear program. Um the US has said there was some discussion of the nuclear program. The vice president has said that Iran has agreed to allow inspections. Um the Iranians have pushed back about that and says there's been no agreement at all on anything related to the nuclear program. But I think you know there are three baskets of issues that the US and Iran are likely to discuss. Um reopening the straight of Hormuz, the nuclear program and financial relief for Iran. The president has conceded that Iran has had has got the right now to a ballistic missile program. There's you know Iranians are not willing to discuss proxies regional terrorism. Um and you know that is 10 years on from the joint comprehensive plan of action the Obama deal you know many of the critics have started to realize that in practice you just can't achieve everything you want and now the US is in a much weaker position of Iran having just lost a war.

>> So what is Iran's nuclear program? I mean that term it contains multitudes right? I mean um there's the nuclear program which contains both a civilian and a military element and then there's the military element specifically which is just a subcomponent of that and then probably we could break that down further to help people understand the constituent parts that could enable Iran to build a nuclear weapon if it chose to do so. And then presumably those parts are what we'd want to target in a deal. Could you just break down those parts?

>> So, I think a useful place to start here is to ask the question, well, how do you build a nuclear weapon? You know, if you want to if you want to go and build a nuclear weapon in your garage, which I do not encourage, it's illegal. Um, how would you go about doing that? Well, the first thing you need is fissionable material. Um, you need the metal that forms the explosive element of a nuclear weapon, the thing that actually releases the energy. And your two choices there are highly enriched uranium or plutonium. And Iran went down the highly enriched uranium route. So you need a way of producing highly enriched uranium. And that involves uh extra you know digging uranium ore out of the ground purifying that uranium ore converting it into a material called uranium hexafluoride which is a gas uh or can be made easily into a gas I should say and then you enrich it. And in enrichment you know if you think back to high school chemistry you may have vaguely heard of these things called isotopes which are like different forms of the same element. Uh what you want to do is you want to concentrate uranium in the isotope that's useful for blowing stuff up. Uh that's uranium 235. And the process of concentrating it of throwing away the less useful forms of of of uranium to concentrate it in the more useful form is called enrichment. And you do that one of the ways of doing that is in centrifuges which are these devices that spin very very quickly. So, you know, if you're thinking about using a salad spinner at home, for example, that's a centrifuge. And the heavy stuff, the the lettuce leaves get pushed towards the outside of that salad spinner. And that's basically very simply what happens in a gaseous uh centrifuge.

>> So, let me just pause here for a second. Where does Iran get its uranium ore? Do they mine that domestically?

>> They mine that domestically. >> Okay. And then these centrifuges um is Iran designing and manufacturing these things indigenously. >> So it is now uh originally it got it got help from other countries particularly off the infamous AQ Khan network. Um >> this is the Pakistani nuclear scientist. >> Yeah. But now Iran appears to be pretty much self-sufficient with centrifuge design and manufacturer. Um, I'm sure there are some imports, but they're not like any. But, you know, it's it's it's the key difficult technologies Iran does now appear to have mastered indigenously.

The thing about enrichment technology is you can use it for civilian purposes as well. You can use it to produce fuel for a nuclear reactor. Um now for nuclear reactor fuel you might enrich to say 5% of the useful isotope whereas for a bomb you might enrich to say 90% of the useful isotope but it's the same basic technology you just enrich it further and slightly paradoxically the more you enrich stuff the easier it becomes to enrich further. Um so you know people are very concerned that Iran has say material enriched to 60%.

Because once you've reached 60% it's technically very quick to go to 90%. You know surprisingly perhaps going from you uranium you dig out the ground which is just under 1% to 60% takes almost all the effort compared to going up to 90%. So what do we know about the amount of uranium that Iran has enriched to or close to weapons grade level and it's still existing capacity to enrich?

Obviously, Iran's nuclear program, its fuel stock piles, and its manufacturing facilities were attacked by Iran, by uh Israel and the United States, not only in this last war, but in the previous war last year. Um, so where is all of this stuff? What does it still have and what does it no longer have? So, prior to the war, and here we're talking about last summer's war, June 25, we have a very good idea how much nuclear material Iran had at that point because it was being regularly inspected by the IAEA, the International Atomic Energy Agency, and the most worrying material in Iran, the material enriched to 60%. Iran, if I remember rightly, had roughly 200 kilos, so a bit over 400 pounds of that material, which is, you know, enough for how much new how much material goes into a weapon is is is is an uncertain quantity, but you know, let's say a handful of nuclear weapons if it's enriched further. A lot of that material appears to have been at a site called Isvahan in tunnels that were very deep underground, 10020 meters underground.

There has been a lot of reporting that that material was buried under rubble. That is very misleading. You know, people have this idea, I think, that these tunnels were bombed, they collapsed. There are some cylinders of this material buried under hundreds of tons of rub. And Trump famously uses this phrase nuclear dust, which brings to mind the idea that >> the enriched material was in some sort of complete solid state and then was literally just blown apart by explosives into tiny pieces that maybe aren't useful anymore.

>> Exactly. That is completely the wrong impression to have for the material is we, the United States, to my knowledge, in neither war directly tried to collapse those tunnels. They're simply too deep. Even the huge US bunker busters that were used at different at other sites just would not have destroyed these tunnels at Isfahan. And more than that, Iran filled those tunnel entrances up before last year's war. And we bombed the tunnel entrances, but as a colleague of mine put it, it's like pounding sand. Like literally, it's pounding sand. Um, so intombmed is a better word to have than buried because actually these tunnels were not collapsed.

Large quantities of highly enriched uranium are sitting totally unsquashed in these tunnels. And then between the wars, Iran opened some of those tunnel entrances up. You know, we've heard this ridiculous idea that Iran lacks the technology to access the uranium. Iran dug these tunnels. The idea that it lacks the technology to reopen tunnels that it buried is a is is is a not credible claim, especially because we've seen from satellite imagery that Iran did in fact open these tunnels up and then close them again before this war. So James, when you're saying their uranium seems to have been in these tunnels and we believe Iran has accessed these tunnels, I mean what's the level of confidence that you as an independent analyst outside government can have in where this uranium is and you know imagining which we can't know the awesome powers of the US intelligence community and the Israeli intelligence community which has deeply penetrated Iran's nuclear apparatus over many many years assassinating nuclear scientists with great precision finding and removing from the country these troves of nuclear archives. Um if you had this kind of panopticon which at times it seems like we've had um how confident can we be that we actually know where this stuff is because this could become crucial for the final negotiations. Right. Yeah. So this material was regularly inspected by the International Atomic Energy Agency prior to the war. So I think we have a very good picture of where this material was prior to the war. Um you know in some a lot of this information the IA makes public in its regular reports. Um, it seems fairly likely that the US and Israel and many other state parties, I think, get some of the information that's not published in the reports.

>> So, I think we can have a pretty good sense of where the material was before the war. I think we can have a pretty good sense that Iran has opened these tunnels based on satellite imagery. The US and Israel seem pretty confident that most of this material is still most if not all of the material is still there which speaks to your point about the quality of their intelligence. But the answer is I think there has to be some uncertainty like I don't know what raw intelligence we have. I mean the director general of the IAEA GCI has also said you know the IEA I mean I'm paraphrasing here slightly but he basically said the IIA has a pretty good idea where where it is but unless we go and look we won't know for certain. So you know the fact that the US and Israel seem to be fairly confident that the material a lot of the material is still Isvahan gives me confidence that it's still there but you know people make intelligence mistakes. Um um you know this is not it's not at all an easy thing to do. So I think we should recognize some uncertainty.

>> I should just say listening to you I'm surprised to hear that the tunnels actually have been reopened like in between the two wars. I mean that that seems itself to introduce significant uncertainty. >> Yeah. We're not talking about like vast volumes of material, right? I mean like uh 200 kilos of uranium is scuba a few scuba tanks full basically is is is what this looks like. And and this is this is why I'm reluctant to say I'm confident it's all there. You know, at the end of the day, you would have to know exactly what intelligence sources Israel and the US have. You know, I am skeptical that by satellite imagery alone, one could verify that the that material has not been removed from those tunnels. But US and Israeli intelligence may have many sources of information that are not satellite imagery, >> which you know, as a former intel officer myself, and actually my beat was Iran, and I spent time looking at the Iran nuclear program, but I can just say generally a war could scramble one's intelligence in either direction. On the one hand, you might have on the ground sources that are killed or compromised during the war. Communications patterns may change. Maybe you were monitoring General Soandso. that was someone we took out on a strike. You no longer getting their phone conversations. Um on the other hand, the chaos unleashed by a war and the need for the Iranian regime to then uh scramble to

communicate or share information with you know the deputy now that the general was killed that could open up new pathways for intelligence. So um it's actually just hard to know what is known and unknown right now.

>> Yeah. Look, there is some extent to which logical reasoning here is helpful. And I don't want to, you know, one one one can clearly not reason one's way through intelligence, but Iran knew from last summer's war that the US did not have the capability to destroy the tunnels at Isvah. So Iran has a pretty big incentive to leave material in a place that it knows the US struggles to access. Now, is that proof all of the material is still there? Of course, it's not. But it's it's another factor to consider.

>> Yeah. Um so this is but it also brings me onto the issue of why it's such a problem that IAA inspectors AEA inspectors now are very restricted in where they can go in Iran. You know, having inspectors on the ground who can literally weigh cylinders of uranium, take tiny samples from those cylinders to measure the enrichment level inside it and hence to within with incredible precision know precisely how much highlyenriched uranium has and where that is is incredibly valuable information. And so after last summer's war, the IEA was restricted only to a handful of sites in Iran that aren't of much proliferation concern. And this is another reason why, you know, to the extent this was not a war for for counterp proliferation. And you know, as you've alluded to, US war aims in this war are exceptionally unclear. The US had a bunch of different war aims and they varied depending on the day of the week and the mood of the speaker and who that person was. But, you know, to the extent that this was a war of non-proliferation, we've left Iran with a bunch of highlyenriched uranium that it can access.

We have much less visibility on the ground. We have um Iran almost certainly had a large stockpile of centrifuge components that I've seen very little evidence that they were destroyed almost certainly because they were kept deep underground. So these are what you might put together to build new centrifuges continue to enrich. >> Um yeah, so I guess we can take out the centrifuges, but the centrifuges themselves have a full supply chain, right? You've got the components that are used to assemble them and then you've got the machines that manufacture the components and you've got the engineers and the scientists who operate and design the machines.

>> Yeah. So you have centrifuge production plants which are like you know factories for producing centrifuge components. Some of those were attacked and destroyed successfully. I I don't have a good sense on how much of an infrastructure Iran still has for producing centrifuge components, but the centrifuge components themselves almost certainly survived the war. They were being monitored when the Obama era JCPOA was enforced. They're not being moni They ceased to be monitored in I forget the exact date, but kind of some point in Trump one administration. Those were almost certainly kept underground or at secret sites. I've seen very little evidence that they were destroyed. The US and Iran have killed the US and Israel have killed a bunch of Iranian scientists, but there's many more that haven't been killed. And so when you look at everything that Iran has, underground facilities that can't be reached, highlyenriched uranium expertise, centrifuge components, there are there is a lot of the ingredients there to produce highlyenriched uranium and and >> which yeah, you as you established earlier is one of the things that you need to build a nuclear weapon >> and and and there's a point here that again I think the administration has said something that is True but misleading.

There were two a number of three really centrifuge enrichment plants that were destroyed last summer's war. Fordo and two at Natans which had huge numbers of centrifuges in the administration has made the argument that it's going to take many years for Iran to build back a program of its previous scale. That is true but it's misleading because Iran does not need a program anywhere near that size to produce the bomb. Why not?

because the number of centrifuges it had was designed to look like a civilian program. You need many more you need much more enrichment capacity to produce fuel for a nuclear reactor than fuel for a nuclear bomb. So the tens of thousands of centrifuges that Iran I I I certainly had space for tens of thousands. I I don't remember how exactly how many were operating before the war, but it was a number that was many times larger than Woods needed to build the bomb. So, it is simultaneously true that it would take Iran many years to build back a program of its previous size and that a program of that size is not necessary to build the bomb.

You're listening to the World Unpacked with John Baitman, where we dive deep into pressing global issues and make sense of the big forces shaping our world. Now, have you learned anything so far that intrigued or surprised you? Let me know in the comments or just give us a like. And if you want to hear more of my conversations with the world's most informed and interesting people, you can subscribe right here. Now, back to the show. One of the curious aspects of the administration's defense of this is the kind of phase one of the US Iran negotiations is JD Vance has said that he is confident that Iran won't be able to rebuild back their nuclear program because they would need a tremendous amount of money to do so. He said this on a bunch of different podcasts and news shows. Of course, they set the conditions for Iran to get a bunch of money. Uh the specific number in there is \$300 billion. It's left somewhat vague where this number will be coming from. Maybe not the United States, but maybe US partners, but the US is kind of guaranteeing or saying that it would help bring this money to bear. So the administration is saying almost in the same breath that what Iran needs to rebuild is this thing that is in fact coming to them under this is. what you're saying is exactly true, though I also disagree with the premise. The first thing about money is it's not just about the 300 billion, which I think is this kind of economic assistance package that I think is largely aspirational.

In the immediate future, Iran gets its oil sector has been completely unsanctioned. it can it's going to get billions of dollars a month in oil revenue and it's got assets unfrozen even before you get onto the 300 billion. So you know that 300 billion I think is aspirational. I doubt it'll ever happen but Iran really is getting in the near future already getting a large amount of money in like billions of dollars a month. But secondly I also just don't think it's true that countries need vast amounts of money to build nuclear weapons. And and it's not that it's easy or cheap, but it's if you decide that is your major priority, you sacrifice other national goals for that. I mean, you know, there was a famous saying in Pakistan, for example, that we will eat grass in order to build nuclear weapons. You know, North Korea is a country that is often considered, you know, a very poor country with that historically we thought of having a poor science and technology sector. But at the end of the day, the regime decided that nuclear weapons were vital for their survival and it prioritized that and now North Korea has a nuclear weapon.

>> Yeah. You know, eating grass to build nukes. I mean, it's it's an evocative metaphor. You could say that is a tidy summation of Iran's national strategy in a way. I mean, just to be clear, you know, they haven't built nukes.

They haven't made the political decision to build nukes. No one has assessed that they have. But in broad strokes, orienting their relationship with the world and their governing structure to maximize what they view as security over and above the economic needs, the freedom and the flourishing of their people. That is the Iranian strategy in a nutshell.

>> And I think that's exactly right. And I would qualify I think we have to have an open mind at this point about whether the new leader in Iran will or has already made a decision that ultimately Iran has to get the bomb. I would entirely agree with the characterization that under the previous Ayatollah I think the best interpretation of the evidence was Iran wanted the capability to build nukes at short notice but had not yet made that decision to build them after what has happened including you know the killing of the previous Ayatollah and now his son is the new Ayatollah.

It is not at all clear to me that that modicum of restraint that Iran previously showed is still going to be there today. I don't know. We'll have to like wait for actual evidence for that. But I think it's no longer safe to make the assumption that Iran will content itself with the option of building the bomb rather than the actual bomb. >> Small correction if I could, James. I actually chafe when people call Moshaba an Ayatollah. I think this is what we're used to describing Iran's leaders as.

>> It's actually a religious credential that he does not have. >> I stand correct. No, it's interesting. Supreme leader. I should refer to him as the Supreme. >> We've had three supreme leaders in Iran and each one has been a downgrade in terms of their clerical qualifications. So Moshtaba is one level below an Ayatollah which itself indicates the degradation of um the sort of governing premise of the supreme leadership and the guardianship of the Jewish prudent that it would be a learned Islamic scholar. Now it's kind of degraded into this you know quasi hereditary security state. Um >> it's an important clarification. It's well >> nitpicking but listen I'm with a theoretical physicist so I feel like I am entitled to pick a few nits. Um, okay. So, what you're describing has often been referred to as a threshold nuclear capability. The idea that you may not have nukes, but you have the ability to quickly get nukes if you want them. Um, sometimes this is referred to as breakout or sprint to a bomb. We've heard differing numbers thrown out over the years about breakout timelines. Um, how long would it take for Iran to sprint to a weapon? Uh, could it be detected? Um, amidst the chaotic aftermath of now two wars and a massive series of assaults on Iran and its nuclear program, do we have an estimate of Iran's capability to break out today, or is it just a jump ball? One way of thinking about this is to first ask the question if Iranian leaders were to make the decision tomorrow to go hell for leather for the bomb and if there were no interference by the United States or others how long would it take and then to then to think about how effective interference might be. So, you know, I think if there would if Iran were guaranteed that nobody would bomb the program, nobody would interfere with the program, I would imagine they could produce a bomb in less than a year at this point, possibly substantially less than a year. You know, the process of building new centrifuges, facilities, enriching would be relatively quick at this point. And then, you know, then there's uncertainty about, you know, a nuclear weapon is not just a lump of highly enriched uranium. You need the high explosives to trigger it. You need all of the other surrounding components and electronics. A lot of that you can do in parallel. You know, the highly enriched uranium production and the so-called weaponization side, you can do at the same time at different locations until the very final step of actually uh fabricating the weapon and assembling the core. So, you know, my guess is it would take Iran less than a year. And just to dig in on a couple of those pieces. So with the

enriched uranium, we've established that Iran has mastered the technology and the industrial capacity to enrich uranium to weapons grade. We know they can do that. Okay.

What about the weaponization part? Has Iran similarly mastered that technology and it's just a matter of them following through on a path they've already laid out or is there still some like uh technology risk there of them needing to experiment and learn in order to achieve this? >> My honest answer to that is I don't know. Um, you know, we know the Israelis stole the Iranian nuclear archive that demonstrated a work on weaponization, but how close they are to having a working design, how close they are to manufacturing the individual components um or being able to manufacture some of these non-nuclear components. We simply don't know. At least I don't know. What I would say though, big picture here, is the United States, if you go back to the Manhattan project, I forget the exact number, but it's something like 90% of the resources went into fission material production. It may even have been as high as 95%.

Los Alamos the most the weapon you know the place that actually designed the bomb although it's the most famous part of the program was in many ways the cheap part of the program and you know American scientists did it in the 1940s without you know when computer was a job title not a machine so I'm not going to sit here and tell you that it's trivial to design a nuclear weapon because it's not. But countries with weaker science and technology bases than Iran have done so.

>> Who are you thinking of? >> Pakistan and North Korea. >> Okay. >> And and frankly India when India did it. I mean actually I mean you can argue that any new you know Iran science and technology base today it knows an awful lot more science and technology than the United States did in 1945 or than Russia did in 1949. >> Yeah. Because time has marched forward. They have all these scientific papers. They have the internet. I mean you know to my understanding the schematic principles that you need to understand behind how a nuclear bomb works these are well known and fairly simple. Um the challenge then is an engineering challenge right of just specifically getting the uranium into the right shape the explosives into the right shape. I mean, right?

>> I want to qualify that a little bit >> without getting massively over technical about this. >> If you surround a lump of highly enriched uranium by a sphere of high explosives, it will not detonate. Um there are there so-called instabilities in the way that the lump of metal won't compress perfectly symmetrically which is really what you want. So the very basic physical principles of a nuclear weapon are well understood but I there are it's the physics of actually making a bomb go off is not totally straightforward and it's not just an engineering challenge either there is some pretty complex physics you need to understand but but you know at the end of the day I think Iran could you know if it doesn't have a working design today there's Not much doubt in my mind it could get there within a year. So then you have the question about can so firstly that is if the supreme leader were to give the an decision tomorrow to build the bomb go hell for leather and there was no fear of interference.

That decision might be made. We don't know whether it's going to be made and I haven't I'm not assuming that it's yet been made. But secondly, there's two things then Iran has to worry about. Firstly is being bombed or attacked while it's doing the program. And secondly, it then has to worry about doing the program in a way that

makes it more immune to attack, which potentially slows it down. So here's what I'm thinking, okay? And this is all live.

We're we're we're spitballing. So So just run with me on this. Iran has been bombed and attacked. It withstood that. Um, it had its entire leadership cadre from the principal political and clerical leader of the country on down to most of its top national security leaders slaughtered. Um, many sites were bombed and destroyed, its conventional military severely damaged. Nevertheless, as you stated earlier and as others have stated, it seems like the regime is in a pretty good state right now and feels that they got the better of the United States. So, one could argue that they could race to a bomb. And if the United States and Israel use the same playbook again, that's actually not fundamentally threatening to Iran. What do you make of that? In other words, would we need to send in ground troops in order to prevent a nuclear breakout? It seems unlikely to me that everything Iran needs to build a bomb is at one single site right now.

So, you know, if Iran wants to enrich uranium, it has to set up a new centrifuge facility. It has to move its existing stockpile of highly enriched uranium to that facility. While those things are on the surface being transported, they're potentially vulnerable because, as you've made the point already, you know, Iran has to worry that its nuclear program has been penetrated. The US and Israel showed a significant ability to hunt down mobile missiles, for example, while they were moving. So, the huge challenge the US and Israel have is that when the program is deep underground, it's very, very hard to attack it. But if Iran has to move stuff around the country to set up that facility again, it's potentially vulnerable while it's on those components and materials and people are potentially vulnerable while they're on the surface. Now, at the end of the day, I think for both technical and political reasons, I think if Iran wants the bomb at this point, it's going to get it. Like I think our best chance of halting Iranian proliferation is now in the rearview mirror. And I think, you know, I think this is a bad position to be in. But I also think that if Iran wants to build the bomb at this point, it has to be very careful to do it in a way that minimizes its vulnerability and that potentially causes it to slow down and be more cautious.

>> Why couldn't they reconstitute the entire enrichment program within the deep tunnels of Isfahan? Is that a possibility? Of course it is. But that they can but that they can only do that without moving stuff on the surface. If everything they need is in Isfahan at the moment, you know, if every centrifuge component, all of the people they need, all of the different power converters and, you know, devices for heating up cylinders of uranium, right? If everything right there is in Isfahan at the moment, yes, they could. But it seems more likely to me based on the limited information that's available that different elements of the program are dispersed right now.

>> Guess what I would do if I were the Iranians is just do some small tests, right? Um see see if I might open a tunnel entrance, see if it gets bombed, see if I might move in one centrifuge, see if it gets bombed. >> But the Exactly. But the point is that's slowing you down, >> right? That is that is not that's going to be slower than just ordering a thousand centrifuges in one go to be moved for is so this is you know this this came out of our conversation about how long would it take Iran and my point is if there's no interference I'm pretty confident they could do it in less than a year but if there's interference and they're doing it very gradually and step by step and testing it in the way you in the way that you argue that does lengthen the timeline somewhat. Now, I don't

say this as to kind of tell people there's nothing to worry about. I am deeply concerned that within the next few years, Iran is going to test a nuclear weapon. I think, you know, our ability to stop that after waging an unsuccessful war is now severely cailed.

But I also want to acknowledge that, you know, the worstc case analysis of how long it would take is probably unrealistic because Iran is likely to want to do this program in a way that doesn't cause more attacks on materials and people and equipment while they are vulnerable on the surface. And that makes sense particularly with the file material. It's such a small amount that Iran has labored to create. They're going to want to be very careful and cautious with the treatment of that. I guess I'll just say thinking about all of this, the war has tested some of my assumptions about what it would mean to interdict a sprint to the bomb. I mean, if interdjection means Iran sprints, the US attacks, and the goal of the attack is to dissuade Iran from continuing to sprint, it just seems to me like that dissuasion is severely undermined by the notion that we've already hit them almost as hard as we could with air strikes and the regime has withstood.

So then maybe the theory shifts from a future interdiction would not be a dissuasion operation, but it would need to literally physically stop and disable the Iranian nuclear program. But I guess we've also learned that there's just tunnels we can't bomb, >> right? No. No. This I >> So are we now in a point where a ground assault is now what is the >> ineliminable kind of backs stop that we would have if we're on sprinted? The short answer to all of that is yes. I mean, this is part of the reason why I argue we lost the war is because if our goal was to prevent Iran from getting the bomb now or in the future, I think for all of the reasons you say, we have demonstrated that on balance, we're really going to struggle to permanently destroy the program without a massive ground presence. Now look, I use the word on balance there because the US and Israeli demonstrated ability to attack moving targets while they're on the surface ought to induce some caution in Iran into how it moves the pieces of its nuclear program together. But on balance, the fact that we have now demonstrated that there are very deep tunnels we can't destroy Yeah.

I think is a very, you know, the threat of military action was always more potent than the reality of military action because we did demonstrate a lot of capability, but we also demonstrated serious weaknesses in Lacuna. The other thing here is about our tolerance for pain and this is something that I really wanted to bring up. You know, many American proponents of the war talk about the war as a video game that the the goal was who could score the most points. You know, we killed the former Supreme Leader Kam.

That's 100,000 points. We bombed Fo 25,000. >> Yeah. Pete Hegsath put out some kind of infographic which was basically like kill count, target destroyed, very gifed, >> right? Very very also the way we, you know, talked in Vietnam >> famously. the the Admiral Cooper's briefings felt like listening to, you know, MACV, the assistance command in Viet Military Assistance Command Vietnam. That's the wrong way to think about war. War is not decided, or at least this war wasn't decided by who scored the most points by destroying the other's target.

Fundamentally, it depended on the infliction of pain. We inflicted a massive amount of pain on Iran, but Iran ultimately could tolerate that pain. The pain that Iran inflicted on us through the closure of the straight of

Hormuz was totally politically untenable within the United States. Iran inflicted on us through oil prices more pain than the US body politic could bear. and that Iran's demonstrated ability and willingness to close the straight of Hormuz meant that we were totally unwilling to go back to fighting. You President Trump said this repeatedly, right? The war is over. We're not going back to fighting while negotiations were ongoing.

And that hands Iran all the leverage because if Iran is not willing to go back to fighting if it doesn't like an agreement. But we're not willing to go back to fighting, Iran has much more leverage than we do. >> I will say that's fundamentally why this agreement was good for Iranian interests and not good for ours is because Iran had the leverage. >> Trump does change his mind a lot. Um he previously attacked Iran in the midst of diplomacy. Um, could you envision a world in which the current negotiations ongoing over the nuclear program don't work out and Trump strikes again? Well, so I can, but let me which I think would be a really bad idea for all the reasons we've discussed, but let me, you know, in the previous negotiations, let me distinguish between Iran believing that the United States would not go back to war and Iran being correct in that belief.

While negotiations were ongoing, we couldn't know whether or not Iran was correct in its belief. In the event it turned out it was correct in that belief, right? It drove a very hard bargain. The US accepted it. It did not go back to war. But what matters in terms of leverage is not whether you're actually willing to go back to war. It's whether your adversary believes you're willing to go back to war. And I think it was very clear that Iran believed correctly as it turns out, but Iran believed that the United States wasn't willing to go back to war and that allowed it to drive a very, very hard market. And you know, looking forward, I think part of the problem is Trump keeps on threatening to do things, bomb Iran to the stone age, attack K Island, attack the oil infrastructure, um that he then doesn't live up to, and that undermines his credibility dealing with Iran, and it hands Iran all of the leverage. Now, to be clear, when you make a totally gross and immoral threat like bombing Iran back to the Stone Age, I'm very glad Trump doesn't live up to that. not living up to that is better than living up to it and enhancing your credibility. But the point I'm making here generally is that I think Iran does not view Trump's threats to go back to war as credible. And that is a huge problem in negotiations going forward.

>> Probably what the administration's defenders would say is that some of these extreme threats have at times seemed to move along talks with Iran. Um it's hard for me to gauge that from the outside, but Iran will sometime uh Trump will sometimes make an extreme threat and then the next day say I'm not doing it because actually that threat so quickly >> even when there weren't talks going on strongly suggests to me that actually it wasn't those threats that moved it. It was Trump made a threat, the oil markets got jittery and then he dialed it back again. Yeah. Yeah. Is he negotiating with Iran or with the oil markets or with the voters? All of the above. Um, okay. So, let's now go to the talks. I I won't ask you to predict the outcome. I think that's difficult to do. Um, I am curious what you think a good deal might look like. What what are the basic contours of a deal where, you know, maybe we could only even get this deal if we had way more leverage than we do now, but just a really really good deal that everyone could go home and say, "Wow, we we've kind of taken care of this threat or we feel confident that it's managed." Look, we need to distinguish here between the best deal possible and the best possible deal, right?

The best possible deal in some idealized world would be Iran gives up his entire nuclear program, right? It it

gives up absolutely everything. It's not even allowed to keep an impressionistic portrait of a centrifuge. In the real world, we can't achieve that, right? So the real question is given where we are now, given the lack of credibility of our position, given the fact we fought a failing war, given the US sensitivity to oil prices, what's actually a decent deal on the nuclear program that we can imagine? And my view is specific and permissive.

And what I mean by that is I am willing to trade at this point allowing Iran to do stuff we would rather Iran doesn't do. Right? Enrichment for example. I mean enrichment being the absolute key one here. You know the president wants a prolonged suspension of enrichment which in principle is great. I'm not I'm not against that. >> Yeah. The problem is, I think, if Iran were ever to accept a prolonged suspension of enrichment, which I don't believe it will, the price for that might be very limited inspections. The price for that might be not defining what's actually prohibited and what's actually allowed. And by the way, this is not just a hypothetical thing. There was a bunch of negotiations between Britain, France, Germany, and Iran back in 2003, 2004. And all of that fell apart on the vagueness of the agreements. you know, I the two sides couldn't couldn't reach compromise on what how to define enrichment and they didn't define enrichment and then Iran said, "Well, we're allowed to build centrifuges so long as we don't enrich with them." And the United and and and Britain, France, and Germany said, "You're not allowed to build centrifuges." And then the entire agreement fell apart. So, I think what I want to see is an agreement that's incredibly specific, lots of detailed language about what's allowed and what's not allowed and how we're going to verify it. And I would try to sell Iran on that by being more permissive, by not forcing a suspension on enrichment if in reality you're never going to get that or you're only going to get it in return for like very limited verification.

Um, and I think we have to be generous in terms of long-term sanctions relief here on Iran. So, you know, I'm trying to start from the position not of what would we want in an ideal world, >> but what are the remaining policy levers at our disposal? So during the negotiation of Obama's nuclear agreement, the JCPOA, um a yard stick that was often held up to judge the agreement is this breakout timeline.

>> Yeah. >> Um if memory serves, and you can correct me on this, there was a goal or a belief that that agreement resulted in something like a one year or more breakout time. Okay. Is that still the best way for us to judge the substantive components of the next Iran agreement if we come to one? Should we be measuring that? And if so, can we still get 12 months? So, there's two ways to build the bomb or or or rather there's two kind of key pathways you have to worry about. Breakout and sneak out. breakout is using your declared facilities, those that are being inspected to produce, in Iran's case, highlyenriched uranium for a bomb. And the goal of the JCPOA was to ensure that if Iran were to use its declared facilities to build the bomb, it would take at least a year, if not longer, to produce sufficient, highlyenriched uranium. The other thing you have to worry about is building secret facilities that aren't inspected and that's called sneakout. And although the administration sold the Obama administration sold the JCPOA on breakout which was a perfectly, you know, it's important. You want that. The JCPOA also contained a load of provisions to prevent sneakout. And I personally worry a lot more about sneak out than breakout. And this would be something like the ability to um inspect parts of the Iranian country other than those declared facilities for correct.

Correct. And this is where it gets very complicated in terms of the rights that the IEA had even before the

JCPOA and then the additional provisions the JCPOA made in terms of access rights in terms of provision of information all of this kind of stuff. So I the first thing is I think we don't any agreement realistically is not going to be as good as the JCPOA because we have less leverage than we did back then. You know, back in 2015, there was an international coalition, including Russia and China, who were willing to sanction Iran um and lift those sanctions if a good enough deal was reached. And that gave us a tremendous amount of leverage. Now, most of the world is not doing sanctions on Iran any longer. They think our attack on Iran was wrong and illegitimate. The Russians and Chinese are now much closer to Iran. we just have less leverage than we did back then. So would it be fair to say then that if the JCPOA achieved we believed a 12 month breakout timeline and I don't know maybe a 12-month sneakout timeline. It's kind of unclear but just a 12-month timeline.

Um your expectation is that this deal if we come to one will either have to tolerate a shorter breakout timeline or more holes in the resp. confidence in what that timeline is or more sanctions relief or some other compromise. The breakout time calculations have changed a lot since the JCPOA. What the JCPOA did, the Obama era deal, was it allowed Iran to keep hundreds of centrifuges, but it placed very strict limits on the amount of of enriched uranium that Iran could have and the level of that enrichment. In some sense, we're in an exact opposite situation. Now, Iran has a lot of highlyenriched uranium that's enriched to quite high levels, but is limited in terms of its how many centrifuges it has because we just destroyed a bunch of them.

>> So, in terms of breakout time, I still think the year-long goal makes sense, but I'm skeptical we can reach it. But I'm more worried about sneakout. Like what really worries me today in Iran is that Iran is building a centrifuge facility at a site that we have no idea about using centrifuge components that haven't been inspected or monitored for years. So if it were up to me, I would emphasize preventing sneak out in negotiations more than breakout. Now you have to deal with both. You can't you can't ignore the possibility of breakout. But in a world in which the US only has limited political capital, I would focus, you know, I would use that capital more to deal with sneakout than breakout. I think that's definitely one of my big takeaways from this conversation, James, is to successfully manage the Iranian nuclear threat through a negotiated settlement, you've got to tackle like eight or nine different things at the same time.

You've got to tackle the enrichment. You've got to tackle the existing stockpile. You've got to tackle this sneakout threat and other things. And then you're trying to get the most concessions you can with the greatest specificity that you can with the greatest verification that you can with the least sanctions relief and the most contingent sanctions relief that you can and basically something you can't do everything right especially in an environment in which in your view the US is not the side with the greatest leverage and so I guess what we can expect is compromises in some of these areas.

So yes to most of that. I mean there was a reason the JCPOA was 159 pages, right? It was precisely because there was so much to worry about, including, by the way, things Iran wanted like sanctions relief that was spelled out in enormous detail in the JCPOA, but as was precisely what Iran could have in terms of nuclear um equipment and processes, precisely how that would be inspected. Like there was a reason the JCPOA was such a comprehensive agreement.

Um, in some sense the amount of sanctions relief Iran gets has already been agreed to in the memorandum of understanding. >> You know, the leverage we have is how quickly Iran gets that relief. >> You know, we have agreed in principle to lift every sanction on Iran in addition to giving Iran \$300 billion of economic aid at least in part of a coalition. The one leverage we have there is how quickly we supply that relief. Now maybe the US announces it doesn't go back. You know, it's going to renounce the memorandum of understanding at some point. You know, that that it wasn't a good deal and that it wants to revise the terms of the memorandum of understanding. But I think, you know, there's a problem doing that. Um, in principle, there's two possible outcomes really, right? One is a compromise as you say that enables both sides to walk away with a permanent deal that each one can live with. The other and unfortunately more likely outcome is a collapse of diplomacy, right? In which ultimately for a whole bunch of reasons. You know, we are ultimately not willing to give the Iranians what they want. They're ultimately not willing to give us what we want. domestic internal politics in both countries, the belief that on each side that the other side is not going to abide by the deal or will walk away from the deal. You know, there's so many potential fears and concerns that could spoil it. I do think the most likely outcome is that diplomacy at some point simply falls apart and there is no final agreement as foreseen by the memorandum of understanding. And does that mean we go back to fighting or does that mean maybe just nothing happens and we kind of muddle along in a state of frozen conflict? Um, you know, for people listening, I kind of shrugged very visibly while John was asking that question. I mean, look, who knows is the answer to that one.

I I've my great fear is that we're now locked into a state of recurrent war with Iran until Iran gets the bomb and then we give up. You know, people talk euphemistically about mowing the grass. This was always, you know, part of my argument against military action was if you do it, you then have to go back and do it again and again and again. And you know, I predicted that before the June war, which now happened twice.

So I I I feel this prediction is unfortunately on the way to being borne out. >> Yeah. And so these recurrent attacks against foreign threats, it's sometimes called mowing the grass, meaning you just during the summertime, you got to mow the grass every couple weeks. And this is this is Israel's >> basically national security strategy is to continually mow lots of different grasses. >> And I think this is a terrible idea because a there's bits of the program we can't reach.

too deep. It's buried too deep. B, it presumes we're always going to have good enough intelligence to do it. And C, it presumes there will be sufficient domestic support to keep doing that. And I think all three of these assumptions are very highly questionable. So, you know, I don't necessarily imagine that if and when diplomacy collapses, and like I should be very clear here, as much as I'm concerned have issues with the memorandum of understanding, I think it is a very bad document, going back to war would be very, very, very bad. And walking away and just washing our hands of the situation would be very, very bad. So I do think our best option at this point, you know, we're we're in a bad position. We don't have any good options, but the least bad option is to try to pursue this memorandum of understanding to negotiate with Iran to try to reach some form of agreement in good faith. I just don't think that's going to happen. I I I I just I just don't believe we will succeed in doing that. And then I worry a lot that you know we will be in a cold war punctuated by periodic hot wars that will end when a nuclear weapon detonates in Iran as a test which would be the worst possible scenario that Iran both gets and demonstrates a nuclear weapon and we would have had all this destruction and uh failed efforts at

diplomacy along the way. What what do you think the odds are of that? Well, I think that is the most likely pathway we're on.

>> I mean, that's a remarkable statement. >> I've said I've said previously I mean there are costs for losing a war, right? There's cost for bombing a leader for bombing a country, killing its leader, and failing to permanently destroy its nuclear program. I mean, we embarked on an incredibly high-risk consequential course of action that has failed and there are consequences for that. And I think we are going to be paying for these consequences. >> Yeah. >> So, but I I want I I want to answer the specific question you asked me. You know, I had predicted previously that you know one one useful thing is to ask yourself over what time period do you think there's a 50/50 chance Iran would detonate a nuclear weapon. And I'd previously said 3 years and I wouldn't change that calculation now.

>> And this would be as a demonstration of course. >> It would be a test. You know, it would be it would be to my mind probably underground somewhere in the desert. you make the desert shake and you demonstrate you have the ability to build a nuke. >> I mean that's remarkable in that this may very well happen during Trump's presidency thereafter. >> Um so the worst case scenario is pretty bleak. Uh Iran gets a nuke. It happens very quickly. Um and then this is the nightmare that everyone's trying to avoid. I guess my what I'm hearing from you is the best case scenario isn't that great either. The best case scenario is a lesser version of the JCPOA in which Iran remains a threshold nuclear state. And and just to draw you out on this, is there any scenario in which Iran no longer is a threshold nuclear state?

The one the one scenario that you can see which is not impossible but is if the regime collapses and I think people are massively overindexing on this possibility. I mean, basically the supporters of the war are now predicting regime collapse >> and there are hardliners in the Israeli national security establishment that still believe that this is in the cards. >> Yeah. Now, I would note we have predicting regime collapse is unbelievably difficult. We've got it wrong in both directions. I mean, you know, famously the collapse of the Soviet Union was a total surprise. There have been periodic predictions of regime collapse in North Korea, in Iran, none of which have come to fruition. And actually, this is where the financial aspect of the JCPOA really comes in.

Sorry, of the Versailles treaty really come in. Because if there's, you know, the thing that really threatens the regime is its lack of money. It's not so much, I think, that it needs a load of money to build the bomb. It needs money to pay the army. It needs money to pay the revolutionary guard. It needs money to feed the people. It needs money for subsidies. It needs money for, you know, just to kind of exist as a government.

And you know, if we're talking about a few billion dollars a month in oil revenue, if we're talking about billions of dollars of unfrozen assets even before the um um the 300 billion in economic reconstruction, I do think you know what you are significantly reducing the likelihood of regime collapse. Um so this is you know this is why I think I I would not exclude the possibility that the regime collapses. Um you then have to worry that it's replaced by something harder line.

>> Yeah. It's not just collapse, it's collapse and positive transformation, >> right? to to become a country that is

fundamentally more consiliatory, willing to um be friendly or non-combative with the United States, Israel, and Gulf countries. And you know, when you look at the likelihood that a the regime collapses and b it's replaced by something that's significantly more aligned with our interests, you know, it's like placing your life savings on black seven on the roulette wheel. You know, it may come up trumps to mix metaphors here, but like it probably won't. You know, your your odds of your odds of that coming up are pretty slim.

Um, and so, you know, that I think is clearly the best case scenario. Um, but the much more likely, you know, of of of the of the set of scenarios that I think much more may more plausibly arise, you know, as you say, the best one of those is Iran remains a nuclear threshold state. you know, we reached some kind of agreement with Iran that's better than nothing and it remains a nuclear threshold state. >> Um, well, that's a bleak place to end this conversation, but that's where we are. Any final advice to the negotiators? Um, what's the one thing that they could try to do to rescue uh victory or at least some kind of purgatory from the jaws of defeat here?

They need, you know, one piece of strategic advice, one piece of tactical advice. The strategic advice, and it's something I've already said, is focus on agreement that is specific and permissive. Try to trade generosity in terms of the pace of sanctions relief and the activities Iran is allowed to conduct in return for great detail in specifying the limits and in terms of how those limits are going to be verified. And then secondly, get the absolute best quality technical expertise both on the legal aspects of sanctions relief, on the practical aspects of sanctions relief, on the new on the activities Iran's allowed to conduct, on the way that's going to be verified. Um that kind of the kind of extraordinary expertise that went into the JCPOA is needed every bit as much for this agreement. Well, I'll just say uh scrupulous attention to detail and deference to technical experts is not necessarily how most people would say this administration conducts business, but we'll see. James Actton, thanks for joining us today.

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