

The Polarization of Space

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SUMMARY KEYWORDS

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SPEAKERS

Britt Duffy Adkins, Neel V. Patel

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Britt Duffy Adkins 00:11

You're listening to the Celestial Citizen Podcast and I'm your host Britt Duffy Adkins. Celestial Citizen is a space media company with embedded urban planning values, looking to help shape a more equitable and just future for all of us in space. This podcast seeks to provide an opportunity for conversation about how to be a better interplanetary citizen, and responsible steward of earth and the cosmos. By engaging the global public, providing greater access to the space industry, and amplifying a more diverse set of voices, progress in space can equate to progress on Earth. We who are bursting with stardust, can become Celestial Citizens. Today, I'm excited to be speaking with space journalist Neel V. Patel.

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Neel V. Patel 01:12

There's an idea that we're not going to get to Mars for another 15-20 years, if so, like the idea of building a colony out there, a lot of people just sort of think, well, why do we have to talk about these things now? Like, once we get there, we can figure out what an equitable society is supposed to look like. Now's the time, there's no reason to wait. And waiting is just going to drag things out and make things worse, because then we're never going to have these conversations.

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Britt Duffy Adkins 01:37

We'll discuss recent polarization within and around the space industry, why many recent space missions and launch events have not reached the broader public as expected, and what it's like to be a space journalist.

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Neel V. Patel 01:52

Even as a private company, they are answering to the public, they are representative of the United States. And, to that end, they need to kind of act less in terms of just answering to their business stakeholders and more toward what are we doing here that's in the best interests of people?

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Britt Duffy Adkins 02:23

My guest on today's show is Neel v. Patel. Neel is a Senior Editor for science and innovation coverage at The Daily Beast. Prior to that, he was the space reporter for the MIT Technology Review, and an Associate Editor at Inverse. He's been on and off (mostly on) the space beat since 2015. And his favorite planet is Neptune because it rains diamonds, which coincidentally was discovered on the day of this recording September 23, in 1846! So, very timely, indeed. And I'm absolutely thrilled to be chatting with you today. Thanks so much for joining Celestial Citizen podcast, Neel.

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Neel V. Patel 03:02

Thanks so much for having me. It's great to be here.

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Britt Duffy Adkins 03:04

So Neel, tell us a little bit about yourself and how you became interested in the space industry. What came first, your passion for journalism, or passion for space?

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Neel V. Patel 03:14

I think my passion for space came first. I had an older brother who was just obsessed with going outside with our little telescope out there and trying to identify whatever constellations or stars or planets we could see in the night sky. And I think just as a topic, and it had always just been something that's just so attractive and evocative, as opposed to so many other kinds of sciences. It's the vast expanse. And there's just so much wonder out there. So definitely, at an early age, I was kind of bit by the space bug, so to speak. It never really occurred to me to pursue anything within space as a career until I started working as a science and tech writer. The journalism, I suppose, is what got me back into space and thinking about it less as a hobby, and more as a professional. I'd say about six years ago, I was working at Wired, as a fellow. That's where I was kind of thrust into doing more space coverage than I had ever done before. Before that, I was mostly biology and health sciences, and suddenly, I'm finding myself writing about, you know, all these NASA missions coming up. That was around 2015. So it was also the time that SpaceX was very aggressively trying to stick the Falcon 9 landing. It became clear as a really exciting time and something to be paying attention to. And once I was kind of writing more and more, pick up more expertise, and you start to dig in even more and you know, asking even more probing questions and stuff. So everything just kind of cascaded from there. And since then, I've mainly just been writing about space.

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Britt Duffy Adkins 04:45

I mean, what a great way to spend your time, right? So let's dive right in to some of the major recent events that have occurred within the space industry. It's been a very busy several months between the Virgin Galactic and Blue Origin launches and most recently, the SpaceX Inspiration 4 mission. But let's start with the billionaire space race that happened this summer. Why do you think these launch events received so much backlash from the broader public?

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Neel V. Patel 05:14

Yeah, I think several reasons. I think in the first case, just in the last several years, just our society at large, just kind of

rethinking the role of wealth inequality, and how to resolve those things. And obviously, when you have a bunch of rich billionaires who are going into space, it's an indication of the sort of disparity of who gets to do what, and I think with a lot of these missions, to a certain extent, they tried to do their best to kind of create more representation or create more opportunities for ordinary people. But by and large, I think the broader public still felt like this is not us, we can't grab a ticket for these missions the same way you can grab a ticket for an Amtrak ride, or even a flight. When you have that kind of barrier, I think everything just feels like it belongs to someone else. And I don't think any of these companies did enough to sort of present the case that this could be us one day, and this should be us one day. Instead, it just felt like these sorts of weird tech demonstrations or experiments that just feel like it's happening in another world. And in this case, it was happening outside of our world.

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Britt Duffy Adkins 06:22

Do you think that some of the major private space companies are oblivious to their public perception? Or do you think that they just don't really care, like they're just more focused on the mission and what they want to achieve? Because sometimes it does feel like there are opportunities, of course, for them to sort of try to communicate why this would be important to people outside of just the wealthy, privileged view. But it seems that they don't necessarily either take those opportunities, or it doesn't occur to them to take those opportunities to sort of expand that vision. So why do you think that is?

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Neel V. Patel 06:55

A lot of these companies just don't know how to connect with people outside of the space industry, I would say. When you talk to people who don't regularly follow space, it's this really complex, kind of weird topic. And you really have to talk about things in the sort of like, basic term. When these companies start to kind of promote, like, oh, we just built this new version of this engine, or here's this interesting new little gizmo that's going up on the spaceship, like nobody cares about this stuff. They don't pay attention to it. In the Inspiration 4 documentary on Netflix, there's this really great scene where Hayley, the youngest person who went on that mission, she's talking about how like, after she was selected, she was wondering, is she gonna get to go to the Moon? And she talks to her engineer brother about this, and her brother just kind of laughs and just like, no, you're not gonna get to go to the Moon. And she talks about how like, oh, yeah, apparently we haven't been in like half a century.

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Britt Duffy Adkins 07:54

I mean, a lot of people outside the space industry, they don't know the same details about the space industry, like those of us inside of it do. And so you're right. I mean, that stood out to me as well. But it's just such a great point. How can we communicate this better when there's variations of sort of what people care about, what they know about? Also, you go down another path, there's also just a lot of people who feel like I'm confronted with so many issues in my day to day life, how could I possibly make time to care about space?

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Neel V. Patel 08:23

The example with Hayley, like, I think it's something that on the surface you might be like, that's embarrassing, what was she thinking? But a normal, ordinary person, why would they be thinking about our history of travel to the Moon and stuff? So, it's not really that far fetched to think like, oh, we don't go to the Moon regularly? Like, I mean, we did that half a century ago. Why is that not happening? And that kind of leads to the next point, which is, I think, in a lot of ways, these companies in the space industry itself doesn't really go out of its way to try to connect with these people. There's a really passionate, rabid fan base in space. And that's great. You know, you want to see a lot of

people really showing this excitement, enthusiasm, that's just, and it can be very infectious. But I think it also tends to alienate a lot of people when you're looking in from the outside, and people are using insider jargon and lingo and they're sort of talking about space in this kind of like "in group" culture, and it feels like you're on the outside looking in, no one's kind of going out of their way to say, come in, come with us. It's okay if you don't know anything about what we've done since Apollo or anything, like, we're here to show you. There's not really a kind of warm invitation like that in space.

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Britt Duffy Adkins 09:41

There seems to be this response, also, when there is criticism of things that are going on or things that are happening in the space world. There's a lot of "us vs. them" rhetoric, there's a lot of "if you're not with us, you're against us." And I think that that's also another way in which we really alienate people that potentially might be interested or intrigued by what's going on in the industry. But they're, of course entitled to their opinions, entitled to their views and their criticisms as well of what's going on. So I think it's also about not necessarily just being inviting in terms of saying, you know, you don't necessarily need the prior background or exposure to the industry. I think it's also we need to take a hard look at how do we be more welcoming in the sense that we're also encouraging people who might have views different from our own to feel welcome in this space. And going back to Inspiration 4 which, of course, was the big news for this month, I wouldn't say that it necessarily had the same backlash, as we saw against Virgin and Blue, like their missions. But I definitely felt like there just wasn't a ton of excitement around it outside of the industry, despite it being the first all civilian spaceflight, which it obviously positioned itself as sort of making space more accessible. But did it really make space more accessible? Why do you think this event still fell flat for many people?

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Neel V. Patel 11:04

It kind of comes down to sort of what I said earlier in which these opportunities to go up into space, they're not going to be really open to many of us. When NASA began their human spaceflight program and everything, we were able to unite around it based on, we're trying to beat the Russians there. And there was an obvious political goal, and it was filled with a lot of prestige around it, a lot of patriotic feelings around it. This is different, because it's just, here's a business that's going up. You're not going to get the kind of patriotic fervor or like passion around wanting to see a business go up. And you know, once again, it should matter more, because it's not just SpaceX going up, but it's indicative of like a new era of space. But that's hard to make the case, it's just one company, and none of us are going to be able to go up unless we magically become millionaires overnight, and then throw all of our money into these missions, it's still just going to be a one percenter kind of endeavor for a while. And that's hard to, I think, for the public to just care about things like that, especially when there's kind of all this going on right now. Space in general has always been like sort of a wonderful distraction from real life problems as well. And that's why people always can get behind like new discoveries around Mars, or we just found an exoplanet here, I want to read more about it. This mission was just people going into orbit, which is kind of a "been there, done that" situation. And that's not to say it's not any less impactful or important for the space industry. But if you're an outsider, if you don't really care about the space industry, you're not learning anything new, we learn, you know, what's possible going on for the commercial space industry. But ordinary people, they don't sort of look at that as a distraction from real life problems. It's a business story for business people.

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Britt Duffy Adkins 12:56

I think you've really struck upon something there, which is maybe part of the reason why a lot of these events have been less inspiring to people outside the industry is because again, they're all sort of framed around this commercial context. There's a fair amount of escapism that goes on, I think, with space enthusiasm and interest in space. And so if you're not providing people with new discoveries, or new missions that we've never attempted before, and it's

tough, right? Because when you compare back to Apollo era, which again, was from a sociocultural perspective, perhaps not inspiring in the sense that it was all sort of white, American men going to space. But that being said, it at least was all of these really new and exciting missions that felt very risky, that felt very innovative. And so it is interesting to think about that sort of the public perception might look at a lot of these things from the outside and say, well, yeah, we've already done that. We've already been there. What's new and exciting about this? You also wrote a very insightful review of Netflix's SpaceX docuseries. I think that your point in that review about how it really failed to win over skeptics as well is a really important one. And so what were you hoping to see in this docuseries instead?

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Neel V. Patel 14:15

The docuseries just read to me as a kind of really long advertisement for SpaceX really, and I think that was sort of the biggest issue that I had with it. An institution like NASA, obviously, they portray themselves in like nice light and everything. But that being said, it being a public institution funded by the government, there's a certain amount of transparency that they will devote to what are the problems? What went wrong? That kind of stuff. I didn't see like very much in the docuseries, in terms of big challenges that the company had to overcome, the larger discussions around what we've been talking about the sort of disparity and enthusiasm around space and the backlash of the billionaire space race. I recall maybe like one question being thrown at Elon Musk and Jared Isaacman about that, and that was it. I think an issue like that deserved much more time and much more commentary from the two of them and from others in the industry to kind of tackle this issue because if the point of the docuseries was to sort of generate enthusiasm, it didn't work. And I think the reason it didn't work was because it was, it felt very manicured, and it was polished. It was pretty much just several hours of an ad. And viewers these days, unless you're really driven by like passion about space, you want to understand the truth behind things and the realness of what goes on behind the scenes.

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Britt Duffy Adkins 15:38

I remember that part of the docuseries. I mean, I just sort of felt like that was a real missed opportunity. Presumably, he had the airtime to kind of say whatever he wanted to say about this mission and about his future goals with SpaceX. And I did feel like that was a real missed opportunity to try to connect with a broader audience there. And I think that there's also this culture within the space industry, I don't know if you feel this as well. But you get this sense that people are so defensive of all of the missions and all of the work that they're doing, that they're sort of unwilling to have those more candid and transparent conversations, where maybe they acknowledge weaknesses, they acknowledge flaws, they acknowledge criticisms, things like that. So, I do hope for in the future, a little bit more courageous content that isn't afraid to go there. I think the broader public really wants to see that and wants to better understand exactly what you said, which is the real truth behind a lot of these missions. And I think if we keep pretending that everything is awesome, everything's coming up roses, there's nothing going on behind this curtain, right? Like, I think that that's just a dangerous way to move forward, because people are gonna realize that that's not super authentic. And again, you and I are both space enthusiasts, but I think we acknowledge that there are shortcomings that of course, we're working on and we need to be working on even more. So, hopefully, that's kind of a direction that people take going forward. I mean, what's your opinion on how we have some more productive conversations about space exploration?

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Neel V. Patel 17:11

I think you're absolutely right. People in the space industry tend to be very defensive, and kind of the default is to defend industry, NASA, all these institutions from criticisms about you know what's the point of this? Is this money really worth it? You know, I'm not sure how something like that can be remedied, except from sort of the inside out. I

am encouraged a lot these days by what I see from younger engineers and astrophysicists on social media, who are working in the space industry, who definitely want to talk about these things. And they're very open and aggressive about saying, this is a problem. There is a lack of diversity and inclusion in this industry, in these sectors in academia, and who want to confront these things head on. That's not going to be enough because, you know, where all the power is really being held is the old guard. It's their minds that need to be changed. You would want to see them being the ones taking the lead on these issues, and really looking inward and saying, you're right, we have sort of failed on all these marks, and we want to do better, and now is the time to do so. There's an idea of that we're not going to get to Mars for another 15-20 years, if so, like the idea of building a colony out there. A lot of people just sort of think well, why do we have to talk about these things now? Like, once we get there, we can figure out what an equitable society is supposed to look like. Now's the time, there's no reason to wait. And waiting is just going to drag things out and make things worse, because then we're never going to have these conversations. You have to be thinking about these things now, or else they don't come up. The Apollo era began concurrently with the Civil Rights Movement, and it wasn't until decades later that we can finally see astronauts of color, women astronauts, finally, like taking leadership roles and taking charge and not just being you know, sort of one of a dozen or one of 100. It's been such a long time. These things take so long. You want to start these things early. They don't just change overnight. It has to happen now.

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Britt Duffy Adkins 19:15

This is sort of, I guess, my urban planning background coming out. But it's like, being proactive about those conversations and being a part of those conversations very early on is just so critical to making sure that people don't get left out and their perspectives don't get left out. And I think that's definitely something that I feel like probably people outside of the space industry don't necessarily realize is that a lot is happening right now. And it's starting to happen very quickly. And even if it feels like it's not those exciting, big new discoveries, or it's not the first humans to Mars yet, okay, maybe we're not there. But there's a lot happening that's starting to set precedent for how things will operate in space and how business will kind of carry on, so if you're concerned about these things on Earth, if you're concerned about equity on this planet, and you should definitely be concerned about what's happening right now in the space industry. And I agree with you, I'm definitely encouraged by I think that there is a younger generation of people coming up saying, we really care about these issues, we want to hear from a broader group of the population. And I think we'll just be so much better for it, if we can manage to really capture all those different voices, or at least a much broader sample of voices as we move forward. But it also makes me think that, to your point, again, a lot of that power is already concentrated in the old guard. And especially when we're talking about some of these mega private space companies, they have so much personal wealth, they're not really held accountable, because they don't need to worry about well, how is this perceived by the public? Because that's where I get my funding. Right? So it's like, how do we solve for that?

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Neel V. Patel 20:53

I think the space industry sort of has to look at kind of the way in which cultural changes have been done in other industries as well in you know, larger society. And then that takes time, and nobody wants it to take that much time. And I think, especially these days, there are ways to accelerate these things faster. But it really does sort of require people at the top kind of giving up power, or at least acknowledging that it should not be concentrated up like this. People need to have more of a voice and not just shareholders. If US companies in the space industry, are trying to promote themselves as being part of a new generation of the space program, and carrying forward the ideals that we've been talking about these last few decades that were typically led by NASA, then they also need to understand that like, even as a private company, they are answering to the public. They are representative of the United States. And, to that end, they need to kind of act less in terms of just answering to their business and stakeholders and more

toward what are we doing here, that's in the best interests of people? There's no standard for that, there's no framework for how that occurs. Businesses will continue to act in the best interests of businesses, but if you have people at the top, who are genuine, who really care about these things, then an effort can be made.

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Britt Duffy Adkins 22:16

So now, Branson and Bezos, theoretically, have experienced the Overview Effect. What I would love to see happen is instead of them coming back and saying, oh, okay, now this is where I'm going to spend my money based on my decision making capabilities alone, I'd really love for them to sort of engage the public and trying to understand that I'm in a real position of power and privilege, how can I do a better job of making sure that it's responsive to what people actually want to see? And again, I mean, to your point, you do need people who they sort of step aside in a way and they sort of say, okay, like, yes, I'm in this privileged position but instead, I want to hear what other people want to see happen and I want to give power back to the broader community, the global community. I think that would be a really powerful message. But I think unfortunately, it's tough because you get a lot of people who and somebody once said this, to me, I forget who it was, but the most dangerous people are those who think that they're absolutely doing the right thing. And so I think that's the tough thing, too, is you're trying to convince these people that they may not know best. And so again, I think I would love to see, as these people experience the Overview Effect, my hope is that they see themselves as a really interconnected part of humanity on this planet, and not able to operate in the same vacuum that they've become accustomed. Now, another question for you, though, on this topic is, how much of a role do you think that mainstream media coverage has played in sort of exacerbating this problem, leading to these really polarized dialogues between Earth vs. space? I think it's played a very, very important role. Working as a space journalist for about half a decade now, you know, I've gotten a broad swath of how a lot of the media covers space, and it tends to be a sort of, "in group" coverage. It's speaking to people who are already interested in space. When you have journalistic outlets who are very much tied to, you know, we have to have our stories hit this amount of traffic, we have to have these many views for any videos that we post, you can count on a certain number of people who are space enthusiasts to click on those things and to view those things. And when it becomes certain that you can always count on that audience, you tend to just start to speak more and more to that audience. The way that the media has covered a space industry in the last several years, it's been very sort of cheerleader-y and kind of just taking a lot of what these companies say as sort of truth and as fact, not really looking into asking these sort of larger questions of, is this institution for real? Is this mission for real? Why are we sort of even doing this? Who's going to benefit from this? There's a tendency I think, in a lot of space media these days too to look at what some think tanks might discuss in terms of the value of space over the next few decades, which tends to stretch from somewhere between like 10 trillion and 1000 trillion or something. And it's absolutely ridiculous. And I see these numbers, and I'm just like, who's running these studies? And then second, Morgan Stanley

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Neel V. Patel 25:21

I see who covers them. And I'm like, why are you covering these things? Like they're real.

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Britt Duffy Adkins 25:33

I mean, I've read some of these reports. And it's like, we've got major banks coming out with these very frothy numbers. And that's a whole conversation about growth in general. But you're right, you do get this like very one-sided perspective.

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Neel V. Patel 25:48

The question is, well, who are these stories for? Who cares if space is worth \$50 trillion dollars. It's not your average person who's interested in space, who wants to know, you know, what the Perseverance rover is up to next, or what the Chinese space station is supposed to look like. It's, you know, wealthy individuals who might be able to, like, insert themselves into this valuation. It's really just speaking to people who either are laser-eyed in, "I want to know everything about space," or people who have some kind of business stake in being more interested in space.

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Britt Duffy Adkins 26:20

From the mainstream media perspective, I completely agree with you. How are we saying this is for everyone, but then we're also saying, oh, space is gonna make the first trillionaire. And I think a lot of people on Earth hear that, and they go, "oh, great, you know, we're, we're mad enough about all the billionaires that are running things right now, and now we're gonna have trillionaires in space to contend with." So it's nonsensical, how the narrative can be so to the extreme in one direction, but then still trying to say, "oh, but we want everybody to come and it's going to be accessible for everyone." Well, is it? If that's not really where you're putting your efforts, and your time is into having those conversations, then how do you expect that to happen? Because that's not an easy thing to solve for.

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Neel V. Patel 27:01

People are smart. They know, when they read these kinds of stories that like, it's not me who is in this picture or in this text. It's someone else who I will never be able to relate to.

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Britt Duffy Adkins 27:13

It's curious, because that also kind of leads me to my next question, which we've seen on Twitter, we've seen in the news, but there's definitely been increased attention from US politicians on both sides of the aisle, in the arena of space over the last few years. But within the space industry itself, are you starting to see similar trends of this sector becoming more politicized?

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Neel V. Patel 27:35

You know, it was weird when Donald Trump was first elected, and there was a lot of kind of controversy behind, you know, whether he was going to dismantle Obama's initiative to take us to Mars rather, and send us back to the Moon. And there became this sort of bizarre kind of game playing out in the media and the space discourse online, which was Mars is for Democrats and the Moon is for Republicans. And you're just kind of sitting there like, how did this happen? This isn't real. That was sort of resolved itself. And I think it tended to kind of mold back into sort of a bipartisan mode. But yeah, I think there's a tendency as the space industry grows, you see a lot of conservatives, or at least some free market oriented people thinking, yeah, let's deregulate as much as possible to allow the industry to grow as fast as possible. And you've got Democrats and others are more liberal-minded, saying let's not go that far, you know, the regulations are still necessary. And it's kind of funny, because you're seeing both sides, sort of notching their wings, so to speak, you know, making their arguments responsibly and reputably. Like you see the space industry growing super fast. And I think you're seeing that the more free rein you give to these companies, the faster they're growing, but you also see the dangers of deregulation in terms of all these. We're seeing space traffic getting bigger and bigger, and we're seeing fleets of Starlink satellites, disrupting astronomy projects and stuff, and it's just become kind of this chaotic thing. And everyone's waiting for Armageddon to happen at some point where Earth's orbit is rendered useless and something really dangerous happens. So it does feel like things are getting politicized. And I hate to see it because everyone has always talked about regeneration. Space has always been this bipartisan thing that everyone can get behind and we're on the same side here. And it's very strange to be entering a

sort of new tone in the discussion that people are like, "the reason that person is supportive of this company is because they're Republican or the reason that person wants to give more money to NASA is because they're a Democrat. It's very, very weird to kind of be listening to these conversations sometimes. I did think it was kind of hilarious in some ways that there was that Mars vs. Moon debate there for a while, but I think it makes sense too. This goes back to the conversation about how we need to be planning these things and being proactive early on, because the more we start to fill space with all of our terrestrial baggage so to speak, the more inevitable it becomes that we start to face the same problems on that stage as well. So it's something I think we should all be thinking about. And one of the biggest problems that we face as a society right now is the current climate crisis. So, how do you think the space community could become more of an ally in those conversations, because from my perspective, it feels like these should be very intertwined, right? Like when you go to space, or even just when you're thinking about space, or working in space, you hopefully have an appreciation for how fragile this planet is, and how interconnected everything is. But I don't see a ton of overlap. I mean, NASA has obviously put a lot of dollars towards climate science, climate monitoring, things like that. But in terms of just kind of the broader space community, I don't feel like there's enough conversations that sort of speak to why there should be more overlap in those conversations between problem solving in space and problem solving on Earth. So why do you think that is? There should be just sort of like this natural relationship between the space community and the climate community, largely made up of scientists who sort of care about learning more and taking care of the planet? And you know, being good stewards? But yeah, there does seem to be this kind of like, weird disconnect. I think, where climate scientists and space scientists sort of merge has always been through NASA's Earth Science initiatives, which has been such an essential, important part of how we research climate change, and how we figure out you know, how trends are going. And also, you know, sort of, what are some of the more tangible effects we're seeing now? You know, how are we seeing wildlife forests on the coasts, like, degrading? How are we seeing sea levels rise? What can we do to warn communities or give them the kind of data they need to fortify themselves? It's happening, it's not happening at I think the scale in which we would love to see. As a writer for Slate, Mark Joseph Stern, who always kind of talks about how he would love to just see NASA dismantle its human spaceflight program, and just put all that money towards climate research. I certainly don't want to see that. But I get the point that he's making, because it's like, if this is the, you know, most critical crisis we're facing, all of our resources, or at least many of our resources should be going there. And it's weird to see Earth Science, I think, still take a second tier position within NASA's work, at least in terms of kind of how it's perceived. I don't know why there's such a big disconnect. I think maybe it has to do a little bit between the way that scientific disciplines tend to silo themselves from one another. By trade, I'm a biologist, and so like, I know, sort of the ways in which life science people think differently from physicists and engineers that I've talked to through my space reporting, or when I've written about climate change how environmental scientists are thinking differently from those other people, and how, even within the environmental sciences, how forestry scientists are thinking different from wildlife scientists and scientists, yeah, they tend to just really silo themselves. And I think a lot of that is due to the fact that you're encouraged to specialize and specialize hard. So you dig into one thing, and then that's kind of like all you do for the rest of your life. I imagine that there are opportunities in which you have these different scientists able to come together to, you know, speak more candidly and openly about how they can help one another. But I don't know if there's enough support being given to those kinds of places, because instead, how science is sort of done is how do you make the next discovery in your field, if you're an engineer on working on rocket ship parts, and you're talking to climate scientists, like you're not gonna be able to use any of that for your rocket ship, and you're not publishing your next great paper about this, and you're not going to get a patent on it and stuff like that. It shouldn't be thought of as time wasted. But it is just based on the kind of academic scientific structure that we have these days. And so that's kind of a larger discussion for how to change those things. But I don't think the system that we have right now does not readily encourage people to be chatting with one another and collaborating with one another as much as they should.

B

Britt Duffy Adkins 34:17

Yeah, that's a really interesting point, because I think we're only just starting to see very recently, a real push for people to be more interdisciplinary, especially within the sciences, it's still very much the culture to specialize and be

hyper-focused on one particular area, which again, doesn't really allow for opportunities even if people want to perhaps, it's just not necessarily in the purview of their work to really zoom out and find connections to others across different industries.

N

Neel V. Patel 34:47

You know, when we think about how people perceive the space industry, it's you know, thinking about what's life going to look like outside of Earth? Whether it's an orbit or on another planet or moon or something like that. Unfortunately, there tends to be a kind have an idea that like, once we get there that will be the best version of humanity. We'll be the best version of ourselves. And there's absolutely no reason to think that. But that's just kind of like the hope that drives a lot of people. So I think, in addition to just the system siloing scientists from one another, there also tends to just also be not a whole lot of enthusiasm for looking back and saying, what can we do for Earth? It's instead, "once we get elsewhere, we'll have figured things out." And there's no reason to think that. We've been dealing with decades of climate change, nothing's gotten really better so far.

B

Britt Duffy Adkins 35:34

And I mean, I think it's also a pretty dangerous enterprise to also be viewing space as the people who will likely be able to get there first and sort of set up operations and things like that are also people who might have the perspective that things really aren't that bad, because perhaps the system has always favored them. So, I think that you're bringing up so many great points here. I do want to switch focus back to your work, because I have to ask, what is your favorite story or topic that you've ever covered? I mean, you've done so many interesting pieces.

N

Neel V. Patel 36:09

The thing that I love the most about covering space is astrobiology. And I'd say that's in large part because I'm a trained biologist. And so having that experience, I am already just primed to be interested in thinking about new life and how that works. And it's the astrobiology stories that I get to cover that's the most exciting thing for me. Thinking about, you know, what is life supposed to look like on another planet? How is it supposed to evolve? How might it look differently from Earth? How might it look similarly to what we see on Earth? What are the conditions when different galaxies are forming, different star systems, and then the star systems are forming different planets? You know, what are the conditions that will give you that little blip of window to allow something to come into being? That stuff, to me, is just the most exciting stuff. And it leads back to kind of some of the most important questions of why we do science, the idea of are we alone here? Is life elsewhere possible? And if it is, where could it be? And how could it work? It ties back to some of the most important questions of why we study things, why we study space, why we point our telescopes out there and stare off into things for hours and hours and hours. I mean, you can't help but capture the public's imagination. When you talk about topics in astrobiology. You think that's a really fascinating area. And you also just announced a new position with The Daily Beast, congratulations! What are you most excited about in the months ahead with that role? When it comes to sort of covering space, I'd say that I'm most excited about sort of what I can do that speaks counter to a little bit of the kind of media blinders that we were talking about earlier. I want to be able to sort of think about space coverage and talk about space in a way that will connect to people who haven't been paying attention to things in such a long time who don't know what's going on up in orbit, what NASA is up to, like, why we're going back to the moon, trying to kind of probe the questions as to thinking more critically about how NASA can improve how it works, how these large companies that are being run by billionaires, like where are their flaws? Where can they do better? How can they do better? Why should they do better? I'm excited to just kind of inject a little bit more wonder into The Daily Beast's readership. It's a lot of people who are sort of typical news junkies, who I think you know, would naturally be interested in learning more about

things that may not be in their natural purview. And, you know, I'm excited to just connect with those readers and resonate with them and tell them stories that they sort of sit back and they think, "wow, I didn't know that was happening 100 light years away, but that's really freaking cool."

B

Britt Duffy Adkins 38:44

So what are some of the next major space events that you're looking forward to covering?

N

Neel V. Patel 38:48

I think, you know, the launch of the James Webb telescope, which is now under a weird flux. But I'm just dying to see what it can tell us because of so much of the science stories that I've covered in these last several years, a lot of scientists will say, you know, once James Webb goes up, we'll be able to think about this more critically and gain some really interesting insight. And everyone's just like, waiting for this telescope to be like, the most important piece in the space science community since Hubble basically, and it's still not up there. And so it's just, I'm so excited for when it finally goes up. You know, with NASA's Artemis program, that's going to be really exciting to follow moving forward, it's still weird that they continue to talk about the 2024 deadline, like it's gonna be a real thing, because it's definitely not. But I'm excited to see when humans return to the surface of the Moon. And this time, it's not just going to be a one and done kind of thing, but we're there to stay. And that's going to be super thrilling. These companies even with some of the weird ways that they might be off, putting in a lot of the stuff they're doing is still super exciting. I'm excited to see companies like Virgin Galactic and Blue Origin, being able to finally offer citizens going up into suborbital space. I'm excited to see SpaceX launch Starship finally. What they've done has been just super impressive and it's really exciting to just watch that thing finally go up and put us into a better position to finally get to places beyond Earth.

B

Britt Duffy Adkins 40:17

And based on all the news that you have covered around the space industry, what is one thing that you really hope to convey to the broader public about what space exploration might look like in the next 10 years?

N

Neel V. Patel 40:29

I would say I would hope to sort of temper a lot of this kind of narrative right now in which it's that you're going to get to go to space soon, like, you're not. Nobody is. But that's not necessarily a bad thing. Like things take time and down the line, you may get to or you know, your children may get to, and that's going to be an achievement that's definitely worth celebrating. But I do want to temper people's expectations about what to expect, because as people have said before, space is hard. And if we want to do this safely, we want to do this the right way, we want to make sure that we're taking our time, when it comes to what we can expect life and space to look like, I'm excited for a lot of these new initiatives of launching new space stations into orbit. China's got something coming up, there's a lot of talk amongst private companies to be launching their own space stations up there. And that's going to be really, really amazing. That's not just one international space station platform. But now there's several to go to. When we talk about going to the Moon and establishing an outpost there, like, that's going to be an amazing thing as well. And I'm a little bit skeptical about how quickly that can all happen with Artemis, but at the end of the decade, yeah, it's pretty feasible to imagine that we're going to have people just staying there in the long run and just kind of living and working there. And, you know, just doing things on the Moon. I think it's gonna be amazing.

B

Britt Duffy Adkins 41:48

And pivoting a bit here, but I asked this of everyone that comes on the podcast: Celestial Citizen is all about the idea that humans can become not only better stewards of Earth, but also better interplanetary citizens. In your opinion, what is one important way in which people can work toward becoming Celestial Citizens today?

N

Neel V. Patel 42:07

If you're already listening to this podcast, you're probably already interested in space. Try to sort of talk to your friends or family who are skeptical of space, or just don't understand the point of it, or are just kind of like lukewarm about it, and try sparking their interest. They probably aren't actually skeptical or lukewarm or just disinterested, they probably just haven't really chatted with someone who is speaking their language, so to speak, and talking with them about space in a way that doesn't make them feel just like alienated. It just means like, you know, having some conversations in which you're just kind of... your enthusiasm can be infectious. And if you're just talking to them, like an intelligent human being talks to one another, it's a great way to get people interested, it's an easy way to get people interested. I've had so many conversations with friends who, once I became a space reporter, they were just like, "oh, that's neat, but I don't know anything about space." And then it's like literally just like answering a couple of their questions. And then they just ask more and more, and you're just there to be like, yeah, well, this is what this is like, and this is what this is like. And if you're interested in getting more people interested in space, and then also getting them to think about the issues that we're already thinking about, that's a place to start is just talking with people who just don't know why they should care and seeing with them, like you know what sort of piques their interest?

B

Britt Duffy Adkins 43:24

You know, nobody has ever given that answer before. And I think that's a really great piece of advice and a great takeaway message for people listening. So, alright, we're gonna try something a little different now. This is our lightning round of quick questions. You can feel free to give a brief explanation or you can just leave us in suspense. Are you ready?

N

Neel V. Patel 43:42

Okay, yeah. Let's go!

B

Britt Duffy Adkins 43:44

Would you rather live on the Moon or Mars?

N

Neel V. Patel 43:46

Mars.

B

Britt Duffy Adkins 43:47

On Mars, your favorite space hobby would be what?

N

Neel V. Patel 43:51

It would be gardening, actually. Yeah, yeah, we all saw The Martian. That was like my favorite part was just seeing plants grow and like that whole terraforming thing. Yeah, it'd be gardening. Yeah.

B

Britt Duffy Adkins 44:01

Very cool. Okay, Blue Origin or SpaceX?

N

Neel V. Patel 44:06

SpaceX, because they've actually gone into space, like real space.

B

Britt Duffy Adkins 44:12

That's going to make so many Blue Origin people angry. All right. Last book you read.

N

Neel V. Patel 44:19

The last book I read was The Last Samurai by Helen DeWitt. Very good book. Yea, not space related at all, but it's about like a precocious kid who grows up and tries to find out who his father is and it's very well written very, extremely weirdly written, but yeah.

B

Britt Duffy Adkins 44:33

Interesting! Oh, wow. That sounds like a good read. Okay, what's your favorite space TV show or movie?

N

Neel V. Patel 44:41

I have two answers for this. All-time I would say is Cowboy Bebop. It's an anime. Space themed, I guess. Yeah, it's space themed. It's weird. It's been around since like the 90s. They're doing a remake of it, like a live action remake. So that'll be fun to see. But I'd say at the moment it would be For All Mankind on Apple TV, which I thought started out slow and then I got super into it and I just thought like it's such a compelling way of like talking about space.

B

Britt Duffy Adkins 45:07

And this last season, in particular, I'm not going to give away any spoilers but like, wow, yeah. I'm very, very excited for the next season.

N

Neel V. Patel 45:15

For anyone who's interested and hasn't seen it, it gets really emotional, so just be prepared for that. But yeah.

B

Britt Duffy Adkins 45:20

Yeah. Oh, yeah, I definitely had like a box of tissues. Yeah, it was rough. So okay, Star Wars or Star Trek?

N

Neel V. Patel 45:28

Star Wars. Yeah. Once I was eight and saw the first movies, I was hooked.

B

Britt Duffy Adkins 45:33

Baby Yoda or old Yoda?

N

Neel V. Patel 45:35

Old Yoda. You can at least have a conversation with him, so.

B

Britt Duffy Adkins 45:40

The Martian or Interstellar?

N

Neel V. Patel 45:42

Actually, I would say Interstellar, which I feel like is unpopular, because I know a lot of people hate it.

B

Britt Duffy Adkins 45:46

I don't understand that! I love Interstellar, but you're right. I mean, I ask this question people always pick The Martian, and it's so disappointing because I love Interstellar.

N

Neel V. Patel 45:55

I feel like when it came out, a lot of people, especially a lot of people in the space community, had problems with it because like, you know, the scientific liberties and stuff. I mean, it's also just like a weird movie. And you know, it's like, somewhat funny to just hear Matthew McConaughey in a black hole just like screaming out "Murph! Murph!" Like, not sold super well. But yeah, I loved it.

B

Britt Duffy Adkins 46:15

Well, and speaking of like, where it maybe lost the public, is I feel like friends of mine that aren't at all kind of

currently interested in the space world, we're sort of like, "I didn't understand that last scene at all." Like, or not last scene but like, probably the last 30 minutes of that movie. Okay, do you watch The Expanse?

N

Neel V. Patel 46:32

I do. Let's see. I'm only caught up to about the end of the second season, actually.

B

Britt Duffy Adkins 46:37

Okay. Do you have a favorite character?

N

Neel V. Patel 46:39

I think I'd say Dawes. Yeah. The actor that plays him, I can't remember his name, but yeah, I just find it to be like super compelling and just like that whole, like Belter society, I think is just like, incredibly well done. Super interesting.

B

Britt Duffy Adkins 46:54

So fascinating. Yeah. Really creative and interesting. Okay, what is the worst space movie ever?

N

Neel V. Patel 47:03

Oh, man. I think I saw one recently that really sucked. Do you remember the movie Life, a few years ago? It's like Jake Gyllenhaal.

B

Britt Duffy Adkins 47:12

Oh, yes. Oh, gosh, I don't even think I finished that one.

N

Neel V. Patel 47:16

Yeah, that was really bad. I wanted to walk out, I didn't! Like, I paid for this ticket. I have to see it all the way through. But yeah, that was no good.

B

Britt Duffy Adkins 47:24

I think I waited until I was able to just like watch it on demand, and I couldn't get through it. I mean, there are a lot of bad space movies out there.

N

Neel V. Patel 47:32

The other thing that comes to mind is like, I don't know if you're into the Alien series, but like the last Alien, it was...

yeah, not great.

B

Britt Duffy Adkins 47:41

Okay, thing you're most looking forward to in 2022?

N

Neel V. Patel 47:45

I guess finally being in the rhythm of this new job, I suppose. And then I just moved back to New York. So you know, finally just being back in New York City and being able to not move for at least a year hopefully.

B

Britt Duffy Adkins 47:56

Yeah. Okay, permanently grounded on Earth or a one way trip to Mars?

N

Neel V. Patel 48:04

One way trip to Mars, Yeah, for sure. Yeah. Let's all get out of here! You know? Like, we've done enough years here. Let's go see something new now.

B

Britt Duffy Adkins 48:13

Okay, somewhere other than The Moon or Mars that you would like to explore if you could?

N

Neel V. Patel 48:17

Like we said at the beginning of this podcast favorite planet is Neptune. So, definitely want to visit there. But I guess, a place that I could actually land on? I would say probably Europa. As someone who really loves astrobiology, that could be the probably best place to look for life.

B

Britt Duffy Adkins 48:32

Oh, that would be a good one. Okay, a headline about space that we might all be reading in 30 years?

N

Neel V. Patel 48:40

'Space produces the first trillionaire' maybe? I hope it's not that one. I hope it's something like 'Life discovered in Alpha Centauri' or something.

B

Britt Duffy Adkins 48:52

That would be amazing. Okay, and let's say you can change one major event that has happened since the invention

That would be amazing. Okay, and let's say you can change one major event that has happened since the inception of the space industry. What is it? And what would you change?

N

Neel V. Patel 49:02

I would say that I wish that Mercury 7 astronauts would not be all white men, and that we would see some women and people of color there. I think that would have been the most consequential way of like resolving some of the kind of issues that we've been talking about. Because once you start with having diversity and inclusion in the beginning, it makes it easier to then tackle some of the larger questions about how to do it later on, because you've already resolved it.

B

Britt Duffy Adkins 49:30

Wow, could you imagine how different things might be? Not only just within the space industry, but again, just because that was such a highly visible global event?

N

Neel V. Patel 49:39

It's something that For All Mankind explores. Another reason to check out the show.

B

Britt Duffy Adkins 49:43

Yeah, again, another plug for it. We're big fans of For All Mankind, if you couldn't tell. Alright, you get the opportunity to live off Earth temporarily. Would you rather live underground, on the surface, or in an orbiting space station?

N

Neel V. Patel 49:58

It's gotta be on the surface. I'd say yeah, imagine waking up like looking at your backyard and the Extra Terrestrial landscape right there with a nice extra terrestrial garden to watch?

B

Britt Duffy Adkins 50:08

Yeah, yeah, exactly. What an amazing vista that would be. Alright, you are sent on a long duration mission. What's more important, choosing your crew, choosing the food, or choosing the destination?

N

Neel V. Patel 50:21

Choosing the crew, for sure. I've talked with enough astronauts these days that like if you don't have people, you get along with it, you may as well just not go. It's going to be worth it.

B

Britt Duffy Adkins 50:33

Okay, and finish this sentence: In 50 years, we'll all be... what?

N

Neel V. Patel 50:38

Happy, hopefully!

B

Britt Duffy Adkins 50:42

I hope so! I do hope so.

N

Neel V. Patel 50:44

Yeah. Whether it's here or in space. Yeah.

B

Britt Duffy Adkins 50:47

Alright. Well, I think that's all the time that we have for today. Thank you, Neel, for joining Celestial Citizen podcast. It's been such a pleasure getting to discuss the current landscape of space news, and also get your thoughts on where the future is headed. I encourage everyone listening to follow Neel's writing and space industry coverage over at The Daily Beast. And thanks again for taking the time to speak with me today.

N

Neel V. Patel 51:10

Absolutely. Thank you so much for having me. It's been great.

B

Britt Duffy Adkins 51:42

And to our community of Celestial Citizens, thank you so much for tuning into this episode of Celestial Citizen podcast. This episode would not be possible without the terrific work of this show's editor, Victor Figueroa. Thank you, Victor. Also, a very special thank you to Graham Clarke who created the amazing intro and outro music for this podcast. If you're interested in learning more about celestial citizen, and I hope you are, then check out celestialcitizen.com. You can also follow along on Twitter at [@celestialcitzn](https://twitter.com/celestialcitzn) and Instagram [@thecelestialcitizen](https://www.instagram.com/thecelestialcitizen). And be sure to sign up for our newsletter on Substack. You can find the link to all of this on our website. If you're interested in supporting the mission of Celestial Citizen, consider making a donation on our website. Or you can always reach out to learn more about opportunities to sponsor this podcast. A major component of Celestial Citizen is feedback and public participation. We want to hear what you have to say. So, let us know what you think about humanity's future in space, and what it should look like. Please share your voice and your unique perspective on social media, or if you prefer all of the Celestial Citizen articles can also be found on Medium. So, drop a comment and join the conversation! If you loved today's podcast, please have your friends and family subscribe on whatever device or platform you listen to podcasts on and leave a stellar review so others can get hooked as well. That's all for now Celestial Citizens. I'll be back next week for another episode. In the meantime, don't be afraid to take up space.