**TRANSCRIPT: Who owns the sky?**

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**Nate Hegyi: Alright. I’m Nate Hegyi, joined today by Nick Capodice and Hannah McCarthy.**

**Nick Capodice: hello!**

**Hannah McCarthy: hello!**

**Nate Hegyi: Our episode begins with a tale, which we might call: The Chicken and the Airplane.**

MUX IN: Back Home, ProleteR

**Nick Capodice: Ohh, sounds a little like a fable. IS the chicken gonna get a thorn stuck in its paw?**

**Nate Hegyi: [laughs] I don’t think chickens have paws.**

**Nick Capodice: Its talons.**

**Nate Hegyi: I liked ‘paw’ better.**

**Nate Hegyi: It’s 1942, well into the Second World War. It’s been 5 years since Amelia Earheart disappeared into the Pacific Ocean.**

**Hannah McCarthy: Okay, so airplanes are still a relatively new invention, but they’re not brand new. You’re not necessarily gonna think it’s a dragon in the sky.**

**Nate Hegyi: Exactly. Thomas Lee Causby is this chicken farmer in South Carolina. He lives less than half a mile from a municipal airport, which wasn’t a big deal until the U.S. military leased the airport in 1942.**

ARCHIVAL WAR MUX

**And so this is wartime, so we’ve got heavy bombers.**

SFX

**Transports. Fighter planes. taking off and landing – oftentimes, *right* over Causby’s farm. And they are flying LOW, like barely missing the tops of the trees.**

**Nick Capodice: wow. That sounds unlivable.**

**Nate Hegyi: well, yes. He** [**and his family, they’re losing sleep**](https://scholarship.law.marquette.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=3419&context=mulr)**. And his *chickens* are *so* freaked out by the lights and the noise that, when the planes fly over –**

CHICKEN SFX + WWII plane fly-by

**– they literally throw themselves into the walls in fright and die.**

ARCHIVAL MUX OUT

**Nick Capodice: They die in fright?!**

**Nate Hegyi: Yeah. 150 of his chickens die this way. And eventually he loses his poultry business. And so he decides to sue the United States. He argues this, he says: I own this property, including the air above the house. And you – the US military – you have trespassed.**

**So, what do you guys think? Is he right?**

**Nick Capodice: Folks. Well, let me just say I am fascinated to learn the answer to this, because we did an episode on whether or not Santa is a criminal, and a lot of that had to do with: who controls or who owns the airspace above your home, above your property? What is trespassing? And so I’m desperate to learn this.**

**Nate Hegyi: Well, that is the question here! Who owns the skies?**

MUX: Mission to Mars, Audio Hertz

**Nate Hegyi: I’m Nate Hegyi, host of the NHPR podcast Outside/In, a show about the natural world and how we use it.**

 **Hannah McCarthy: And I’m Hannah McCarthy, and Nick Capodice and I are the cohosts of Civics 101, also from NHPR. Ours is a podcast about how our democracy works.**

**Nick Capodice: Or how it’s supposed to work, most of the time.**

**Nate Hegyi: And today we’re teaming up to talk about a subject that connects both of our shows: property. From just above the ground to high in the sky all the way to the dang moon, where nations are fighting over who gets to do what in outer space.**

***Outside/In* producer Justine Paradis answered this one for us, so I’m gonna step out and let her take it from here.**

Jean Luc Picard: Make it so.

MUX FADE

**Justine Paradis: So, I wanna start with a 1500-year old principle today. It’s a principle about private property rights and it comes from medieval Rome.**

MUX IN: Ancient Discoveries, Gabriel Lewis

**It’s called “ad coelum” and it goes like this: “*Whoever owns the soil, it is theirs up to Heaven and down to Hell*."**

**Nick Capodice: Up to heaven and down to hell.**

**Justine Paradis: By the way, I've heard this pronounced different ways. I don’t speak Latin, but we’re gonna go with ad coelum.**

**This was a principle articulated by a medieval Roman jurist, then absorbed into English common law. And then, in the United States, English common law got adopted** [**by many states**](https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=3030&context=penn_law_review)**, at least where it was, quote: “not repugnant to the constitution or laws of this state.”[[1]](#footnote-1)**

MUX OUT

**Can you think of something that might be repugnant to these United States of America?**

**Nick Capodice: I sure can, Justine. Kings!**

*Colin Jerolmack: The founding fathers were obsessed with preventing tyranny of government.*

**Justine Paradis: This is Colin Jerolmack. Colin is a professor of sociology and environmental studies at NYU.** **And he explained to me that Thomas Jefferson especially saw owning property as a big part of democracy.**

*Colin Jerolmack: He envisioned a democracy meaning that every sovereign citizen owns land and owns enough land that they are self-sufficient… And the idea of that was if you are self-sufficient, then you don't need the government to give you certain basic needs… And so land sovereignty was basically a way of checking government authority… And the Jeffersonian idea, which really won out, I should say, won out for white males, was that you are really not a citizen if you don't own land.*

**Nick Capodice: Right, and to reiterate what we’ve said in several episodes, at the beginning, only white males with property could vote. And this idea won the day, so to speak.**

**Justine Paradis: Yeah, and so strong protections for private property were really a founding principle of this country. But the point is for this particular story, and part of the reason why this was such a big deal here, is because of how other countries had previously approached private property – specifically, of up to heaven and down to hell. And that ‘down to hell’ part – what we’re really talking about is mineral rights.**

*Colin Jerolmack: In every other country, more or less, to varying degrees, the government owns the mineral rights. And so you own the surface, but if the government wants to mine… the government makes that decision. And then the individual doesn’t have a choice and the individual does not directly profit from that.*

**Justine Paradis: In England, landowners did have mineral rights, except for one maybe “repugnant” detail.**

*Colin Jerolmack: There was a huge caveat to mineral rights ownership, which is that the Crown retained pretty much every valuable mineral. So you technically own the subsurface, but if there was oil or silver or gold or diamonds in that subsurface and you obtained it, the government owned that.*

**Nick Capodice: Hah, oh, that’s interesting. So the English Crown gets your diamonds.**

**Justine Paradis: Naturally. Whereas in America, if a company wants the mineral rights to your land – like, to frack, for instance – they have to ask permission and probably pay you for the right to frack that methane.**

**And that is why Colin’s book about fracking is called…**

*Colin Jerolmack: Up to Heaven and Down to Hell –*

**Nick Capodice: Oh, there it is!**

*Colin Jerolmack: The so-called Founding Fathers, this was a very conscious decision...*

*America is the only country in the world where the majority of land ownership, private land ownership, includes the mineral rights and the air above.*

MUX IN: David’s House, Larry Poppinz

**Hannah McCarthy: And the air above!**

**Justine Paradis: So, let’s turn our attention to the skies.**

MUX SWELL

**This country boasts a rich history of property disputes, large and small, over the 1800s and early 1900s. For a while, cases concerning ad coelum are looking at disputes much closer to the ground than the heavens.**

**Like, overhanging branches, for example. The courts say: ad coelum. That’s a trespass and a nuisance.[[2]](#footnote-2) Protruding eaves, cornices, windows, roofs, walls – you can’t use them to get around a property line.**

**Nick Capodice: Alright, so you can’t build your way over someone else’s land. Their property is theirs.**

**Justine Paradis: You cannot.**

**Nick Capodice: Okay.**

**Justine Paradis: That’s a trespass.[[3]](#footnote-3) According to case law, you don’t even have to be touching the ground in order to have trespassed. In 1925, Montana’s Supreme Court** [**held**](https://casetext.com/case/herrin-v-sutherland) **that shooting a duck over a neighbor’s land is trespassing into their airspace, even though the trespass is temporary, even if you miss, even if it does no damage.** [**In Iowa in 1902**](https://cite.case.law/iowa/116/457/)**,[[4]](#footnote-4) there was a case disputing an arm extended over a property line to retrieve their own ladder.**

**Hannah McCarthy: A guy reached over to grab his ladder?! It strikes me that maybe there were some other issues going on if there was a case about this.**

**Justine Paradis: Oh, you are not wrong. These particular neighbors did not have a peaceful relationship. In addition to the arm in question, bricks and “opprobrious epithets” frequently crossed the fence. And when these families went to court to settle the question of this arm extended in malice: ad coelum!**

**Nick Capodice: Oh!**

**Justine Paradis: As** [**one judge in Montana observed in 1925**](https://casetext.com/case/herrin-v-sutherland)**, “It seems to be the consensus of the holdings of the courts in this country that air space, at least near the ground, is almost as inviolable as the soil itself.”**

MUX SWELL AND FADE

**Justine Paradis: The reasoning in many of these rulings is that the landowner has a right for use and *enjoyment* of the land. In the case of airspace, that might even mean** [**light and air**](https://cite.case.law/nj-eq/15/481/)**. In other words, the enjoyment of a nice view. Do you remember how you can lease or sell the mineral rights below the ground on your property?**

**Nick Capodice: Yup.**

**Hannah McCarthy: Yeah.**

**Justine Paradis: Yeah. So the same is true of air rights. Let’s take** [**the example of New York City**](https://www.nytimes.com/2013/02/24/realestate/the-great-race-for-manhattan-air-rights.html)**.**

**Nick Capodice: Alright, now we’re cooking.**

*Michael Heller: The rules are actually quite complicated for how tall you can build and for where you can transfer those air rights to and from.*

**Justine Paradis: This is Michael Heller. He is a professor of property law at Columbia University, and coauthor of a book called *Mine!: How the Hidden Rules of Ownership Control Our Lives.***

*Michael Heller: In New York, and in many states, air rights are a piece of property, just like a cup of coffee, that can be bought and sold and traded and mortgaged. And they're understood by real estate developers as property just as solid in some sense as the ground on which they hover above.*

**Hannah McCarthy: This doesn’t surprise me at all, having lived in New York, actually.**

**Justine Paradis: Yeah?**

**Hannah McCarthy: Oh, yeah, I mean, space is so precious, so precious! A parking spot costs like $800 a month, you know?**

**Justine Paradis: [laughs]**

**Nick Capodice: So, I used to give walking tours in New York and I would see these really tall buildings in much lower neighborhoods, and I was always like, how could they build that tall when everyone else is clearly forbidden to stop above five floors? And I found out they could just buy the air from other buildings and put it on top of their own and it blew my mind!**

**Justine Paradis: Yeah! That’s how** [**developers get around these height restrictions**](https://www.nytimes.com/2013/02/24/realestate/the-great-race-for-manhattan-air-rights.html) **in certain neighborhoods. and there’s of course a big money-colored reason they might be motivated to do that.**

***Michael Heller:*** *Each story that you go up in New York is increasingly valuable. It's not just one more story, but it's 1.5x or 2x. The tallest unblockable views have an enormous premium. So it's that premium which actually helps turbocharge the air rights market in New York City.*

*MUX IN: Big Mean Sound Machine, Triple Bacon*

**Justine : So, backing up a bit, going back to our story of ad coelum: courts had been ruling in favor of this doctrine for over a century. But this idea of “up to heaven,” that’s challenged when something happens that the Romans maybe did not anticipate.**

**Hannah McCarthy: Oh, oh, flight, right?**

AIRPLANE SFX

**Nick Capodice: Yeah, sky dragons.**

***Michael Heller:*** *airplanes caused problems at, literally at all different levels… if the US were to have decided which was possible 100 years ago… that the ad coelum doctrine actually did continue all the way up until we hit outer space, then air travel wouldn't have been possible. Right? It would have taken too many negotiations to have a single airway from New Hampshire to New York. That would have been an impossible flight.*

**Justine Paradis: So, by the 1920s, the US government is trying to start to put air traffic regulation in place. Like the 1926 Air Commerce Act, passed by Congress. Which authorized the secretary of commerce to establish an altitude – so, an actual number –**

**Nick Capodice: Ah!**

**Justine Paradis: – that basically put a cap on the rights of ad coelum.**

*Michael Heller: There were different legal routes that we could have used. But the one that we settled on was to say that, you know, as a legislative matter above 1000 feet simply isn't your space.*

**Justine Paradis: To clarify, that’s 1,000 feet over cities and towns and settled areas. It drops to 500 feet everywhere else.**

**But this act** [**failed to address**](https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=3387&context=facpub) **a very important part of flight. Two actually.**

**Nick Capodice: Hah!**

**Justine Paradis: Taking off and landing.**

SFX: CHICKEN CLUCKS + WWII PLANE FLYBY

**Justine Paradis: Which brings us back to our chicken farmer. Where are we in this story, Hannah?**

**Hannah McCarthy: Alright, we started out with the chicken farmer, Thomas Causby. He sued the United States. He said, ‘you know, you completely ruined my poultry farm. My chickens died of fright.. You owe me money.’ And the United States says: ‘no, we can use the airspace. You can’t come at us for that. That’s perfectly legal.’**

**Justine Paradis: Yes. So, Causby – again, who lives right next to an airport, where US military planes are gliding in way lower than 500 feet - his case is based on an important part of the Constitution.**

*Michael Heller: The chicken farmer’s protection was grounded in the Fifth Amendment of the US Constitution. It was grounded in what's called the takings clause.*

**Justine Paradis: Alright, you two are journalists, on that American history beat – can give us some insight here? Nick, what is the takings clause of the Fifth Amendment?**

**Nick Capodice: So, basically, the takings clause is kind of tied to what we think of as “eminent domain.” Basically, the government can’t take something from you for its own use without giving you compensation for it. You know, the government can say, ‘hey we need this land, or we need this thing, we’re gonna take it.’ But they have to give something in return.**

**Justine Paradis: And** [**here’s how the Supreme Court ruled:**](https://www.oyez.org/cases/1940-1955/328us256)

MUX IN: Another Knight Rider, Lobo Loco

**By flying their planes in this manner, the United States had effectively confiscated Causby’s property, and according to the Fifth Amendment, he was due just compensation.**

**Hannah McCarthy: “Effectively confiscated,” that is fascinating. I love law. So, he was due money.**

**Justine Paradis:** [**He got $2000**](https://scholarship.law.marquette.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=3419&context=mulr)**. At the time that was the kinda money that could buy** [**a house**](http://eadiv.state.wy.us/housing/Home_Value_ST.htm)**. The Supreme Court** [**wrote**](https://supreme.justia.com/cases/federal/us/328/256/#tab-opinion-1938747) **in their majority opinion that they must rule this way because if they did not: “The owner's right to possess and exploit the land… would be destroyed.”**

**But even though they ruled that Causby was due damages, the court also explicitly wrote that ad coelum – the idea that those land rights go infinitely upward – *that* has “no place in the modern world.”**

**Nick Capodice: So, Justine, the Supreme Court’s ruling says: that legislation that had been on the books, on a basic level, it is constitutional to make the air a public highway. You don’t, you as an American, do not get enjoyment of your property all the way to heaven.**

**Justine Paradis: You got it.**

MUX OUT

**Nick Capodice: So this was in the 1940s, Justine?**

**Justine Paradis: Yes.**

**Nick Capodice: It’s so interesting that so many years later we kind of are coming back to where we started with our founding, with this principle, you know, which made it to “life, liberty, and the pursuit of happiness” but it was based on the idea of “life, liberty, and the pursuit of property,” that’s where we got that expression. So we’re coming back to our founders’ kind of principles of property being the thing that is *yours* in the United States.**

**Justine Paradis: Yeah.**

**Hannah McCarthy: Yeah, but of course, it’s not that straightforward, right? Like, if you look back to what our framers were doing there, they’re tying citizenship and property together, but they’re barring so many people from that mechanism, right? Enslaved people, women, who were themselves considered property. And then later on in American history, the government continues to block people from owning property, especially Black people in America. I mean, this carried throughout the 20th century. So it’s really not that pure.**

**Justine Paradis: Yeah, absolutely. I mean, I think, when I asked Colin Jerolmack, that professor who wrote the book on fracking earlier, you know, do you think this worked? Do you think that property helping us be more free as a society, as a nation, did that work? And he was like, absolutely not. You know?**

**Hannah McCarthy: [laughs]**

**Justine Paradis: So I’m very happy that the Declaration of Independence says, life liberty and the pursuit of happiness, you know what I mean?**

**Hannah McCarthy: I think it’s hilarious that the Founders saw “life, liberty and the pursuit of property” and they just sorta took the quill and crossed it out, and agreed ‘let’s not say that….’**

**Justine Paradis: Thank goodness!**

**Hannah McCarthy: Or that’s how the** [**story**](https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1123&context=law_jurisprudence) **goes, anyway.**

MUX IN: Ship of Hope, Lobo Loco

**Justine Paradis: Alright. So, that’s the skies, in the sense of the earthly atmosphere. Next up…**

[*Tim Curry as Premier Cherdenko*](https://www.youtube.com/watch?v=U_U59u69tys)*: I’m escaping to the one place that hasn’t been corrupted by capitalism… [heavy breathing] SPACE!!*

**Justine Paradis: That’s after the break.**

**Nate Hegyi: Hey, Nate here again, host of Outside/In. Before we break – we didn’t talk about one very obvious major technology which, these days, is testing this question of “who owns the skies?” Drones. There’s lots of debate about the use of drones.**

**By police, firefighters, in wildlife tracking – I mean, for wedding photography, for package delivery. Can drones carry cameras? What about *guns*? And who gets to decide – the states, the feds? What about unmanned balloons?**

**Frankly, it’s a whole other episode. But if you’re interested, we are going to address some of them in the *Outside/In* newsletter, which is free and comes out every two weeks.**

**You can sign up in the show notes or on our website, outsideinradio.org.**

**Okay, we’ll be right back.**

// BREAK //

**Nick Capodice: Justine, have you heard my Worf impression?**

**Justine Paradis: no!**

**Nick Capodice: it’s basically me blowing out my nose and going… *sir.***

**[laughter]**

**Nick/Worf: *… sir.***

**Justine Paradis: Alright, we’re back. Nick Capodice and Hannah McCarthy of *Civics 101*, hello!**

**Nick Capodice: Hello!**

**Hannah McCarthy: Hello!**

**Justine Paradis: A few minutes ago, we talked about the altitude where navigable airspace begins, according to the United States. There are actual numbers here. Do you remember?**

**Nick Capodice: Yes, I do. Basically, 500 or 1000 feet, depending on if you’re in a city or a town or whatever.**

**Hannah McCarthy: But what about where outer space begins? You know, when does it stop being sky and start being space?**

**Justine Paradis: Glad you asked!**

*George Anthony Long: Well, that's an unresolved question.*

**Hannah McCarthy: Of course it is.**

**Justine Paradis: Of course, it’s an unresolved question. By the way, this is George Anthony Long. George is an attorney. And these days, he specializes in space law.**

**Hannah McCarthy and Nick Capodice: SPACE LAW?!**

**Justine Paradis: He did need to go back to school to get an extra special law degree for it. I reached out to him because I wanted to understand how property and territory work in space. To ask the question, who owns the sky, beyond earth. But yeah, George says – there’s no consensus in the international community about where airspace ends and outer space begins.**

*George Anthony Long: …to be truthful, space is just one of those areas. You sort of at a certain point, you know, when you're there.*

*Justine Paradis: [laughs]*

*George Anthony Long: But the whole point is when you get there, you know what point it is that you arrive there, that’s where it’s unclear.*

**Nick Capodice: Alright, well, this is an echo of a famous Supreme Court statement, in an obscenity case, in which** [**Justice Potter Stewart**](https://www.mtsu.edu/first-amendment/article/1359/potter-stewart) **said, “I’ll know it when I see it.” So, we’ve got kind of an unexpected overlap between space and “obscene material” here.**

MUX IN: Luv, Bomull

**Nick Capodice: Justine, a quick aside: did you know the Supreme Court justices used to have movie night, where they would watch obscene movies and decide whether or not they were in fact obscene?**

**Justine Paradis: All of the Supreme Court bros would get together…**

**Nick Capodice: Yup, and watch, yup. I think they called it** [**“movie day.”**](http://law2.umkc.edu/faculty/projects/ftrials/conlaw/obscenity.htm)

**Justine Paradis: What?! Are you kidding me?**

**Nick Capodice: Nope. True story.**

MUX SWELL

**Justine Paradis: So, space law is governed by just a handful of treaties through the United Nations.**

*George Anthony Long: Generally, there are five international space law treaties.*

**Justine Paradis: The first and biggest one is the** [**Outer Space Treaty of 1967**](https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html)**.**

*George Anthony Long: That is the cornerstone of space law.*

**Justine Paradis: And I think the major thing to understand is that the context for this treaty was the Cold War. And among the principal stakeholders were the Soviet Union and the United States. It was just ten years after the Soviet Union had launched the first man-made satellite into space.**

**Nick Capodice: Yeah, Sputnik!**

*SFX: Archival Sputnik sound via NASA*

**Nick Capodice: Two years before the US put a man on the moon. So, we’re mid-Space Race here.**

*President Lyndon B. Johnson, January 10, 1967:* [*State of the Union Address*](https://millercenter.org/the-presidency/presidential-speeches/january-10-1967-state-union-address)*: Our objective is not to continue the Cold War, but to end it. We have signed an agreement with the United Nations on the peaceful uses of outer space.*

MUX SWELL AND FADE

**Justine Paradis: The first article of the Outer Space Treaty says – well, actually, do one of you want to read this?**

**Hannah McCarthy: Sure.**

 MUX IN: Lobo Loco, Deep Snow and Sunshine

*“The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.”*

**Hannah McCarthy: What a nice notion!**

**Justine Paradis: Isn’t it so nice?!**

**Hannah McCarthy: When was the last time ya heard something like that? Wowzers.**

**Nick Capodice: This sounds like Antarctica, actually!**

**Justine Paradis: I think it is very similar to Antarctica, and for similar reasons, because we didn’t want to be fighting a war down at the South Pole. So we were saying, K, let’s just agree not to do that, let’s not go there, that would be awful, you know?**

**Nick Capodice: [laugh]**

**Justine Paradis: The treaty also says states can’t build military stations in space; they can’t occupy the moon; we can’t put nukes in orbit or anywhere in space. Basically, it says: we agree that we go forth in peace.**

**Hannah McCarthy: Okay, but as Nick and I recently learned in an episode about the Space Force, which was specifically designed to protect stuff in space, it’s not that straightforward. Right? Like, space is filled with satellites that help defense systems and we are certainly looking toward the future as potentially having some conflict having to do with space.**

**Nick Capodice: Yeah, the reality isn’t as high-minded as this ‘go forth in peace’ language aspires it to be.**

**Justine Paradis: I think when you hear the old speeches of JFK, where he says, y’know, essentially, ‘let’s go forth in peace,’ you can kind of hear the threat in his voice.**

*JFK* [*(address to the UN, 1961)*](https://www.jfklibrary.org/learn/about-jfk/historic-speeches/address-to-the-united-nations-general-assembly)*: All of us salute the brave cosmonauts of the Soviet Union. The new horizons of outer space must not be riven by the old bitter concepts of imperialism and sovereign claims.*

 MUX TRANSITION: Bye Bye Intro, David Szesztay

**Justine Paradis: Other treaties of that era dealt with the more practical matters of space law. And in many ways these treaties mirror ideas in** [**maritime**](https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en)[**law**](https://www.imo.org/en/About/Conventions/Pages/International-Convention-on-Salvage.aspx)**, so the law of the sea.**

**Hannah McCarthy: Mmhm.**

**Justine Paradis: One way it’s similar is:** [**you have an obligation**](https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/rescueagreement.html) **to help other ships in distress,** [**just as you would in most cases at sea**](https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-%28SOLAS%29%2C-1974.aspx)**. But one way it’s different from the sea is that objects can also crash to earth. Like, what happens if a satellite lands on someone’s house?** **Here’s George.**

*George Anthony Long: Damage on the face of the earth is* [*absolute liability*](https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/liability-convention.html)*. So, there is no mitigation of saying somebody else is at fault. It really doesn't matter, okay? The launching state or states are absolutely liable… But if if an accident happens in space, such as if two space objects collide… then it's fault liability. And that's somewhat equivalent to your fault liability for regular traffic accidents.*

**Nick Capodice: So, this is like the space law version of the fine print of a car insurance policy.**

**Justine Paradis: Another difference from maritime law: is the** [**law of salvage**](https://daily.jstor.org/wreckonomics-finders-keepers-in-maritime-law/)**. Do you know this one? At least at sea?**

**Hannah McCarthy: I know when I play my favorite video game, I can pick up anything in the sea that I want, Justine.**

**Justine Paradis: There you go!**

**Hannah McCarthy: If it’s out there, I’m allowed to pick the flotsam right up!**

**Nick Capodice: I thought that if you dug something up from the ocean, you had to return it from whence it came.**

**Justine Paradis:** [**You get a reward.**](https://www.imo.org/en/About/Conventions/Pages/International-Convention-on-Salvage.aspx)

**Nick Capodice: Yeah, it’s kinda like our Fifth Amendment stuff again. You get compensation for it.**

**Justine Paradis: Not so in space.**

*George Anthony Long: The Outer Space Treaty makes the ownership of a space object, and any component part of the space object, the ownership is perpetual. You never lose it.*

**Justine Paradis: And that becomes a problem, because nobody can clean up anybody else's broken satellites, so all this** [**space junk**](https://www.nasa.gov/mission_pages/station/news/orbital_debris.html) **is building up.**

**Finally, like maritime law, there’s a treaty called the** [**Registration Convention.**](https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introregistration-convention.html)

*George Anthony Long: Which sort of suggests that countries register space objects that they launch with the United Nations…*

**Justine Paradis: But the operative word here is ‘suggests.’**

*George Anthony Long: It is not a requirement and it is not always done.*

**Justine Paradis: I mean, I dunno, can you think of an instance in which a country might be disinclined to register their space object?**

**Nick Capodice: Yeah, like if it’s a secret spy satellite?!**

**Hannah McCarthy: I don’t think we should name any countries here but I know what we’re all thinking.**

**Justine Paradis: I know what we’re thinking – spy satellite, yeah.** [**The International Space Station is kind of a special case in all of this**](https://www.issnationallab.org/about/iss-timeline/)**.**

*George Anthony Long: The International Space Station is a orbiting platform with different sections… each partner to the space station has its own section. The United States has its portion of space station. And United States law applies in its section. Japan has its section. Japanese law applies in its section… And then they have all the agreements of how they will resolve differences.*

**Nick Capodice: I’m very familiar with all the different sections in the ISS because of my son’s obsession with space.**

**Justine Paradis: Oh really? I know that your son is quite a thorough researcher so we’ll have to run this by him to see what we got wrong.**

**Nick Capodice: [laughs] I think he’d appreciate that.**

MUX IN: Earth, Ben Elson

**Justine Paradis: The Outer Space Treaty was signed almost sixty years ago. And while that version of the Space Race is over, we’re in a new area of extraterrestrial exploration. And it’s not just state rockets headed up there anymore. Private companies like Space X are putting objects into orbit now. And it’s a time when we’re renegotiating the question: who owns the skies.**

*Deondre Smiles: You know, when you ask, well, who owns the sky, my initial reaction is like, well, nobody owns the sky, right?*

**Justine Paradis: This is Deondre Smiles. He is an assistant professor of geography at the University of Victoria.**

*Deondre Smiles: I'm Ojibwe… From my own kind of cultural perspective, it would be really weird for me to say, oh, we we own the sky because we don't. We, we're in relationship with the sky, we have accountabilities to the sky, through, like, clean air.*

**Justine Paradis: Deondre is the author of an article titled** [**“The Settler Logics of (Outer) Space,”**](https://www.societyandspace.org/articles/the-settler-logics-of-outer-space) **which argues that the language that we use around traveling into space, like as a ‘pioneer,’ of space as the next or even ‘the final frontier’ – that that language and logic is really familiar.**

**Hannah McCarthy: Yeah, that’s very purposeful, Justine. I’ve learned a lot about the American principle of manifest destiny and of expanding westward, and there’s definitely the sense that once we get to California and we hit the ocean, – by “we”, I mean this is a philosophy of white settlers – we started, sort of, panic-looking-around for somewhere else to go. And so that meant, like, spreading democracy for a while, and then when space was an option, there was a very real anxiety about getting there. Like that race with the Soviet Union was very much tied to America's notion of being the expander, of always having a frontier.**

**Justine Paradis: And Deondre is just one of many folks writing about this, and about how bringing a different approach to space means having accountability to places even beyond the planet.**

*Deondre Smiles: We need to instead think about the deep embedded knowledge that sits in places… There's this kind of idea that like, well, it's empty, right? There's no, nobody is living in outer space. There's no life there. But an Indigenous, you know, plural sort of reading of this would say, well, just because there's nothing living there doesn't mean that it's still not a space that we have to treat with respect and care and really think about why it is that we're going into outer space in the first place.*

MUX: Earth, Ben Elson

**One reason why we’re going into outer space these days – and space law expert George Anthony Long thinks that this is one of the biggest issues that will shake up space law as it exists now – is *mining*.**

**Hannah McCarthy: Mining? As in, like, asteroids have a lot of good stuff on ‘em, and just like in the fantastic TV show “The Expanse,” we’re gonna have all these factions form just because there’s a lot of money and asteroid minerals?!**

**Justine Paradis: Absolutely! And not just in asteroids, but the moon.**

**Hannah McCarthy: oh!**

**Justine Paradis: The moon has a lot of frozen water and** [**helium 3,**](https://www.esa.int/Enabling_Support/Preparing_for_the_Future/Space_for_Earth/Energy/Helium-3_mining_on_the_lunar_surface) **which is in high demand on this planet, and helium-3 also has nuclear fusion potential. But remember, don’t these celestial bodies belong to no one?**

 MUX IN: Lobo Loco, Deep Snow and Sunshine

*George Anthony Long: You cannot cannot own property in space. Article II of the Outer Space Treaty prohibits a state from exercising sovereignty in space… or any celestial body or the moon. And while that is a very noble goal, I'm not sure how practical that's going to be… because the question becomes how do you protect a mining site or keep other people away from your mining site without exercising some form of control?*

**Justine Paradis: So, there are a couple efforts to figure this out, this dilemma around mining. One of them is called The Moon Treaty, but very few countries have signed on to this one.**

*George Anthony Long: It talks about the prohibition of property rights and it talks about having the obligation to share some of the wealth that’s gained from, let's say, resource extraction or mining in space*

**Nick Capodice: But like, “the great space powers,” I’m talkin’ the US, China, Russia, they haven’t signed on to this.**

**Justine Paradis: No, they have not. Within the United States, we’ve got** [**a law that passed in 2015**](https://www.congress.gov/bill/114th-congress/house-bill/2262) **which says something different. That you may not be able to claim an entire asteroid, but if you extract resources from it, you’re entitled to those.**

**Hannah McCarthy: This is very funny because, is this just the United States just saying, ‘well we have this law!’ Because that’s not a treaty! It's not between other nations.**

**Nick Capodice: [laughs]**

**Justine Paradis: It’s not! But meanwhile, NASA is leading something, an international agreement called the** [**Artemis Accords**](https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf)**, which is sort of affirming some of those principles in the old treaties, but is also trying to carve out more legal room for space mining, but it’s still affirming that “space is for all humanity” ideal of the original Outer Space Treaty of ‘67.**

**Hannah McCarthy: Yeah, and I can only imagine that once we actually start to be able to extract and acquire them, things are going to change pretty drastically.**

**Nick Capodice: On a basic level! Like the idea of towing an asteroid onto the planet that's just pure diamond, and suddenly diamonds don’t mean anything any more!**

**Justine Paradis: Yeah, we’re gonna have to have a new De Boers company, or what is the name of that company?**

**Nick Capodice: De Beers. Or you can just be like, “oh, those are space diamonds, those are inferior. He got me a ring but it had a space diamond on it!”**

**Hannah McCarthy: [laughs]**

**Justine Paradis: “He’s not serious.” I mean, I agree Hannah, whatever the solution is, it’s looking like we’re going to be entering into a new era of space exploration. A** [**Chinese mission in 2020 already brought back helium-3 from the surface of the moon**](https://www.nytimes.com/2022/09/16/science/new-moon-mineral-china.html)**.**

**Nick Capodice: What?!**

**Justine Paradis:** [**And China has definitely not signed the Artemis Accords.**](https://arstechnica.com/science/2022/08/chinese-view-of-nasas-moon-plans-trying-hard-to-relive-apollo-glories/)

**Nick Capodice: What I think is most interesting about this is: it’s kinda like, anything goes, until suddenly it doesn’t anymore. Like that’s how we’ve done things so far.**

**Justine Paradis: Mm.**

**Nick Capodice: Ad coelum goes, until it doesn’t anymore. And yeah, right now we don’t have nukes in space or real guns in space, and we’re not mining space diamonds, but that’s gonna happen, and when it does, we’re gonna have to do another episode, I think.**

**Justine Paradis: I think so. I mean, it’s interesting, because there’s this idealistic language around space that does feel quite *Star Trek*, uh, like no one can occupy it. But the thing is, when you put something into orbit, especially geostationary orbit, that’s really valuable orbital space. And if a satellite is in that space, like, it’s technically occupying it, no one else can be there. So, it’s already pretty fuzzy, you know?**

**Nick Capodice: Well, it’s scary to me too, Justine. The number of things we’re putting in space is growing exponentially as the years go by. And they all just stay there, like, nothing gets taken out. If space junk gets to be too big, if there’s too much of it, we’ll never be able to leave the planet again, because there’s a whirling ball of steel that surrounds our planet, and that terrifies me.**

MUX IN: Lobo Loco, Light at the End of the Tunnel

**Justine Paradis: And it affects us on Earth. You know?**

**Nick Capodice: Yeah.**

**Hannah McCarthy: Right.**

**Justine Paradis: I don’t imagine that I’m alone when I think about looking up at the moon and seeing the lights of a truck backing up, like a construction zone or a mining pit, you know, I feel a little like Thomas Causby, like, hey! You trespassed on something fundamental here. You know?**

**Hannah McCarthy: Mhm.**

MUX SWELL

**CREDITS**

**Nate Hegyi: Today’s show was a collaboration between *Outside/In* and *Civics 101*.**

**It was produced, reported, and mixed by Justine Paradis.**

**You can find Nick and Hannah’s work at civics101podcast.org or by searching for *Civics 101* wherever you get your podcasts.**

**By the way, in case you’re interested in Hannah’s favorite video game – it’s called “Anno 1800.”**

**Thanks to Jim Salzman and to Laura Donohue, whose article “Who Owns the Skies” was a major resource for this episode.**

**This episode was edited by Taylor Quimby and our executive producer, Rebecca Lavoie.**

**Music in this episode came from Lobo Loco, ProleteR, Triple Bacon, Larry Poppinz, Gabriel Lewis, Ben Elson, Bonkers Beat Club, bomull, Anthony Earls, David Szesztay and Chris Zabriskie.**

**Our theme music is by Breakmaster Cylinder.**

***Outside/In* and *Civics 101* are productions of New Hampshire Public Radio.**

*Hannah McCarthy: my mother has actually used her merchant marine card to get a lot of help. And a lot of passage in her lifetime.*

*Justine Paradis: really?!*

*Nick Capodice: passage?! There’s some big air quotes around that.*

*Justine Paradis: So when you’re in distress at sea, when your mom’s in distress at sea… [laughs]*

*Hannah McCarthy: Yes, you must be helped.*

*Justine Paradis: I didn't mean to make that a ‘your mom’ joke.*

1. Laura Donohue, [*Who Owns the Skies? Ad Coelum, Property Rights, and State Sovereignty*](https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=3387&context=facpub) in *Eyes to the Sky: Privacy and Commerce in the Age of the Drone* (Matthew Feeney ed., Cato Institute). August 2021. Page 9. [↑](#footnote-ref-1)
2. Cases in 1866, 1898, 1881, in California, Missouri, New York. From [“Who Owns the Skies”](https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=3387&context=facpub) by Laura Donohue. [↑](#footnote-ref-2)
3. Cases in 1863, 1872, 1897, 1882, in Massachusetts, New York, New Jersey. Ibid. [↑](#footnote-ref-3)
4. “Plaintiff and defendant live upon adjoining lots. There is frequent war between the families. The *casus belli* in the present instance is to be found in the following circumstances: Upon the boundary line between the lots is a tight board fence, a part of which was built by plaintiff’s husband; but, unfortunately, this barrier, while all sufficient to prevent the passage of the dove of peace, is neither high enough nor tight 'enough to prevent the interchange of brick bats or the bandying of opprobious epithets.” [↑](#footnote-ref-4)