

Women at Warp Episode 234: How does the Federation Economy Work?

[Women at Warp theme]

Jarrah: Hi and welcome to Women at Warp: A Star Trek Podcast. Join us on our continuing mission to explore intersectional diversity infinite combinations. My name is Jarrah, and thanks for tuning in. With me today are two very special guests. We have Martine.

Martine: Hello.

Jarrah: And Manu.

Manu: Hi.

Jarrah: In a second, I'll ask our guests to introduce themselves and tell us a bit about their history with *Star Trek*. But before we get into that, we have a little bit of housekeeping to do first. Our show is made possible by our patrons on Patreon. If you'd like to become a patron, you can do so for as little as \$1 a month and get access to things like our silly watch-along commentaries, like we just did one on the *TOS* episode, *Shore Leave*. We also produce episodes on non-Trek topics that are exclusive for patrons and offer things like thanks on social media. Visit patreon.com/womenatwarp.

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All right, so our topic for today is suggested actually by one of our lovely patrons. Lemon Eater, asked us to talk about how exactly does a Post-scarcity Federation work and how do they trade with non-federation societies? So, we'll get into that discussion. And first of all, I will ask our guests to introduce themselves and talk about how they relate to *Star Trek*. So, I'll start with Martine.

Martine: Hello. My name is Martine Ræstad, and I'm a researcher in fantastic and speculative fiction, originally based in literary studies. I'm also just a general enthusiast of nerdy activities, and I'm currently working towards a PhD on fictional AI within science fiction.

In terms of *Star Trek*, I first started watching *Star Trek* in my teen years with the original series and completely fell in love with it and more or less lived on the Enterprise throughout my first years of university. It became a founding stone for a lot of my continued interest in science fiction and followed me through all the years after. And as I started working towards my masters in fantastic and speculative fiction, it also was something that came into my academic career and that I would reference and continue to explore on that front.

And part of what brought me here today is that I had the joy of being part of a collection of essays about *Star Trek*. *Star Trek* essays exploring the final frontier with a chapter on post-scarcity and energy in *Star Trek*.

Jarrah: Awesome. We will get more into that shortly, and I'll also ask Manu now to introduce yourself.

Manu: Hi, I'm Manu, Manu Saadia. I am the author of *Treconomics: The Economics of Star Trek*. That was quite a while ago. I live in LA, and I'm a writer, and currently I'm writing about why space colonization is the worst idea.

[laughter]

I've been on and off doing it, and it's been difficult. But hopefully, it will be done by the summer and the book will be up next year.

Jarrah: Amazing. Okay, we're going to get into Lemon Eater's questions, but I thought it would be helpful to just quickly take stock of what we know about the Federation from what's shown in *Star Trek*, and also to just define the idea of post-scarcity for folks that's a new term for. In general, post-scarcity is an economic condition and social order where most goods can be produced abundantly and all people have their basic needs met, as well as most desires for goods and services. And in science fiction as well as in theory, it's often associated with automation, the idea that if we are producing more goods with less labor, we have more time to improve ourselves.

In *Star Trek*, there's many, many references to it. We can mention some of the specific ones, but the main takeaway seems to be that Federation citizens don't rely on money, poverty is eliminated, and individuals strive to better themselves and, the rest of "Humanity", citizens of the Federation essentially being implied. So, do you folks have a take on, or do you agree with the way that I framed that? Anything else you'd like to add on, the definitions or in general, what you see is coming out of *Star Trek*?

Manu: I think a lot is made of like there is no money in *Star Trek*. Like, what they're still using money? You remember, Kirk, and the jokes about it. But it's kind of a MacGuffin in a way, because I really think the most baffling part about it is the Federation post-scarcity situation, or speculative world, is that you no longer have to work to sustain yourself. And when you think about it, in the entire history of humanity, not to get too lyrical about it, but work is always a part of it. You no longer have the necessity or compulsion or obligation to work to sustain yourself. That's one thing. And so, what do you do with your life if you don't have to work? Sometimes, I was joking that what do you do with your life if you're like a Norwegian retiree?

Martine: On Norwegian disability, as I am.

[laughter]

Manu: So, you do a PhD, that's--

Martine: Yeah, we're working towards one. Yeah.

Manu: [laughs] I'm being somewhat cheeky about it, but it's a big question. What would you do with your life if you never had to work one day ever again?

Martine: I think that's a very valid thing and also something that you see, Even with kids who grow up with an abundant amount of money from their parents and that never have to get a job, a lot of them end up in some crisis. It's not an unusual thing.

Manu: Right. Because we don't live in that world where it's the norm, and inequality and all that stuff. And to add to Jarrah's description, I think what happens in a post-scarcity world, or at least in the post-scarcity world of the Federation is that not only people are free to not work because of some magical technology that allows them to produce anything on demand, but also any of the usual economic question or properly economic questions that we ask ourselves as a society, so how to allocate scarce goods, are no longer questions. In a way, it's post economic, at least in *Star Trek*, because there is no issues of allocations, like too much here and not enough there, and how do you make sure that things find an equilibrium? So, any kind of economic questions, and therefore, economic behaviors are out the window.

So, in *Star Trek*, in a way, it's a thought experiment about a world that is not economic. It raises a lot of questions, obviously, and one being that in a world that is no longer economic, how do you tell stories? Because there's no point, there's no challenge, and there's no drive to do it. Or, the stories you will tell are, in fact, not the stories that we see on the screen. This is a commercial show that has to be exciting and that has to cater to crowds that are living in a world that is capitalist and beset by economic questions and economic behaviors. And the show itself is a commercial enterprise in the most cutthroat capitalist sector of the economy. [laughs]

Jarrah: Yeah, that's one of the contradictions we talk about a lot on the show, is the kind of utopian, egalitarian view of the future that nevertheless is intrinsically linked to our capitalist present.

Manu: It's impossible. It's an impossibility that I find is very fruitful because they always have to work around it or they are at war with themselves. In the later series, they sort of shrugged and moved on. It's my claim to fame, Chabon read my little book and went on a discussion online about how they were not going to do that for the new series because you couldn't tell stories.

Jarrah: Well, I wanted to look particularly at, I would say, probably the most commonly cited quote relating to this topic. And I know, Martine, you had some thoughts on it, which is a quote from Picard in the *TNG* episode *The Neutral Zone*, where he says, "A lot has changed in 300 years. People are no longer obsessed with the accumulation of things. We have eliminated hunger, want, the need for possessions." And then later, he says, "This is the 24th century. Material needs no longer exist." Martine, do you want to speak to that?

Martine: Yeah. I also just wanted to comment a little bit on the core question of post-scarcity, just something to add to that, because one way that I've explained it to people before that at least made a little bit of sense for me is just in video game terms, because I play a lot of video games. It's like playing *Minecraft* in creative mode or having everything given to you at the start of the game, which has a very, very significant impact. There is a lot of games where if you do that, you have no drive to play it. Everything's already given to you. But that doesn't mean that there's nothing that can be done, but it's a very fundamentally different way of building a story and it is a completely different playing field that is very difficult to compare.

A story told in a world with scarcity would be different at every twist and turn, because scarcity is such a fundamental part of how our society functions and the thing that we have to constantly contend with. As Manu mentioned, it's not really an economic condition. It is counter to an economic condition, because that's the allocation of scarce goods.

In relation to that, also on the question of how exactly does a post-scarcity Federation work, something that a lot of people have looked into this, including Rick Webb, who I think maybe coined the term first, or at least connected it with *Star Trek* early on, is that the Federation's world building doesn't really make a lot of sense. [Jarrah laughs] It's not really like a-- You can't really think too much about it as world building. It is an ideal, it is an idea. It's more of an atmosphere than it really makes sense when you look too much into the details. Because when you really start digging into this, then there's a lot of things that start collapsing, a little bit.

Manu: At least, if you stick to *TNG*, it's fairly consistent and well thought out. And then, they introduce new things and it gets more complicated.

Martine: They have definitely tried, yeah.

Manu: Yeah, I thought it was remarkably consistent if you just stick to one part of the canon or the corpus, and because in fact it's standard-issue post-economic thinking that comes out of anthropology from the 70s and the 60s, it's essentially Herbert Marcuse, they call him cultural Marxist. But that's at least for *TNG* for which Roddenberry wrote the bible, and he was deep in that cultural milieu, I guess. And it comes from the 60s. A lot of it, David Gerrold and several of the writers, original writers on *TNG* were part of that. Later on, it becomes a little bit different and they introduce new things.

But I find it, in terms of the description of how the economics of a noneconomic, it's fairly consistent.

Martine: I've definitely thought about it. When you look at a smaller portion of *Star Trek*, then it's easier to find consistency. It's just that with the whole franchise, obviously, then it starts collapsing pretty quickly.

Manu: Because also, each chunk of franchise is a reflection of the moment it's made.

Martine: And as we mentioned that the stories that we are used to telling usually have some element of the world that we live in. These are the stories that we told and the stories that we relate to because there's some amount to make a story relatable. But I think also what I found really interesting about that quote from Picard from *The Neutral Zone* where he says that, "People are no longer obsessed with the accumulation of things. We've eliminated hunger, want, the need for possession," and they also mentioned that they've eliminated material needs. When you really look at this quote, what I find so fascinating about it, and also when I ran across it when I was writing my chapter, is that he actually doesn't say very much about what has physically and concretely changed. All the things that he mentions here are like feelings and characteristics of people.

It's not a lack of scarcity, it's a lack of the need for possessions. It's a lack of hunger, it's a lack of want, almost as though these things that are now plentiful aren't even needed at all. Almost like they wouldn't miss it if it was taken away, even though they obviously would. And this kind of rhetoric, while not in every single time that they mention it, it often comes up when characters mention it, like we're no longer greedy, we are no longer hungry. It is not that we have infinite money, we aren't greedy anymore. We're like, our lives aren't driven by greed. It's a very interesting and specific framing of the *Star Trek* utopia, because it implies a fundamental change in humanity, in self, or the experience of living your life as a human, rather than just a material change in your surroundings.

I think that's a very, very interesting thing that goes into what kind of utopia *Star Trek* is and how we approach it, and also a little bit what the appeal of it is, because living in a *Star Trek* utopia isn't just living in a world where the stuff around you is different, it's living in a world where you feel different and where you don't have those needs anymore. And it's more like that feeling is at the center of it, and then the world building adapts to become what it needs to be to make that happen.

Jarrah: That's a really interesting point. Yeah, because they're not really saying, "Everyone had a lot of desire for things, and we fulfilled it all." Even you see in *TNG* that there's clearly some social norm reinforcing of this idea that the right way to live is to strive to better yourself and the rest of humanity, to push yourself outside your comfort zone, to constantly be striving for excellence. You have the tapestry storyline in the one where Picard's just working as a lower-level science officer, it's like he's failed his life's work to greatness. And I think later, *Star Trek* generally does a good thing by problematizing that a little bit and pointing out that you still need people in these other roles and that there's other ways to contribute. Not everyone can be a captain, or you have a pretty weird society.

Martine: Not everyone is the main character, [laughs]

Manu: But also, to jump on that, I think that what we see on the show is the last remaining sociopath of the Federation, because if you live in that world, why would you even bother going on a ship? I think there's no point. There's no point in excellence for the sake of status. You see what I'm saying? There's no point in—

So, you will do it because somebody has to do it. And you begrudgingly leave your little paradise to go for a few years to serve society, which is fine and probably is enforced, and the moral thing to do in the federation. But I always thought that the hard charging “I'm sitting in the captain's seat and nobody else does, and I'm the best,” and blah, blah, blah, was a weird thing, given the parameters of the society.

Jarrah: I disagree, because I think if you look at our world today, there's a number of people that work in underpaid jobs out of a sense of service or a sense of reputation.

Manu: Yes. That's me, you know?

Jarrah: Yeah. [laughs].

Manu: But not for reputation. You just do it because you like it and you like to help.

Jarrah: I do think reputation is still a motivator though for some people. But I think it goes back to that point where we were talking about how you need a social shift to be able to have people be motivated to fill those kinds of roles in a world where they would have access to the same wealth regardless.

Martine: It's an interesting thing to go into, because it's almost impossible to know before we'd have seen it in practice, which we might never do, but whether the value of reputation goes up or down, because you enter the question of what is power in a world without scarcity, because power in real life is [laughs] often, in one way or another, connected to material wealth. It doesn't have to be money, but it's either that you own the money or you have, in some way, the power to change a bunch of stuff. If you're the president of a country, you have the power to change a lot of things and move about a bunch of stuff.

I think a desire for power and control, even without being a megalomaniac, that is a fundamental urge. But then it is like, what is control in a world where you can't hoard anything, really, except your reputation? It's mentioned, I think, a couple of times, I can't remember if they mention it explicitly that much, but Federation tries to be a meritocracy in some ways, and then it's okay, but is it just being good at things? Is that everything? Because then what if people don't have a particular talent or anything like that. There's a lot of things where power, I think, and this is maybe just a personal perspective, but I think that's always going to be some dynamic in human society, and currently it's very tied to the material. But in a world where scarcity is no longer a thing, what does power become? What does that become attached to? And maybe it does become attached to reputation, or maybe it doesn't at all.

Manu: What is the status of politics in *Star Trek* society when most-- Politics in general, whether democratic or not, is a dispute around allocation decisions made collectively for the most part. So, what are we going to use our limited resources for? So, if you don't have to do that, what's the point of politics in *Star Trek*? Like, okay, they elect the president, they have election and all that, but what's the point? No, there's a few stories in the show itself, I think in *Deep Space Nine*, where you have the guy on Risa who's yelling that the Federation has become soft and should-- moral rearmament. [Jarrah laughs] And that's about it.

Jarrah: Yeah.

Martine: Most of the politics that we see is not domestic within the Federation. It's always when they encounter-- they have ambassadors meeting other non-Federation things. That's usually when politics come out.

Manu: Yes.

Martine: Yeah. Diplomacy.

Manu: Yeah, it's diplomacy.

Jarrah: I'll interrupt there. We have a full episode on speculating on Federation politics.

Martine: We can wrap up that tangent.

[laughter]

Manu: Yes. Okay. Yeah, yeah, yeah.

Jarrah: So, I'll direct listeners to flip over to that. But this is super interesting. I'm wondering, before we get into a little bit more theory, just how do we understand the question that Lemon Eater was asking about trading? And I think it's just, mechanically, how would it even function for a society that doesn't have currency to trade with societies that do have currency?

Manu: We do have a real-world analog, historically. One close analog would be the way the United States and the western world would trade with communist countries. Yeah, I know there was such a thing 40 years ago. So, that's one analog. There was a lot of trade. So, it's just that the Soviet Bloc would have accounts at banks in the west, and they would receive currency that then they would use to for purchasing goods. So, they would use currency in order to purchase goods outside. So, trade is totally possible. It's not a big deal. It's not something-- In the case of the Federation, there would be some weird thing where they trade, but they would not benefit from it. So, they would not be subjected to-- Yeah, they have everything.

Martine: What does the Federation want to trade for, is also a question.

Manu: No, they probably want to maintain stability on the marches.

Martine: Yeah.

Manu: Because the other cultures, they need to trade, so the Federation will be like, "Okay--" They have no economic incentives to make good trades or bad trades. So, it probably screws up the entirety of the galactic economy because they have everything and they have no incentive to optimize. They don't care about price. So, that's a problem. You see what I'm saying?

Martine: Yeah, I think that's also, in a way, while there's definitely some trade that comes up occasionally, especially with cultures like the Ferengi where trade is their main thing, so it becomes very strange to try to imagine that they don't have to figure that out somehow. But there is that question of even though there are some specialized goods that might come from outside of the Federation that they'd want to get their hands on, then you figure out what is the currency over there and can you replicate it? Can you get a hold of it somehow? But also, a lot of the "trade" that happens is, again, under the umbrella of diplomacy.

Manu: Yes, exactly.

Martine: Where there's an exchange of something. It doesn't have to be currency but it's something valuable or some kind of agreement between two factions where they figure something out. But I think that is the most-- While there might be some instances of trade that I don't remember at the moment, I think most of the trade that we really see doesn't really happen as the trade of goods that we're used to seeing because the Federation really doesn't need much from anyone.

Manu: And by the way, do you remember, at some point they're like, they're going to send industrial replicators, I think, to rebuild Cardassia at the end of *Deep Space Nine*.

Martine: Yeah. I have a faint memory of that. Yeah.

Manu: Yeah. Maybe I get my episodes wrong. Sorry.

Martine: Definitely sounds like something that could have happened, at least. [laughs]

Manu: The industrial replicator thing, can you imagine if they send an industrial replicator to a society outside the Federation that is less advanced in that respect? It's like the atomic bomb. I would say that even the Federation probably has the same attitude towards outsiders that they probably restrain themselves from flooding the market, the outside market, with all their goods because they would basically destroy the stability of all these societies. They would, in effect, be like the conquistadores or something. You see what I'm saying? It would be a cultural shock on the level that--

Martine: Yes, you don't want to do that. [laughs]

Manu: By the way, if you remember, I think there's a quote in *Voyager* about this.

Jarrah: Well, it was making me think of the *Voyager* episode where they give the holo technology to the Hirogens and then the Hirogens end up creating sentient holograms that can feel pain.

Manu: Yes, that's the one. [Jarrah laughs] No. Imagine giving the replicating technology to a society that is not ready. So, what does it mean to be ready? And I think Martine put the finger on it. It's about desire and it's about governing your own desires and taboos and a transformation in the way you act out on your desires.

Martine: Absolutely, yeah.

Jarrah: Well, I was going to say on a micro level, we also see that Federation citizens, that there's still some value for bespoke and artisanal and unique handcrafted things.

Manu: And antiques, they're always like-- Why do you think Picard is so into antiques? Because antiques are unique and they're not replicable. And I mean, they're replicable materially, but their aura and the authenticity and the fact that it's a unique piece from 10,000 years ago that cannot be replicated.

Martine: I think there's actually even already an analog-to-modern society where you have physical books, vinyl records and all of these things, as opposed to the whole, well, you have access to everything on Spotify, you have access to everything on Kindle. For me personally, at least, and everyone's different on this, but if I really, really-- I have no issues reading eBooks and I listen to Spotify bunch, but I still like having things that mean a lot to me or like

a book that's really special to me, I like having the physical copy. It's still a very special thing to me.

Because the digital realm has a wealth of goods, but at the same time, there's something that feels a bit-- I don't know if inauthentic is the right word, but it becomes almost not very concrete or tangible and loses that this is a unique object. It cannot be moved from here. It always is here. You've got that feeling about it that's very hard to define. So, I think that there's some parallels there that you can see with bespoke goods and antique goods and artisanal goods that cannot be produced by a replicator.

Manu: Yeah, that's very valued food, especially like replicator food, you remember, I think Sisko's-

Martine: The vineyard.

Manu: Yeah. You know, like wine. I mean, you can probably replicate wine but what's the point?

Martine: Can you replicate wine varieties?

Jarrah: Well, but what's not clear to me in the case of things like antiques, it makes sense to me that just say you're a Starfleet officer, you're stationed on *Deep Space Nine*, the Federation knows that you're going to need some currency to conduct business day to day.

Manu: Yes.

Jarrah: So, you have maybe--

Manu: Did you notice Sisko is the landlord? They collect rent and they play around and they probably have allocation of Latinum to go play the tables at Quark's.

Martine: They need Latinum. [laughs]

Manu: They find it funny. You always have--what's her name, the science officer who always plays Dabo?

Jarrah: Dax, Tonga.

Manu: Yes.

Jarrah: And Dabo.

Manu: Yeah. Dax. Dax. And, everybody thinks she's weird because she loves to gamble but it's child's play almost. They manipulate money as if it was like some old game or-

Martine: --monopoly money.

Manu: Yeah. Exactly. It's like a childhood thing. They find it funny. It has no grip on them.

Jarrah: Yeah. I guess it's somewhat helped by the idea that Latinum can't be replicated.

Manu: Sure.

Jarrah: But it also doesn't explain to me, for example, if you're on earth and you're an antique collector and you're not like what's-her-face from *Strange New Worlds*, who's

Lanthanite has been stealing things for a really long time. [laughs] But how do you compete with someone else who wants antiques? Because there's no need for someone who's dealing antiques to receive currency. So, theoretically, everyone is on a level playing field to acquire antiques.

So, it would be like what you were mentioning, Martine, about Kindle and things like that or eBooks versus paper. It's almost the same as do you want a prop that was used in the filming of a *Star Trek* episode? Just say like a tricorder that was on screen. Or, do you want a replica of the thing on screen? Or, do you want a 3D-printed version of the thing that was on screen and we have these gradients. But in this society, if you were on earth and you don't have currency or some need that other people have, unless you could figure out a barter, you want to collect antiques, but you barter something else.

Manu: There been some economics done about this because these are situations that exist in the real world, but it's about satiation. So, at least the way it can be modeled to an extent, these kind of situations in the world of *Star Trek*, is that, so you don't get that antique, so what? You move on. The desires, there's no pile up or long lines. You can get something else. If that one doesn't work, you'll get something else. And it's not something that is- There are no burning desires in that sense. There's always something else that will come up. And the world is so interesting anyways that you can deal with frustration without getting into economic calculations. The nature of desires is different, the behaviors that it determines are different.

Martine: I think also the quick explanation that I have the impression that *Star Trek* wants to give is credits for any situation where there is some-- credits have some kind of value. I've also read theories about everyone gets a certain amount of credits per month or something like that. So, you have almost like an allowance where you can only do so much with it. But obviously then there's a separate market where, oh, but the antique purchaser, why do they want to hoard credits? They don't need anything. Well, they can buy other antiques. There's a market that is just for the goods that "need" currency. But then, you also have things like-- I'm pretty sure, because isn't it Sisko's dad owns a restaurant?

Manu: Yeah.

Martine: And I don't know if they ever go into whether or not people pay to eat there. But then again--

Manu: They don't pay.

Martine: Yeah, they don't pay. But then, that's just like an activity that they do because they like it. And then, it's just like, well, only so many people can sit here. How do you decide who gets here? It's whoever comes here first. Or maybe, it's whomever-- If you've been really shit to him before and he really doesn't like you, maybe he doesn't let you in. And then, it becomes reputation as a currency or social stuff as a currency. So, you depend on all these other factors where there's just whomever gets it first.

Maybe it's just whoever turns up at the antique shop first because doing something like an auction house would be very strange in the Federation, I'm sure they could think up some version of it if they really wanted to. But for me, having a shop makes sense or some kind of outlet, but having an auction house situation, then what are you doing? Unless you're just offering other items.

Manu: Yeah, sorry. I think that's how it works. It's like, okay, there's a shop-- At least when I did the book, I wanted to be as radical as possible. There's no money and there's no-- Scarcity. There's no money. You have to take them at face value. There's no economic

activity. You have to take them as face value. How would that work? And so, what we're talking about here is allocation problems in a world where there is no allocation problems. So, there's a limited number of seats at Sisko's restaurant, but the way people will treat it is not as a market or as something—

Essentially, restaurant reservations are a market and there are different rules. Like, either you're the first one to reserve, or you're the person who put a downpayment to reserve, etc., etc. So, there's no market for these allocation decisions. So, you have to think that the market actors themselves, or what you would call the economic actors, would be just like, "There's no space at Sisko's restaurant tonight? Eh, maybe tomorrow. Let's go take a walk. The world is beautiful." You're not like in an auction house. You're not as keyed up by, "I need this now at any price." This is just not something that people do. At least that's how I make sense of it.

I don't know if this is how it would work, but I guess that's the only way to make sense of it because you have to take the two sides of the transaction, the supply and the demand. Just the way demand side reacts is not as excitable. I guess when you have everything and you've had everything in your life since you were born and everything is possible and everything is available and there is no friction to getting anything, then the way you grow up and the way your desires are transformed and the way your relation to the world and to the material world, but also to people, is transformed by that makes it very unlikely that people would—There wouldn't be a riot to get into Sisko's restaurant.

Martine: I think the other side of that I also find to be an interesting way of thinking about it. I mentioned earlier that a lot of the exposition of how the Federation works is a bit more idealistic than it's practical, but it's also possible to see that as an in-universe thing. And I think that this is visible a lot with especially Jake in *DS9* with talking to Nog, because he's being more of a kid. He says a lot of the same things that the adult characters say, but he doesn't actually understand how it works. He's like, "No, we don't have any money." And then, Nog is like, "How does that work?" And he's like, "I don't really know. People keep saying we don't have any money. So, I just assume we don't."

Manu: When they're older, they have this whole debate about incentive economics. It's very funny.

Martine: Yeah. It's like all of the adult characters, I think, also have this. It might be a bit of a heavy word to call it propaganda, but I think it's the Federation's goal and ideal to not have money, to not have economics, to not have scarcity.

Manu: It's a decision.

Jarrah: Yeah, it's a decision that they've made. It's who they've decided to be. It doesn't necessarily mean that this happens on every microlevel ever. There is still in practice some amount of scarcity. We do still see that there are people who fall through the cracks. And in terms of that, well, if you don't have any scarcity in your life, you don't have any friction. Another way of looking at it is *Star Trek* becomes that situation where you actually get to see, when you take away all the obvious friction, what friction remains, what are the things that are still left and that's also something that I talk about in the--

Manu: But isn't that assuming that there are some stable, permanent "human" nature which is a fallacy that probably a lot of our literature engages in routinely. The idea that human motivations are transhistorical and not determined by material circumstances. In fact, we cannot imagine something that is not grounded in our own material reality.

Jarrah: Well, let me introduce a question that also relies on that fallacy so you can pick it apart because yeah, I agree. Getting more into theory, of course, there's a lot of Internet meme jokes about the idea that *Star Trek* is luxury gay space communism.

Martine: Of course.

Manu: Of course.

Jarrah: So, this question maybe does rely on just, is it possible using, if humans are our society today, to have a post-scarcity society within a capitalist system? Conversely, could one have *Star Trek's* more utopian, egalitarian universe even if they didn't have post-scarcity? Basically, just looking for your thoughts on what the relationship is between *Star Trek's* vision of more or less equality related to the fact that it's a post-scarcity universe.

Martine: On this particular one, I almost can't answer a question without just talking about energy, which is the thing that my chapter is about, which is just that it's a pretty huge thing that divides us from a *Star Trek* future, is that they have more or less infinite energy and also replicators that can turn this into any resource, which is how they end up with post-scarcity in terms of all resources, and that this is a very fundamental part of a *Star Trek* future. That's a lot of what I talk about in that chapter.

And also, because talking about can we create that future and can we create a lot of those values and a lot of that experience, a lot of what I try to emphasize there is that our job is to look at *Star Trek*, which shows us a potential, but to not copy it. Unfortunately, because it is based on infinite energy and we do not in fact have infinite energy, we must be careful to not act as though we are in a post-scarcity society, because then we end up burning ourselves because we act as though we have more than we have. So, our job is to create that with a limitation. [laughs]

Manu: This is amazing. This is so smart. I gather it's been informed by the experience of Norway. I wonder, just asking you that.

Martine: Definitely, the field of energy humanities was something that I had a course on during my Masters, and that is a whole field that goes into-- Yeah, a lot of this very recommended for anyone who thinks it sounds interesting. But I did actually find a quote in one of the big books about that. I think it was by [unintelligible [00:42:52] where they actually specifically called out, yeah, I think I even used it in my chapter. It almost described- you could almost put *Star Trek* into the sentence. It was something about how you look into essentially what is your utopia? but actually, that utopia is fueled by a lot of oil. And he said that it was a whole paragraph that sounded like it could have been about *Star Trek*, but he said social democratic Nordics.

[laughter]

And I was like, "That is so accurate." Because it's something that I have to think about a lot also as a Norwegian, because I'm not going to lie, it's very comfortable living here. It's very nice. We have a solid welfare society and university that doesn't cost anything. I have a lot of friends who are American I almost don't want to talk about when I go to healthcare because I don't pay anything.

Manu: I mean, people say it's the oil wealth, but that's not exactly that, because--

Martine: It's a little bit of both. It's the complicated nature of it. Because on the one hand-

Manu: Norway was most electrified country in the world by the 20s. Norway has always been at the forefront.

Martine: We were very early on with women's right to vote and all of these things. But it's also like it's a complicated thing of just dumping a lot of oil onto a country doesn't do it right because that's the other half of it, is that the oil curse is a lot more famous. Like, when countries discover oil, usually it goes badly.

Manu: Yes.

Martine: And I'm pretty proud that we managed to avoid that.

Manu: You can look, right now, it's happening again.

Martine: Yeah.

Manu: It's happening again right now in Guyana. In Guyana, they just discovered massive amounts of oil and suddenly the whole place is going upside down with-- Yeah, but Norway didn't do it. Norway escaped the resource curse because of Norway's history.

Martine: I can talk about Norway's history for a long time. So, that's-- [laughs]

Manu: Yeah, yeah, yeah. But I think there's something very unique there and singular. And the way people cooperated with each other since the 17th, 16th century is like-- your villages-- It's easy to call it a Nordic society and all that, but I think Norway is very different from Sweden. In Sweden, they're much more capitalist and colonial.

Martine: We do have a quite different history from Sweden and Denmark in that we were under both of them, depending on what century you're looking at. So, there is a cultural element there. It's just that step one is getting a lot of resources to work with, but then step two is those resources interacting with a course of action that works. It's a thing with both and when I look at a lot of other-- not going to go ramble about politics in other countries, because that's not what we're here for. But a lot of the time, it's like, okay, so what's really missing here is a budget. The budget is too low for this. The budget is too low for that. But then there's a question of where's all that money going? Sometimes, there's something massive that's swallowing a bunch of money or tax evasion from [laughs] massive corporations or something like that. But it's a mix of both.

Manu: But I think where it's germane to Star Trek, And Martine is right. What do you do when you have these infinite-- In the real world, in a way, we have analogs of *Star Trek* and with the basic being massive available of energy, massive amount, almost infinite amount of energy. And what do you do with it? And is it bad for the rest? It's asking the question in a way, is the post-scarcity of the Federation, in the end, terrible and destabilizing for the outsiders?

Jarrah: Yeah, well, I mean, you talk about in your book, Manu, about the idea that it's not just, for example, that *Star Trek* has a whole bunch of holograms or robots or transporters or replicators, but this idea that they're available for the public good. Whereas, I think if we envisioned someone inventing-- We have technologies that are akin to replicators today, and it certainly isn't like every person has access to them.

Manu: And it's hilarious, the patents on 3D printing. There's a whole saga about who owns the patents on 3D printers. [laughs] Ironic, right?

Jarrah: Yeah. I see that as one of the links there between this idea that-- The post-scarcity we see in *Star Trek* requires maybe this worldview that has embraced this idea that these advances should be commonly available and not just hoarded by the Elon Musks of the world.

Manu: Yeah. I didn't go into that in these words, but essentially, there's a political decision.

Martine: Yeah.

Manu: You can decide to do like Norway and actually spread the wealth and the oil wealth to everybody, or you can decide to be like the United Arab Emirates or Qatar. There's a spectrum of decisions that you can make based on infinite wealth.

Martine: I think there's also something to be said about what is a *Star Trek* future, what are the steps that we make towards a *Star Trek* future. Because copying *Star Trek* in a way to try to make that future come to life is something that is very common. Pretty sure you have a big paragraph about it in *Treconomics* which, by the way, is a book that I read when it came out. It was one of the first academic *Star Trek* books that I read, thought it was very cool. Yeah, there is one of the paragraphs there that just lists off invention after invention after invention that actually came from *Star Trek* in the sense that the people who made them had seen them and then became actual researchers or already were actual researchers and then made it come to life.

Manu: And now they want to spread humans to outside of Earth--

Martine: Yeah, and for me--

Manu: Don't take it literally, people.

Martine: Yeah, that's the thing, is that-- One of the most famous ones, the flip phone, for example, which is essentially just a communicator. But for me, while I think those gadgets are very cool, for me, something that's fundamentally *Star Trek* isn't when the Elon Musks of the world and Jeff Bezos and all that, when they're like, "We're going to make a spaceship and use a ton of resources to make this spaceship." For me, that's not the core of *Star Trek*. While, yes, they do have spaceships, and that's the technology on screen is one of the most recognizable things about *Star Trek*, for me, it would be way more *Star Trek* if we could all have clean water on Earth. And that's not very flashy. That's not very tech.

Manu: I concur. I concur. Yeah. You're right.

Martine: Literally, just a wooden cup of clean water for every human being every day would be way more *Star Trek* for me than those fucking spaceships.

[laughter]

The aesthetics are different. But the core of it--

Manu: This is where you are aware of that, as we all are, that *Star Trek* is a commercial enterprise that has to sell the show to an audience.

Martine: Oh, yeah, absolutely.

Manu: So, it has to wrap itself--- It's Marcuse communism wrapped in techno-utopia and gadgets and all that stuff. This is why I wrote the book, by the way, because I was tired of all the people online. It was all about, "Oh, yes, and we're going to use bitcoin. And they use

bitcoin in *Star Trek*.” No, seriously, when the book first came out, a lot of the interview requests were from bitcoin, and I was like, “What? What?” Because they were all convinced that bitcoin was very Star Treky because this is how they do transactions on *Star Trek*. I was like, “Have you watched the same show as me?”

Jarrah: Oh, yeah, there's that whole floatation with NFTs on *Star Trek* too.

Martine: Yeah, you totally remember that episode about cryptocurrency and how it's-- [laughs] Yeah, no, it's--

Manu: No, you're totally right. This has nothing to do with the technology and the gadgets. But it's political and that's a little more problematic to discuss, especially if you're a show in Hollywood.

Martine: Mm-hmm. Yeah.

Manu: It's like the entertainment industry is the most cutthroat and probably one of the most capitalist and competitive and raw of all the industries in the US.

Jarrah: Yeah, absolutely. Because some of us, some folks, some theorists or commentators will say we're basically capable of being a post-scarcity society now. The issue is the unequal distribution of resources. That may not be the case for every single resource and good that we produce on this planet, but certainly is the case for things like water and medicine that have-- we've basically chosen not to have a post-scarcity society right now.

Manu: The counterargument in there is that you need incentives for people--

Jarrah: To produce these things

Manu: --and to keep inventing new things, to keep improving. So, you need incentives, you need some rewards.

Martine: Something that has been an issue for a lot of different things, especially things like medicine, is the incentive to create products for a market that can't pay for it themselves. I know it's an issue for other things as well. But I know, especially in medicine, there's that famous-- it's so much more realistic. And it's not just about greed, but it's just about realism. I think that's also an important thing. This isn't about the eradication of greed because there are a bunch of people who aren't greedy, but literally they need money to survive, they need food to live as well.

And also, in terms of energy use and all that, that's also a thing that I really want to emphasize in that chapter is that I want to get this idea that people who want to destroy the environment are evil because there is so much that high energy usage can give. If we just burnt all the fossil fuel now, the amount of medicine and healthcare we could create, the amount of stuff we could create for people around the world. There's a reason why these ideas are appealing. There's a reason why the high energy consumption, *Star Trek* society is appealing. And that doesn't have to be that you like to watch the world burn.

Sometimes, it's that you like to watch the world be happy, and there's a lot of difficult questions to face when it comes to that, but it's just like, you have to measure yourself and constantly think through it, and that's very boring and annoying. And because it's much more fun to watch *Star Trek* be cool and want to be like that.

Jarrah: I don't know. I think this is fun. [laughs]

Martine: Yeah. Actually, it's much more enjoyable to just watch it and be like, "I want that."
[laughs]

Manu: I like that Martine is laying down the law, you bring in the hammer here. I respect that. I'm sort of on the same line as you. Yeah, I agree 100%. Actually, more than 100%.

Martine: A couple extra percent. [laughs]

Manu: No. Science fiction is very pleasant, and it helps navigate the world in a way, and it opens up little spaces for imagining the world differently. But it's true that Martine is right. That's all I'm going to say. Martine is right. [Martine laughs] That's true, yeah.

Jarrah: Totally. Yeah. And I think that I agree with you as well, generally, about the reasons people do these things and the tradeoffs and the benefits. I think it ultimately comes back to that point we were making at the beginning around that you need a fundamental shift in social consciousness and an assurance that people who are putting their energies into making medicine or making things that other people need will have their own needs met, that it's not as much of a risk. Unfortunately, I don't think we're particularly moving in that direction.

Martine: There's a lot of practical issues to get past. [laughs]

Jarrah: Yeah, there are some micro examples, but I think that's the big thing that I think is often missing in a lot of the, how do we get to *Star Trek* discussions is, like you said, Manu, there's a lot of focus on the technologies and not a lot of focus on the values or the ethos of our responsibility to our fellow human beings.

Manu: And conflict is inherent in social life because we all have different desires. So, it's okay to have conflict.

Martine: There's always going to be some kind of conflict, but I don't remember if it's like an expression or something, but if you eliminate hunger, you eliminate war. There's some amount of truth to it where it's just like, yes, we won't be able to create post-scarcity for everything. But it'll make a damn big difference if everyone has a roof over their head and food every month.

Manu: Now, if we could all live like Norway, then we could-- [Martine laughs] No, but it's true. And then, we could start tackling the really important stuff. We're back to these debates that people had in the 70s. Sorry, I'm old, but yeah. Capitalist versus communist countries but in communist countries, everybody has enough to eat. No, it wasn't exactly like that, but it was about Cuba. It's a big question. You have your materials needs taken care of as well as education. But is it worth it if you don't have freedom?

Jarrah: Yeah, and in *Star Trek*, that's not something we see as an issue at all, because there's just so much to go around and everyone is just making these choices.

Manu: But think of the-- Borg has post-scarcity society in *Star Trek*.

Jarrah: Yeah.

Manu: It's like almost the mirror opposite. They just achieve post-scarcity by just conquering everything and assimilating.

Jarrah: But there's alternative worldviews back to your point about how there's not necessarily one sort of ahistorical human nature. There are cultures that have it built into

their ethos to be less concerned with the immediate rewards and meeting of immediate needs and to be more concerned with making sure that things are good for future generations. And that immediate reward is associated with our capitalist society. But I think it's possible to integrate more of a long-term view even in modified free enterprise society.

Martine: Yeah, I think it's also worth mentioning in that context that while it is also easy to say, okay, but if everyone gets the same amount of food and everyone gets the same amount of water, political decisions will always have to be made to some extent, as long as its resources aren't actually infinite. Because the thing is that not everyone needs the same amount. Not everyone needs the same amount of help. And there are still questions to be answered. One, to take on more of the positive side and not just on the doom side.

Another thing that I think is very valuable in terms of post-scarcity in *Star Trek* is that it makes it unique as a genre and as a form of storytelling. It is a very powerful literary device to tell stories that almost cannot be told in any other setting because you have that, if we could do anything, what should we do? And there are a lot of discussions that in any other story or in real life, when it comes to political discussions, they never get to that point because it always stops at, well, we can't afford that, or the technology doesn't exist, or the medicine for that doesn't exist.

I remember in particular, there's one *Deep Space Nine* episode. It's been a while since I've seen it, so I don't remember the exact details, but there is a researcher that comes aboard who's in a wheelchair.

Jarrah: Oh, yes, Melora.

Martine: And Dr. Bashir at some point is like, "You know we can fix this, right? [laughs] Why don't you just fix yourself?" By the way, is ironic for his backstory. And then you get to the core of this question that is still relevant for a lot of people today and especially a lot of disabled people or the autistic community and a lot of these things where it's like, do you want a cure if it exists? And then, actually getting to have a space where you can talk about, why would someone answer no? Because in real life, you stop at the discussion of, well, the cure doesn't exist, or we don't have money to do that. We don't have the cure for every medical issue. So, we don't have to ask, should we cure every medical issue?

Yeah, there's a bunch of other topics as well that *Star Trek* can handle in a completely different way and get at a different aspect of the conversation that almost no other platform can. I think it's just an important thing to remember about post-scarcity in *Star Trek*, but while it has its issues sometimes, it is also one of the most uniquely *Star Trek* things that makes it a unique platform and makes it stick out from most other things.

Manu: This is amazing. This is why I love *Star Trek* scholars.

[laughter]

Manu: It's the only venue and situation in which we can have these very profound insights.

Jarrah: I feel like this is a great note for me to wind things down and just ask if you have any final thoughts to share before we do outros, because we're about at time for today. Manu, would you like to go first with any final thoughts?

Manu: I have nothing to add. Live long and prosper.

Jarrah: I'm sure basically, we could build an entire seminar series around this topic, and we're all having lots of thoughts percolating on it. Martine, any final thoughts from you?

Martine: I think I got all my final thoughts out in that last [laughs] monologue. So, peace and long life to all of you. And I hope that everyone can see things in a slightly different light, but keep working at it.

Jarrah: All right. That's about all the time we have for today. Manu, do you have anything you want to plug?

Manu: No, I have nothing.

Jarrah: Martine, do you have anything you want to plug?

Martine: Not really. If anyone wants to find me, I'm [@mechamarty](#) or I'm trying to collect things at [mechamarty.com](#) right now, but we'll see what ends up being there. [laughs]

Jarrah: Amazing. To learn more about our show or to contact us, visit [womenatwarp.com](#), email us at crew@womenatwarp.com or find us on Facebook or Instagram [@womenatwrap](#). Thanks so much for listening.

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