

You're listening to Imaginary Worlds, a show about how we create them and why we suspend our disbelief, I'm Eric Molinsky.

Sometimes, listeners will send me ideas for episodes – some of which I've taken. Even if they're not right for my show, I like to know what's out there, what's interesting. Recently, a few people suggested that I look into the economics of imaginary worlds. One of them was an economist.

MH: I just kind of noticed you hadn't made one on that and I thought that might be a kind of thing that would be relevant.

That's Matthew Hollow. He's a professor at the University of York. He says whenever economists predict the future, or create an economic model; they're dabbling a kind of science fiction. In fact, he thinks they should read more sci-fi.

MH: I mean I find that's one of the interesting things about science fiction, in that because it's about individuals, right? One of the things that those involved in economics sometimes get criticized for is not thinking about human impact of economic models. I think that's one of the interesting things about science fiction, it's about individuals you think about the impact of the economic system, you have to think about how that's going to affect people, how they live, how they interact with one another.

He says economists and fantasy writers often ask the same question: how would the world be different if we changed one or two factors?

SS: I sort of accidentally learned a lot of economics by drinking with economists, which is a great way to learn economics.

Sarah Skwire is a senior fellow at the Liberty Fund, which is a think tank. She agrees fantasy writers and economists have a lot in common. They're the kind of people who don't take the world for granted – they realize that what's normal to everyone else was artificially constructed, and could've turned out very differently.

SS: Economics is about the choices that we make as humans, the things that we want as humans and what we're willing to exchange for those things and how we decide to make those exchanges. It's a very human science. And it's about how we decide what we want and how we decide how to go after it.

She had a-ha moment when realized all this. She was studying in grad school and a new show came on FOX called *Firefly*. It was Joss Whedon's space-Western about a group of misfits skirting along the edge of an intergalactic society. And in the first episode, the ship's mechanic Kaylee meets a passenger named Shepard Book.

SS: Kalee is talking to Shepard Book about whether he he's got money to pay for passage on the Firefly, and he says I don't have cash but I have something better than money, and he pulls out a little box and flashes the contents to Kaylee and her eyes light up. Later you see her in her bunk and you see her opening the box and enjoying one perfect beautifully ripe strawberry.

CLIP FIREFLY

That's when she realized that fantasy writers often play with an idea that is a foundation of economics: scarcity versus abundance.

The golden age of sci-fi was all about abundance in the distant future, thanks to the magic of atomic energy. Or a more recent example would be The Replicator from Star Trek, which can make food, drinks, clothes and or even tools instantly materialize.

CLIP: TNG

SS: One of the things economics like to talk about when drinking what happens when you eliminate scarcity in terms of material goods, does anything else become scarce? So maybe the projects that become valuable, the things that have values are the things that take an enormously long time to produce, maybe someone spent 100 years or 200 years creating this piece of art. Is it having a person in a room, if everything by robots is the real value actual face time? So all the sudden we don't pay to see movies but we'll pay to have dinner with a great actor.

EM: Even though you could recreate him in Holodeck?

SS: Well, yeah if you can recreate them in the Holodeck, then the really special thing is I didn't have to recreate that person.

Compare that to *The Martian*, the best-selling novel turned into a movie starring Matt Damon as the astronaut Mark Whatney, who got accidentally stranded on Mars.

SS: And the Martian turns that fantasy on its head by taking Mark Whatney stranding him on Mars where there's nothing! Everything is scarce, and so the question becomes not what do we do with our time, and our intellect and curiosity in a world of complete abundance, but the question in a world of absolute scarcity how do we turn resources we have into an ability to survive?

This is a big generalization but most of us living in the developed world, live in a world of abundance with supermarkets packed to the ceiling, and sites like Amazon that can deliver anything to your door in a matter of days or hours. And we have mixed feelings about that.

SS: In times when resources are scarce people fantasize about worlds of great abundance, and in times when we have a lot of stuff like we do now, we fantasize about scarcity and pioneering new territories and about how to get along with less and less stuff.

EM: And during times of scarcity like the Great Depression we're fantasizing about Shangri-La.

SSE: Yes exactly, and in the medieval period, people are fantasizing about a place called the land of Cocaine where the houses shingled with pies and roast chickens fly in the air and land in your mouth, you don't have to do anything, pigs run by with forks stuck in them.

Which is why she thinks post-apocalyptic stories are so popular right now. One of her favorites is *Battlestar Galactica*, where the last few surviving humans are fleeing an army of vengeful robots called Cylons. It's a counter-fantasy to the problem of overpopulation, which was a big issue when the show first aired in the 1970s. Back then, the Cylons were clunky metal thugs. When the show was rebooted in 2004, the Cylons were re-imagined as synthetically grown clones run by artificial intelligence.

SS: The most precious commodity on *Battlestar Galactica* is human life. Every episode starts in the credits with number of humans who are left alive, and you can watch it drop episode by episode by episode. And one of the things that's enormously important to understanding economics is understanding the importance of human capital. Capital is not just money that's used to invest in businesses, it's not just the machines that are used

in order to allow business to operate, capital is the human beings and the resources that that each individual and precious human being brings to the world, their skills, their capabilities, their talents and what happens when their skills and capabilities and talent bump up against other people? And so every lost life on BSG is thrown into high relief because they're so few and so precious.

EM: Right at the same time the Cylons are replicating themselves almost thumbing it in their faces, we can replicate ourselves endlessly.

SS: Exactly and so one of the interesting questions that remains an open question for much of the show how different are each of the Cylon models within the number group? Like are all the number sixes essentially the same and interchangeable? Or do they change as they go through life? Do the Cylons have human capital that they develop over time?

The Cylon Number Eight – all versions of her played by Grace Park. One of the number 8s, named Boomer, becomes a dangerous foe while another number 8, called Athena, defects to the side of the humans and becomes a valuable pilot.

SS: And one of the debates the characters keep having is how different are these models anyway. Is this just another frackin' toaster? Or is this Boomer versus Athena?

EM: So when economists go out drinking, do they really talk about this kind of stuff?

SS: Oh my God yes.

EM: Really?

SS: Yes! That's why they're so much fun to drink with. And then the graphs come out and it's all over.

Coming up: economists learn a very different lesson from a world where dragons are scarce and ice zombies are abundant.

>> UNDERWRITING BREAK <<

Last year, I did an episode about how foreign policy experts are obsessed with Game of the Thrones and the books they're based on, "A Song of Ice and Fire" by George R.R. Martin.

It turns out politics isn't the only way to understand the world of Westeros.

CLIP: MATT LECTURE

Matthew McCaffrey teaches economics at the University of Manchester.

He's fascinated by the way Game of Thrones depicts different economies co-existing at the same time. There are hunter-gatherer tribes, there are Viking-like warrior clans, there's a Renaissance city-state where trade is very lucrative. Although for the most part, it's a feudal world where nobles duke it out and the common folk are nothing but cannon fodder.

MM: It's not a surprise that in a system like this, there wouldn't be much economic growth or change for centuries at a time.

But he thinks economists can learn a lot from Game of Thrones because the different economies in this world are not designed by economists – they developed around the cultural values, which is very common in the real world. And each family has its own motto, explaining their thinking.

MM: And one of the very good examples of this would be the Greyjoys, the words of House Greyjoy are we do not sow. And this is a very much an economic and political philosophy because what they're saying we don't sow and then reap the fruits of what we've sown as the common folk do instead we only reap the fruits of what other people have sown, in other words we are predatory society.

Most of the family creeds are about being fearsome warriors – with two interesting exceptions. First there are the Lannisters -- the wealthiest family in Westeros. Their family crest is "Hear Me Roar" but they rarely use it. The real source of their power is their unofficial motto: "A Lannister Always Pays His Debts."

Spoiler alert: if you've never watched the show or read the books, I need to go into some detail about the plot.

Right now the Lannisters control the highly coveted Iron Throne. But the king, who is just a boy, is illegitimate. He's the result of the queen's incestuous relationship with her brother, which everyone knows now. So

they're constantly under attack – politically and militarily – and defending their position is very costly.

MM: The Lannisters are a really big uncertainty in the world at the moment because on paper so to speak they do seem like they're reasonably well off, because they supposedly have this vast wealth that they've been using to finance the crown for years and years, however beneath surface it does seem like they're in trouble and they might be on verge of the collapse.

And the only thing they fear more than dragons – and they're not really that afraid of dragons -- is The Iron Bank. And it's funny to watch the conniving; backstabbing Lannisters cower in face of bankers.

MM: Because at the end of the day it's not about armies or how many supporters you have its about the resources they have, because of their decision of who they lend money to they can tip the balance of power in the seven kingdoms.

EM: If there's a moral at all to Game of Thrones, is it that endless warfare is expensive and depleting and ultimately pointless?

MM: That's exactly right if there's one theme that gets hammered over and over again is this war and the kind of violence that we see as people contend for the iron throne this is completely and utterly destructive of human life and human welfare.

And human capitol. That's why they're stuck in the Middle Ages forever. But there's one family that gets it right, as far as he's concerned: the Starks. Their family creed is Winter is Coming, which goes back to the issue of scarcity and abundance.

MM: The Stark words about winter, they're about being careful and preparing for the worst and as opposed to squabbling with fellow nobles over control of Iron Throne. And for me the entrepreneur's creed than it is the creed of politicians, its the savvy entrepreneurs who plan for future, and who take great care to make sure to make sure their enterprises last over time where as politicians tend to be short sighted, and that's they're trying to benefit through these short-term conflicts.

But the Starks get royally screwed. They are the last family you'd want to be in this world.

MM: It's an important point if that you try NOT to play GoT, which is what the Starks do, they're geographically isolated, and unfortunately that turns out to be dangerous position to take, one thing about the GoT is that it tends to expand, it tends to reach out and it wants to grasp everything.

Which may be another valuable economic lesson. Even if you play it safe and prepare for the future, the future has a different plan in mind.

MM: At the end of the day our societies and our economies are a lot more fragile than we might think, they can only take so much abuse before you start seeing real problems.

EM: It's funny the word fragile to me put your thumb on it.

MM: Exactly, it really is delicate, we're surrounded by brick and mortar social institutions maybe of which have been around hundreds of years and so it's very easy to think they've been around for a long time and they will always be around but the sad fact is they might not be, and so we need to take a very careful to think about the kind of policies we pursue and where they ultimately lead logically.

EM: In other words, winter is coming.

MM: Exactly, exactly. Winter is always coming.

Well, that's it for this week, thanks for listening. Imaginary Worlds is part of the Panoply network. Special thanks Matthew Hollow, Matt McCaffrey and Sarah Skwire, who doesn't limit her drinking debates to sci-fi. There's horror too.

SS: If you actually have actual vampires, do they -- do vampires inevitably have to take over the entire world because they're going to destroy their food source?

EM: They'll over farm us.

SS: Right, exactly! Over fishing of humans, it's a terrible tragedy.

Let me know if you've got ideas for future episodes on the show's Facebook page. I tweet at emolinsky.

This episode features music from Alexis Cuadrado wrote these two pieces for Imaginary Worlds. I should also mention that a musician called Sono

**Sanctus lent me his library a few months ago, which has been a great help.
Their info is on my website: [imaginary worlds podcast dot org](http://imaginaryworldspodcast.org).**