Nate Hagens (00:00:02):

You're listening to The Great Simplification with Nate Hagens, that's me. On this show, we try to explore and simplify what's happening with energy, the economy, the environment, and our society. Together with scientists, experts, and leaders this show is about understanding the bird's eye view of how everything fits together, where we go from here, and what we can do about it as a society and as individuals. This week we speak with Timothée Parrique, Tim is a social scientist and ecological economist originally from Versailles, France. Now, teaching at Lund University in Sweden. Tim has a PhD in economic specializing in degrowth, and he's written numerous books and frequent blogs on the issues with green growth, and energy, and material decoupling.

Nate Hagens (00:01:00):

Tim is a passionate, bright young man who I'm pleased to welcome to this podcast. In today's conversation, Tim and I discuss why infinite growth of any kind is simply impossible. And we define, and unpack what degrowth is, what it looks like, how the path to degrowth may unfold. And what are the social, and physical obstacles between here, and there. Here is Timothée Parrique. You are quite young to understand all this stuff, when I was your age I was watching Love Boat and Fantasy Island, and not remotely thinking about these things other than my love for animals. What was the eye opener for you as to why the current economic system is not sustainable? And what sent you down the path that we're going to talk about today?

Timothée Parrique (00:02:01):

For me, I was studying economics, absolutely unaware of anything having to do with the climate, the environment, biodiversity, all of that was really just for me, completely disconnected from my daily life, both in practice and in theory. And I started to study economics, and I was sent to Sweden for one of those Erasmus exchange. And then, I took a class in sustainable development and there was some … So, I get confronted to very terrifying numbers and then, it didn't really square with what I've learned at university. I was like, that's like you're discovering the entire thing you thought was the world was actually only a small part of the iceberg. And now, they're showing you the other part, and that's the ugly part, the part that's being burned and you're freaking out. So, that's when I started to challenge the economics I was taught and I told myself, "Okay, learning economics is going to be a more difficult journey than I thought."

Nate Hagens (00:03:00):

And then, you ended up getting your PhD on the link between energy, and the economy, yes?

Timothée Parrique (00:03:07):

Well, even more than that, the link between the economy and the rest of the living world, because when I study the biophysical metabolism of an economy. So, we look at energy, but also materials. So, these are the two big flows, but then, they translate into a number of things. So, the energy you find in a dead barrel of oil is not the same energy being spent by bees when they put pollinate your crop. I mean, both are energies, but they're in a very different manner. The material lithium you're going to

find in the ground is not going to be the same material as the solid waste you're going to be picking up in a pond. So, physically it's all energy and matter, but biologically it takes a variety of forms. And of course, the economy is transforming these, we're turning some of these clean, nice, useful, inner forms of energy and materials, and we're transforming them and putting them in other places.

Timothée Parrique (00:04:09):

And sometimes that creates a bunch of problems. So, my PhD was not only on this, because this is really the starting point of ecological economics. So, meaning this school of economics that look at the economy as embedded in the biosphere. When you start to look at the economy as embedded in the biosphere, where you realize that the idea of endless, economic growth producing, and consuming more and more every year, that's going to be very difficult to hold against the nature that is finite. So, that's what brought me to study economic growth from this bioeconomical perspective and then, to also study the main topic of my thesis, the counter mechanism. So, the idea of degrowth, putting a macro economy on a diet from a biophysical perspective, but so much more on the social perspective.

Nate Hagens (00:05:00):

I'm really looking forward to this conversation, because in some ways it's like talking to a younger, albeit more handsome version of myself.

Timothée Parrique (00:05:09):

You're too kind.

Nate Hagens (00:05:10):

I want to have you do most of the talking, but we have a lot to cover, and I'll chime in on my opinions of this stuff. I mean, you and I have only spoken once or twice, but when I read your tweets and I see your podcast, we're really following a similar path. So, I'd like you to say in your own words, we're going to talk about green growth, and degrowth, and the link between energy and the economy, and all these things. So, let's get started. What is the issue with green growth? Why won't it work? And why are people so wrapped up with the appeal of green growth?

Timothée Parrique (00:05:48):

Well, I mean before even asking if it works, a strategy as an option, we need to look at the past and being like, "What did we manage to green?" So that's, usually the first step in that discussion. Did we manage to somehow green, not only our growth, but just our economic activity in general? So, not only the extra bits that you've produced and consume extra from last year, but just your entirety of the economy. And when we look at the empirical data we have on green growth, we see that some countries have managed to green some of their activities, usually a small portion, usually because they've just delocalized. So, they've exported their most polluting productions in other countries as they transition to service economies, but there's been a tiny bit of greening, but that is very small. And at the same time, economies have gotten so much bigger. All of those efficiency gains have been just swallowed, and counterbalanced by an increase in volume. So that's, what we call the rebound effect.

Nate Hagens (00:06:56):

But, what is green growth? Would it be that we continue to grow our economies with less negative environmental impact or even an environmental improvement?

Timothée Parrique (00:07:08):

So, there are two kinds, green growth is linked to the concept of decoupling. So, decoupling or you could say delinking is the idea of detaching the growth of GDP, one indicator of economic activity, and the variation in environmental pressures. So, there are many of them, let's take for example, carbon emissions. So, green growth would be increasing your GDP, and decreasing your carbon emissions. Economists would call that absolute decoupling compared to relatively decoupling, which is you increase your GDP, let's say you slow down the increase of your emission. So, you're getting relatively more efficient, but that's what I've described before. Since you're producing so much more, the few percent you manage to save every year, they're just being swallowed by extra production. So, most countries in the world they've been in that situation of relative decoupling, they invest in eco-innovation. They manage to implement certain forms of sufficiency at the consumption level, but at the end of the day, because the rhythm of production increases so fast, that is not enough to reduce total footprint.

Timothée Parrique (00:08:16):

So, when we're talking about green growth, I mean, the goal at the end of the day is not just to green growth, the goal is to have a green economy. So, what is a green economy? It's an economy that is sustainable. So, it's an economy that is just abiding to specific ecological budgets, you may have heard of planetary boundaries. So, that's a framework often used by scientists developed at the end of the 2000 at the USSOCOM resilience center in Sweden, where they represent the global economy as being just limited by nine ecological ceilings. So, climate change is a famous one, there's also biodiversity, the use of water and many others. And those are giving us boundaries that we should not cross. So for me, a sustainable economy is an economy that is just using extracting resources like they do in nature, and rejecting pollutions like any economy would do, but at a pace and at a volume that is not threatening the health of ecosystems.

Timothée Parrique (00:09:10):

So, right now, the priority is for us to get our economy that is just at the level where they're not sustainable to this level that is sustainable. So, for me, the issue of green growth is very small, because that's only talking about the extra production we'll be having from one year to the next. But, the broader question is today we already have a significant volume of production in consumption every year, even just if the economy remains at a steady state, and even that steady state is far from being sustainable. So, one issue is how do we make sure that everything else we produce from now is as green as possible? The other issue is also asking the tough question of the skill of your economy. Can this scale be maintained in time?

Nate Hagens (00:09:55):

That's why I have a problem with the word sustainable. I think what we're shooting for is something more or significantly more sustainable than we have now. But, to be truly sustainable as in it can be sustained without environmental impact, the scale of the economy would have to be vastly smaller than today's, yes?

Timothée Parrique (00:10:17):

Absolutely. We're used to talking about a carbon budget, now people know. So, a carbon budget is limited, it's a limited number of tons of carbon you can emit if you don't want to cross the dangerous boundary of global warming. But, for every single use of a resource you have a similar budget. So, a water budget, a biomass budget, a metal budget, all of these, anything that has to do with nature you have to follow its own pace. It's like it's imposing a speed limit on economic activity. So, when you're doing ecological economics, you have to be okay. What is the biophysical budget that I have? That's the first question where you define the scale, the economy.

Timothée Parrique (00:10:56):

And then, you can ask yourself a bunch of other questions after, what do we produce? How do we produce it? And all of that. But, that scale issue is extremely important, especially in a world that is already in a state of an overshoot. The problem with that state of an overshoot is that we are living in a world where poverty remains, where there is significant production, and consumption that will be needed in the global south. So, that puts, let's say, an extra pressure for the global north to be like, "Okay, not only do we need to be sustainable that's nice for us, but we need to minimize the use of natural resources so we can maximize, create as much space as possible for prosperity in regions of the world that will need more energy, and materials."

Nate Hagens (00:11:38):

So, let's get back to the decoupling question. Many international economic forecasts, like the International Energy Agency, BP, the UN, have forecasts for continued economic growth through mid-century, through 2050, 2040, 2050. And they all are showing a growth in energy consumption, but they're showing that GDP will grow much faster than energy consumption. So, that would imply a decoupling of economic growth, and energy use. What do you think about that?

Timothée Parrique (00:12:19):

In my research, I mean, I call that a GDP led decoupling. So, let's say, it's GDP that is rising so fast and so fast, and maybe your energy consumption is just increasing a tiny bit. If, you're a climatologist that's not what you want. I mean, we want to reduce absolute impact. So, we know we need to reduce emissions. So, in all of these projections the best they can manage is stabilization of our emissions or a very slight decrease, like something in the realm of one, two, 3% per year. Where we know scientists tell us stick to the 1.5 degree climate threshold, we're rather aiming for double digit reductions yearly in high income countries. So, that's why for me that brings me with the inevitability of degrowth, we'll see later that there are many good reasons of doing that. And that actually it's a nice opportunity to reorganize our economy so it functions better.

Timothée Parrique (00:13:15):

But, even if that wasn't the case, we would have to do it because there's just no way we can maintain. That's the thing, the longer you maintain a state of an ecological overshoot, the more you are taking the risk of degrading ecological ecosystems, the more you degrade ecosystems the less they produce resources for you. So, your budgets are actually shrinking more. So, the more you are in overshoot and the more you go and degrade ecosystems, and at the end of these cycles you get dead oceans, disappearance of bees and biodiversity loss, the heat waves we're witnessing now. The loss of soil fertility, all these kinds of stuff that become extremely problematic for us to do the things that maintain us alive, like growing food, and just living in cities where it's not 40 degrees.

Nate Hagens (00:14:08):

The challenge is though that we're not optimizing for ecosystem health, and reducing the impact of overshoot. We're optimizing for the energy metabolism that grows our financial economy, which is tethered to an energy economy. So, before we get into what we should do or what is likely to happen, I'm just asking you the feasibility just from a biophysical perspective of energy, and GDP decoupling? I know from prior data that globally, that the correlation historically has been around 0.993, every one unit of new GDP we've used 0.993 units of new energy. That's been declining a little bit in the last decade, and maybe you could speak to the reasons why, but I want you to just articulate the best you can the relationship between energy and GDP historically, and in the future.

Timothée Parrique (00:15:13):

I'm going to propose a new start for this, let's think about what GDP is. I mean, most people don't know that what's calculated is very abstract indicator, but at the end of the day, it's supposed to be an estimation of production and consumption, right? So, especially an indicator of production, so what an economy produces. In fact, GDP is closer to an indicator of economic agitation. So, it measures the monetary activity of an economy. When you see this, when you hear production, when you hear activity, that means energy. You don't have the energy, there's Steve Keen that says, "The difference between a worker without an energy is a cadaver, and a machine without energy is a sculpture."

Timothée Parrique (00:15:57):

So, I think you could agree on a number of social conventions on how to measure GDP, and try to make it more and more abstract, so that it disguises the fact that an economy uses natural resources. But, at the end of the day, I think you cannot get away from the fact that any single human activity more or less directly relies on the energy. And so far, as you've said, historically, since the dawn of the industrial revolution that has been fossil energy. So, that has been this boom of very clean, very powerful energy source that has just allowed us to do many things to agitate in a way we could not agitate before, but that was a bit of a one shot. So now, if we have to do away with fossil energy, where are we going to find the energy to agitate ourselves?

Nate Hagens (00:16:50):

A question Europe is asking themselves right now.

Timothée Parrique (00:16:53):

Exactly. So now, it's the first time I'm talking from the French context where fossil companies, the government, they're appealing, they're just begging their citizens to go for sufficiency. The kind of policies that for decades they've been saying is useless, because we just need to clean production and then, we'll have an unlimited bounty of just clean energy. Now, we realize that most of the economy still functions, because of fossil fuel. And when that tap runs out there is no other solution, we have to consume less of it.

Timothée Parrique (00:17:23):

And now, people are experiencing one of the aspects of degrowth. The fact that with less energy available, well, that means we'll have to make certain choices. Do we want to use that energy to fabricate SUV's and fly private jets? Do we want to keep that energy to keep hospitals running or just to do anything else? Do we want to keep that energy for people in France or just save most of that energy for the building of vital infrastructure, and the global south? Limited energy then means we have to choose, whereas before, in the fantasy of growth and especially of green growth, we didn't have to choose unbonded energy, and forever increasing levels of production for everything.

Nate Hagens (00:18:06):

So, you were widely known as a degrowth scholar, you're the first person I've had on this podcast to talk about degrowth. So, could you just give a couple minute overview of what is degrowth? And can we keep our current metrics of economic progress and still degrow? Break it out for us.

Timothée Parrique (00:18:27):

So, I'm going to give you two definitions, because as you've said, I'm a degrowth scholar. So, I'm an ecological economist, so I study the interaction between the economy, and nature. And I study that degrowth as a phenomenon, but degrowth is a concrete phenomenon, which I will soon describe. And also, a school of thought in the sense of, people talk about a degrowth society. So, meaning a society that has embraced some values, and principles in the same way that people talk about avn ecosocialist society or post capitalist societies, all these kinds of things. So now, degrowth is this very broad paradigm integrating a lot of values in principles that have been developing over the last two decades, that lead people to advocate for. And now, I'm giving you the definition of the phenomenon that is degrowth, a down scaling of production, and consumption.

Timothée Parrique (00:19:16):

So, the most minimal definition I'm going to start there, a growing economy producing, and consuming more from one year to the other. If today the economy is too big we need to down scale, so smaller economy. And then, I'm going to add a few things to make it more precise, because now, well, you cannot make the difference between degrowth, and collapse or degrowth, and recession. So, it's a down scaling of production, and consumption that reduce environmental pressures. So, that's the first element, we're not doing this for fun. By the end, you downscale your economy, but you keep producing just only private jets, and your footprint has not decreased then, what's the point? So, down scaling to reduce

environmental pressures and then, we add three other elements in a way that is democratic, socially just, and that improve wellbeing.

Timothée Parrique (00:20:08):

So, the socially just is here, because of what I've talked about before. Countries have various biophysical metabolisms, you get very obese economies in the US and Canada, and in some parts of Europe that use a lot of energy and materials. That will need to undergo a very severe degrowth, because the de growth your economy needs to go through is proportional to your ecological overshoot. So, if you're like Costa Rica, and you've just overshot one boundary out of nine, then it's fine, you will just have to reduce a tiny bit. That's not going to be drastic. If we had started degrowth in the 1970s after the Meadows report, then it would've been fairly easy. We would've reduced a few things and then, the economy could have remained in a steady state, but we didn't do that. And 50 years later, most high income countries have overshot big time.

Timothée Parrique (00:20:59):

So that, means a big degrowth. So, it needs to be done in a way that is socially just, also taking into account not only historical responsibility and the size of your economy, but also the needs of your population. So, if you're in a country like France, where in theory all the infrastructure we have, all the national income we have is sufficient to satisfy all the French people's need. If, it were to be split equitably. So, growing more is not going to solve poverty or inequality, it's just a matter of distribution. So, you know that this country is just a perfect candidate for degrowth. If, you look at Madagascar, then we understand that country has not of overshot their planetary boundaries, so they can actually afford to use more energy and more materials, and they should afford that because they need to increase their life expectancy, their levels of education.

Timothée Parrique (00:21:54):

They need to build these public services that you need to have a good quality of life. So here, that's how we connect the degrowth in the north to a low sustainable development in the south, and I'm going to add one thing. So, the two elements I've talked about sustainability, I've talked about social justice, but I've added also, democracy and wellbeing. The democratic aspect it has to do with, in a growth economy companies decide what to produce, investors decide what to expand. And there's not too much of a democratic discussion, because we can do everything at the same time or at least we thought we could with a bounty of fossil energy. But now, we realize that we can't anymore and we have to make some choices, the problem is … I mean, to make these choices we need to put everyone at the table so that these choices come to reflect the needs of everyone.

Timothée Parrique (00:22:43):

So, that's the importance of democracy, there is so much more importance in an economy that is shrinking than in an economy that is expanding. So, that's the first point and then, concerning wellbeing, it's the diet, not an amputation. So, we want to be able to do this while maintaining quality of life and even more, not only maintaining quality of life, but there could be possibilities. And I can

talk a bit more about that later, of just undergoing this massive biophysical diet, and in doing that actually increasing quality of life. So, you could say that's the challenge of degrowth.

Nate Hagens (00:23:19):

I have 14 questions.

Timothée Parrique (00:23:22):

Go for it.

Nate Hagens (00:23:24):

So, I too think that degrowth is coming. Obviously, you're aware of that from watching my videos and reading my paper, but I don't think it's going to be a voluntarily, democratically, governance based decision. But, based on a reconnection of the financial claims versus our underlying energy, and material economy. So, does the degrowth movement writ large distinguish between voluntary, and involuntary degrowth?

Timothée Parrique (00:23:54):

Yeah, there's this book by a Canadian macro economist, Peter Victor from 2008. He was making a difference between degrowth by design, and degrowth by disaster. I mean, for me, I'm using different terms, so when I'm talking about the disaster, I'm talking about recession turning into a depression, turning into collapse. Because, I want to keep degrowth since it has turned into such a value ladden concept, just to very precisely describe that transition, which I've described as democratic, socially just, and that improves wellbeing. But, we have to face that fact that today we have economies that stabilize themselves through growth, but we're also experiencing in most high income countries what economists call, a secular stagnation. So, a generalized slowdown of rates of economic growth. So, basically, we've built growth dependent economies, and now we're running out of growth. And so, that brings a whole lot of problems, because a growth based economy that cannot grow enters in recession and then, in depression, it cannot finance anything.

Timothée Parrique (00:25:01):

It cannot create new businesses, cannot create jobs, cannot redistribute properly. So, it just completely stopped to function. So, right now, we are going to get confronted to that, we've had a taste of it during the pandemic. We're getting a taste of it during the Ukrainian war. So now, the question is the earlier we realize that we better just sit down and be like, "Do you know what? Let's just make the modification, we need to adapt our economy so it can prosper without growth. And in order to prosper without growth, we need to reduce the scale of it." That's the addition. So, we need to just undergo that degrowth transition to stabilize the economy at a steady state, where we can have actually this wellbeing economy that can prosper without growth.

Nate Hagens (00:25:45):

So, what is the possible governance structure that could even conceivably enable a massive degrowth of what you refer to as the obese countries, economically speaking? Because, I think individual people can voluntarily go on diets, but cultures do not. And I think we're seeing that with a rightward shift politically in many countries, including your own. And when economies were growing democracy it worked, but if economies are shrinking either voluntarily or involuntarily, how can the democratic governance process inform that? What are your thoughts on that?

Timothée Parrique (00:26:25):

First off, I would be a bit hesitant in calling growth based capitalism that we have, democratic. Because, basically when you're looking at any economy that is making decisions about what to produce, and how to produce it. Today, these decisions are being taken by a minority of people that are either the managers of companies or just the shareholders that control the managers of companies. That's a very small minority of people. So, they decide what to produce, for example, they decide to keep extracting oil, even though all scientists and now, broad consensus has built to know that at least 60% of all oil needs to stay in the ground if we want to have a serious shot at avoiding climate collapse. They're not doing it, because they have no monetary interest in doing that, and because we don't have a democratic mode of production, then it's fine.

Timothée Parrique (00:27:17):

They don't have to, it's their company, they do whatever they want. And they follow their objective, which is to maximize returns to shareholders and their company's profit. So, I'm thinking anything we would do better than that would be more democratic, and something as simple as the French Citizen Convention for Climate. So, for those of you that haven't followed that, the response of the French government to the Yellow Vest was to form a randomly selected convention of 150 citizens and ask them, "Well, okay, the government has failed to implement convincing climate plans. So, you do it, you have access to experts. We will pay you to take six months to sit down, look at this, give us proposals. We give you people to translate these proposals into laws and then, we'll just implement it. We can discuss this via referendums, all these kinds of stuff."

Timothée Parrique (00:28:11):

That was an unprecedented exercise in democracy, I think. And when you look at the 149 policies that came out of that process, if there were to be implemented, I think degrowth would be a consequence of that. So, people that have no material interest, they don't have shares in fossil companies. A random selection of people, which with high levels of inequality, statistically is going to include a minority of their rich people that have an interest in keeping the economy growing, because that makes them richer. Then, people are going to be like, "Wow, if we reduce production and consumption, if we keep some oil in the ground. Anyway, I'm not getting any money out of extracting them, but I'm getting a lot of wellbeing out of keeping them in the ground, because that means I'm not going to have repeated heat waves, that my children are going to have an inhabitable planet to live and all that kind of stuff."

Timothée Parrique (00:29:04):

So, I'm imagining now, to make these decisions about what to produce and how to produce it, we need to create pockets of democracy at many different places. That was an example like the Citizen's Convention, of course, you cannot do everything for a citizen convention to decide what choose we're going to produce, but you can make sure that within companies its already the case for cooperatives. You get a diversity of stakeholders that are sitting at the table, how nice would it be in a big company when you're deciding what to produce, and how to produce it, that you have people that can represent ecosystems, and their State. You have consumer representatives, you have worker representatives, and they bargain and you will have the engineers being like, "Guys, I'm sick of this planned obsolescence. Honestly, do we really need to make washing machines that crap?"

Timothée Parrique (00:29:53):

Then, the shareholders will be like, "Yeah, but I mean, that's just so nice. We make so much money." Then, they realize they'll vote and they're the only one benefited from this. The consumers are like, "No, that sucks, I don't like my washing machine to break." The engineers like, "I don't like to make that, I feel ashamed." And the environmental scientists will be like, "Guys, we need to make things as durable as possible because we're short on materials." And if you were to do this, I think, company by company, we would integrate this social and ecological concern. So, that's why for me, democracy is so important. And I'm not saying it's easy, but I don't see any reason why we could not create all these democratic forums at the level of the neighborhood, at the level of the city, at the level of the company, at the level of a sector, a region, a nation and beyond.

Nate Hagens (00:30:40):

Well, first of all, I think there are biophysical momentum processes built in here. And it's not the fault of the corporations as much as it's the laws that have been put in place that the corporations adhere to, maximizing profits is our cultural goal. And those are the institutions that are put in place. So, one core question I have for you, and I don't expect you to have a good answer, because I don't know anyone that does. Is what is the choreography that would lead to corporations and society at large pursuing some objective, other than maximizing monetary profits tethered to energy, tethered to environmental damage?

Timothée Parrique (00:31:29):

When you ask people are they for growth? They're like, "Of course," because they're associated with progress. But, if you turn that question around, because growth at the level of economy translates into companies producing more, each of them. And so, you're like, "Okay, to have a growing economy we need to have a for-profit economy, and for-profit companies," that just do whatever they need to do from one year to another to boost their profit. Because, that's the best way we've found on how to maximize production. I think, 99.9% of people on the street would tell you, "No, businesses should not just make money. They should have a mission, and produce useful things. They should care about their workers, and their community, this kind of stuff." If that is true, then we realize there's no reason to keep for-profit, private companies in existence.

Timothée Parrique (00:32:20):

So, we could just decide legally, every single company should have a mission that is concrete in the sense that is not the abstract pursuit of profit, and that mission. And that's the case, again, for a few cooperatives around the world, they have a mission, that mission is evaluated periodically by a multi-stakeholder board that is looking at "Okay, did you manage to satisfy your needs, your social targets, your ecological targets? Do we need to produce something different? Do we need to produce less? Do we need to use a different technology?" So then, production would cease to be this accumulative process where you're always trying to sell more, cut costs so that you boost profits. And cutting costs very often means degrading working condition, degrading the quality of the products, and deteriorating the environment more. So then, if you integrate this we would get a production that is so much more qualitative.

Timothée Parrique (00:33:14):

And I think that will be in the interest of the great majority of people, it's also resonates with common sense production. I'm always telling this to my students. I mean, look at the things you produce at home, let it be a service when you clean your kitchen or when you do gardening. What kind of mentality do you apply? Do you have this blind productivity where I'm just taking care of my kid, just minimizing the time I spend trying to be most efficient? I was like, "No, when I'm taking care of my kid their wellbeing is number one." Of course, I don't want to spend 12 hours changing a nappy. So, I have to be efficient, but somehow if it comes to just against the wellbeing of the baby, then I'm not doing that technique.

Timothée Parrique (00:33:59):

I'm not choosing that. So, the thing is we apply it every day with our friends, with our family, with our community. So, why every single time when we wear a suit, and go to our company we need to apply a completely different state of mind. It doesn't make sense. So, I want people to imagine the macro economy, I mean, it is just the aggregation of all our behaviors, but it does not transcend. There's nothing magical about it. So, in the same way that when you're planning your home economy, you have limited time and you're caring about things, and productivity is not everything. At the level of the economy as a whole, it's precisely the same thing, but we tend to forget it. Because, it's easy and because we make decisions that we don't bear the consequences. So, you're a fossil fuel company.

Timothée Parrique (00:34:45):

If I extract extra barrels, I get the money in my bank account this year. And other people on the global south get the negative consequences of global warming. So, it's very easy for me to be like, "Well, that was worth it. I can use that money to send my kids to college, and I feel I've done a good thing." But, if you tie it all together, if you have a systemic view, then you realize that actually the activity of a corporation is just following very much the social, and biophysical rules that an economic activity at the community level or at least it should.

Nate Hagens (00:35:20):

Well, one thing that I totally agree with you on, is not that I could ever change a nappy even in 12 hours, but the best things in life are free. Once our basic needs are met, and we're on this treadmill that we're being told, and marketed, and compelled to consume more every year. And I think more and more people are recognizing that this system is not working, not working for many people, and people are scared about the future. So, I do agree that making love with your partner, and going and playing in the woods with your dog, and digging a garden, these things don't require much exosomatic energy. And yet they contribute a great deal to our wellbeing. So, how might we shift our society to maximize wellbeing that isn't tightly correlated with more energy, and material consumption?

Timothée Parrique (00:36:21):

I think, what you've said is fundamental. All the sociological studies we have that ask people during their life, and especially at the end of their lives, what made you the happiest? People don't tell you, "Oh, my SUV, my connected fridge, that was sweet." No, they're like, "The people I've been in love with, my family, the tree I've planted that is now super big. The fact that I somehow managed to build a choir that we sung in for years." Actually they're going to be talking about what Herman Daly was calling, ultimate ends. They're going to be talking with something that is quite immaterial. So, of course, in order to do this, you need some materials. So, let's say you need a room with a mic to meet, and a piano so you can sing with your choir, but you don't need to increase 2% in the growth of pianos every year.

Timothée Parrique (00:37:15):

So right now, if the concept of a wellbeing economy is precisely this, to just produce the things and then, find a way to use them in a way that maximize wellbeing. I give you a very concrete example, in France everyone has a washing machine, you have it in your basement. I suspect that it's the same in the US, and many other countries. In Sweden, they share washing machines. So, in every apartment in the basement, you have this industrial, very nice quality washing machine, and you can book the time and you share them. So, that's why in Sweden they use way less washing machines, but they get access to a better washing machine. And as soon as there is a problem, it gets fixed by a professional, and these things can last for a super long time. So, here we are looking at maintaining the same quality of life, concerning the washing machines, the washing quality of life, but with so much less washing machines.

Timothée Parrique (00:38:12):

And what does that mean? That's so important, because that means not only then we can save some energy and material that we don't have to use, but also it means we don't have to spend time producing, selling, repairing, all of that, customer servicing, all of these extra washing machines. And so for me, when I talk about degrowth being a potential source of wellbeing, that's because producing less means we will be able to work less, which means we will liberate time to do whatever we want. Some of these stuff will be productive, maybe you'll just start to pick up gardening. Maybe you'll join the community garden, and just have fun doing that. Maybe, you'll start sewing your own clothes or maybe you'll just spend time in the forest with your dog. Most likely since you're going to be deciding what to

do with your time, that's going to be more linked to your wellbeing than your current job, especially if you've not chosen it, and that's a difficult job. So for me, I see that's a huge untapped source of energy today, that we could unleash with the degrowth transition.

Nate Hagens (00:39:19):

And it would probably benefit our social relations as well. If I have to go in the basement to do shared laundry, it's a good place to meet women or men, and have a conversation, etc. As one example, but we can imagine business as usual continuing for 10 or 20 or 30 years, and all the deleterious impacts that would have on the environment, and society. Can you describe in a colorful, distinct way, the world that we would live in a 10 or 20 years under a best case scenario, where degrowth ideas are adopted or at least proactively responded to globally? What does our daily life look like different from today?

Timothée Parrique (00:40:07):

Let's start with work, because that's quite concrete. I mean, for most of us it occupies most of our days. So, you wake up early, you go to work, you do something that you're being told to do, and that's how you get your money. And with that money, you can go and buy stuff, and that stuff you can enjoy on the weekend with your family. So first, if we somehow work less, let's say divide working time by two, then it means they're going to be a lot more time. So, your day is very like, we're not going to have these 40 hour shifts. It's rather going to be like you're going to work 16 hours a week, I know that might be shocking from a non-European perspective, even from a European perspective. But, in the modeling I do for France, we're talking about a 15 to 20 work hour week.

Timothée Parrique (00:40:55):

So, that's the amount of time you spend in your paid job, it might not be the best job in the world. But, that's what you're doing pretty much as today, except it's a nice not-for profit cooperatives where you can participate in decision making. There's a nicer working conditions and all of that, because there's no imperative to cut cost. So that's, the thing. So we can collectively decide to afford to work nice, even if that means being slower, even if that means less productivity. That means that people in a warehouse they're like, "We don't want vocal control, we're going to take the time to have breaks. We want to be able to laugh and to discuss, even if that means that it takes a bit more time. And instead of receiving your package in three days, you'll receive it in six days.

Timothée Parrique (00:41:39):

But, do you know what? If we decide that's what we want, perhaps that's nice." So, that's the first thing and then, you have all these available hours, which the way in which I imagine it, that's hours where we can create new, extra economic institutions. I mean, often they call them commons. So, commons is when we self-organize something, the Swedish washing machine. So for example, we have these washing machines, you have to decide the rules. "Okay, how do we book it?" All of these social protocols, it's the same thing if you have a local currency or an object sharing network, these are very important. It's the same thing if you want to organize the sharing of tools, and books, and anything like this. And so, you

organize this tool library or this repair cafes, by kitchens, they cook, this fab lab, they're making a macro lab, many different little institutions.

Timothée Parrique (00:42:31):

They're like businesses, but they're run by the users. So, they're just need focused, it's users coming together pulling resources, and using these resources to satisfy needs. So, actually these are much more fitting to the definition of what an economy is for, an economy is here to satisfy needs while economizing resources. So, we don't spend all our day working and producing stuff, we've forgotten that. I want to measure the performance of a degrowth economy based on how much hours of undesired work it economizes every year. And every year I want the prime minister to go on speech and be like, "Okay, guys, this year we went from 20 hours per week of non-chosen work."

Timothée Parrique (00:43:15):

So, the stuff you have to do, "To 18, and that's fantastic because now these two hours, you can do whatever you want." What we realize is when people do whatever they want, they don't just stay on the couch and watch TV. They go and talk to their neighbors, they do projects, they do science projects, they just innovate, they solve problems. So, they actually just are much more, let's say, productive in a social, ecological, meaningful sense, than if you just pay them to just do some telemarketing in a company that sells vacuums or connected fridges.

Nate Hagens (00:43:46):

Except right now, if we have two free hours we probably will sit on the couch, and go to Facebook or Instagram or something like that. So, there would also have to be a cultural smorgasbord of new options for social, recreation, interaction, etc.

Timothée Parrique (00:44:04):

Completely. Now, we are living in a cultural desert. I mean, unless you live in a very nice city and you have everything around you, if you're living in the suburbs there's not much places to meet. But, imagine how that could be different if we had all these little meeting spots. So, for retired people, for example, if people are a bit on the fringe of society, then you can hang out at the repair cafes, you know how to fix bikes. So, you can show the youth, I was part of a repair cafe in the Southwest of France. And you had a lot of retired people that would come, and they would just love it. They would just hang out, chill, drink tea, and just teach youngsters how to repair their bikes. And it's a win-win, because youngsters, they don't know how to repair their bikes.

Timothée Parrique (00:44:48):

They don't have the money to go to a shop to work on the bike. So for me, that's the kind of stuff. And then, you create a culture where, well, instead of staying at home and watching TV and spending an hour to pick which movie I want to watch on Netflix tonight, I'm going to go and hang out with the bike guys, that's fun. And then, hanging out, you'll be like, "Well, do you know what? We've started the choir with a bike club, da, da, da. And we do all these things, all of us, that resonates with what we are

already doing today." And I think if you were to tell people, "Well, if we reduce the amount of stuff we produce and consume, so the commodities, this monetary economy, you'll get more time to do that." I don't think a single person will be, "No, I'll take the connected fridge" or there're going to be very few.

Nate Hagens (00:45:33):

I so appreciate your enthusiasm, and optimism on this. I'm going to push back on a couple of things that I'm deeply concerned about, and see what you think. So, three things, you've said that degrowth means less material throughput, but with wellbeing, democracy, and less environmental pressures. Doesn't de-growth, the way that I foresee it, which is an involuntary response to the inability of us to kick the can anymore. Doesn't it imply more environmental pressures? For instance, last week, Deutsche Bank did some scenarios that if the natural gas storage areas in Germany are not filled by this winter, and they won't be, at least fully. Then, Germans are going to turn to forests, and wood for heat in an increasing way, the same thing happened in Greece. In the great financial crisis, they had to hire armed guards to protect people from taking down the forest in the north of Greece. So, as we use less fossil fuels, either by a democratic choice or by, we just can't afford them, won't there be increased environmental pressure as the default response?

Timothée Parrique (00:46:57):

Well, you've said we need a new culture of consumption, this is why I said the downscaling of production and consumption, because we need to move both in tandem. So, the IPCC is talking about sufficiency, I'll give you three famous examples. So, people just going vegetarian, reducing the amount of meat they eat, stop flying, use your car less or even get rid of the car if you can. And renovate the way you heat your home. If we were all going to do that we would just phase out most of the needs for fossil fuel. So, let's think about this, just as a thought experiment. So, if now everyone in France at these nice, little, passive houses, we could have built because we know how to build them for decades. We don't do this because it's more expensive just building this big cement structure. But, we've only done that because this construction was handled by for-profit companies that were just cutting costs, and trying to build as fast as possible to just make some money.

Timothée Parrique (00:47:59):

If these had been organized as democratic not-for profit companies, of course they would've been, "Yeah, we're going to built massive homes, it's badass." You build something and then, it's environmentally neutral, you can even create some energy. If we had done this in the 90s or in the 70s when we heard the Meadows. Today, I mean, we would be completely energy sovereign. So, look how resilient that makes you? Then, Russia will say, "Okay, do you know what? We stopped exporting gas." And I'll be like, "Well, I don't care. I'll be able to heat my home like I do." So, I think, if we manage to act on demand, we can make ourselves much more resilient to a decrease in energy use, whether that is through collapse or through plant degrowth.

Nate Hagens (00:48:43):

I agree with the fact that in America, we use 100 times more energy than our bodies need. And in Europe it's 50 times more, but what is the mechanism? Is it people like you acting as pilots, and examples of living differently, and that becomes culturally acceptable, and there's a ground up change in cultural priority or is it a top down? The prices of social and environmental bads are doubled, and tripled giving the better price signals on conserving resources and innovating towards a resource constrained future? Is it top down or bottom up or both?

Timothée Parrique (00:49:21):

Both, and there is a triad of action that I quite like, and that's the ban - I was thinking 'rationnement', so rationing. So, either you ban something or you ration it or you tax it. So, for example now, the numbers we have about commercial aviation shows that very few people take planes, and that most of these flights are taken by very rich people. So, we could ban the expansion of airports straight away, that's top down. Every time an airport wants to create a new lane, they need to ask the government. Then, the government just says, "No, I'm sorry, we don't want to expand new lines. Actually, if you're running national lines that have train alternatives, a time equivalent, well, you will have to close, shut down that line in X number of years. Okay?" So that's, something you can ban like the use of pesticides also.

Timothée Parrique (00:50:15):

The EU has just voted banning a fossil car, the selling of a fossil car by 2035. So, these kinds of stuff, you can have top down, action to limit. And then, what you cannot ban, then you can ration. I mean, same thing for the plane tickets. If you think that putting a tax on something is going to be unfair, because in a high inequality environment, then the rich can maintain their lifestyle without too much of a loss. Then, you can just ration them in the same way that we already ration so many things, like organs. And when you queue to a shop, these kind of things, so there's a variety of tools, fossil quotas, flying quotas, where you can just ration. And then, there's this variety of other tools in the box concerning taxes.

Nate Hagens (00:51:03):

So, this sounds a lot like the Klaus Schwab, a great reset. What do you think about that?

Timothée Parrique (00:51:09):

Could you tell me a bit more about that?

Nate Hagens (00:51:11):

The Davos crowd, The World Economic Forum has something called, The Great Reset, which is that no one will own anything and everyone will be happy. And it is a top down, redistributive plan. I don't know the details, but I've read a little about it.

Timothée Parrique (00:51:33):

I mean, the thing is you can envision a couple of top down, leverage points and I like the concept of leverage points from Donella Meadows, the main author of The Limits to Growth report in the 70s, because I really feel that's our situation now. The story of Aron Ralston in the movie 127 hours, this hiker that stuck his arm under a heavy rock in Moab.

Nate Hagens (00:51:57):

Oh, yeah.

Timothée Parrique (00:51:57):

He went hiking in the desert, and got stuck like an idiot, that's us now. So, we're stuck and the only thing heavy that can lift the rock is some State action, because we're running against the power of corporation. So, the State can use a bit of muscle power to lift the rock, but the State is not going to tell you where to go. That's why actually we connect to the new culture of consumption. People will have to just get together, reflect on their needs, create new patterns, new ways of living, of working, of traveling.

Nate Hagens (00:52:28):

Does it have to be all States or can it be Denmark or France that takes the lead? Because, it seems like if we're talking about CO2 as a problem and the global environment, that one or two countries doing this won't be sufficient. What do you think about that?

Timothée Parrique (00:52:47):

I mean, there are always front runners. If, we come back to this thought experiment about having passive homes, and I've reached energy sovereignty, I think every country now dreams of that. So, we realized when New Zealand in 2019 ditches GDP, and now, we're going to be measuring our public policy in our country's prosperity based on wellbeing budgets with 65 indicators of social health, and ecological sustainability. They're not waiting to be like, "Oh, we need to agree at the level of the UN with everyone and convince ..." They're like, "We're just going to do it because it's good for us, and it's actually a responsible choice to do." So now, I made a list of a lot of different countries moving in different directions. And I think countries learn from each other, and say, "Look what they did in New Zealand, we can try this." Look what they did in Norway, where they have this fee based system to phase out heavy, and polluting cars.

Timothée Parrique (00:53:44):

And now, France is like, "Oh, we had a fee based too, but it was only for emissions. The Norwegian, they added for the weight of the car." And so, they managed to phase not only polluting cars, but also heavy cars, which are so much more dependent on materials. So, they managed to reduce not only carbon footprint, but also material footprint. How nice, let's add this in. And then, maybe at some point other countries are going to realize, "Look in France that just criminalized planned obsolescence since 2016, how did that go? What's going on?" And then, us in France, we're going to be, "Look in Vienna, they don't have for-profit housing, it's all social housing. How does it work? Can we learn from that." So, I

think now it's just, we will never find the perfect country somewhere in the ocean that has achieved that the perfect utopia. It's going to be the massive work of looking at what functions here, and there, and just making experiments to see what works.

Nate Hagens (00:54:37):

Is that a real example that France criminalized planned obsolescence?

Timothée Parrique (00:54:41):

Yeah, it is.

Nate Hagens (00:54:42):

I didn't know that.

Timothée Parrique (00:54:43):

The first country in the world to do that, in 2016, but it's not been used because it's just the first time it's being legislated. So now, the burden of proof is on consumers. And of course, good luck showing, and bringing proof that Apple is doing planned obsolescence, where they're trying to disguise it. But, it has led to a number of suing. So now, consumers have been suing brands, because they can with this law. And so, I think at least in theory, and if that law is being improved to make sure it has teeth, companies are going to think twice before engaging in practices of planned of obsolescence. And I mean, I'll give you another example that I quite like, in Sweden, it's forbidden since the 90s to do advertising targeting children under 12, just simple, because they were like, "Okay, well, children, that should be free of propaganda-"

Nate Hagens (00:55:33):

That's common sense to me.

Timothée Parrique (00:55:34):

Common sense. Why is it the only country in the world to have done so?

Nate Hagens (00:55:37):

I don't know.

Timothée Parrique (00:55:38):

That's the thing, there are hundreds. I'm actually gathering for a new book, a 1000 of these, nice little laws or initiatives that are existing in the world. That if we were to put together, we would get ourself the perfect cocktail for a socially just, and ecologically effective transition.

Nate Hagens (00:55:56):

I love that idea. I mean, often in my public talks I've said the worst invention of the human species is advertising, and marketing. And imagine a world without it, seriously? So, let me ask you a couple other constraints based on your optimistic vision of degrowth, number one is if we look at a budget, an energy and material budget for say, France. And you said earlier that France has more than enough energy, and resources so that everyone can have a quality life with wellbeing. It's just the distribution is the problem. But then, also you've said that we have to have a global distribution to the global south. So, where does the democracy find the appropriate level for the citizens of France, but then, include things like what's happening in Sri Lanka or other disadvantaged nations? Then, do we take further haircuts of the people in France so that other people in other countries … And then, where do we even draw the line there to other generations or even other species? I just don't see how that unfolds, do you have any speculation on that?

Timothée Parrique (00:57:11):

Yeah, I mean, we're already doing it through the United Nations, with the COP climate conferences. We agreed on it, the scientists, the IPC gives us a budget, countries have agreed on it. Then, they each add to somehow design a plan to be, "Oh, I'm going to fit with that budget." And of course, in designing the budget, in theory, and then of course, I'm going to tell you why it didn't work. Then, the global south was here defending their interest saying, "Guys stabilizing emissions is just not enough. We need you to go twice as fast, because we need more emissions now." And so, in theory we have the forum, we have the protocol, we've been doing this for several decades. Of course, there's a lot of interest running against this, but it's just a matter of doing the very same thing not only for climate change, but for other global issues.

Timothée Parrique (00:57:59):

So, if we're to do this, then it's just the same thing. It's always the very messy process of democracy. The same thing when you're living with a few people, and you're deciding who's going to clean the kitchen, that's the same, except it's just with countries. And if we want these countries super-national discussions to be democratic, we also need to make sure that we have these democratic pockets within countries. So, that real interest of these people can just spring up and so, these people don't come to only represent the interest of the powerful, which are usually the industries that manage to lobby the government into doing what we've been doing during these negotiations. Each saying, "Okay, we're going to cut that." And then, you aggregate all the cuts and you realize, "Wow, that's not enough, that's so far from enough."

Nate Hagens (00:58:43):

I think we're going to see a small, but important real world example of this in the coming months, and years in Europe. Where the P.I.G.S. Or the south in Europe, Spain, Portugal, Italy, Greece, especially with higher energy prices, and what's happening with Russia and Ukraine. Aren't going to fit all the EU standards to keep their debt to GDP guaranteed, and being purchased by the ECB. And so, are the Northern European countries going to willingly reduce their own living standards in order to support the Southern European peripheral countries? I don't know the answer to that, but I think the G20, I

think the leaders of the world cannot have the conversation that you and I are having. Because, of loss aversion and the ubiquitous, negative, biological response humans have to less. And I agree with you that we can live happier lives with considerably less resources, especially those of us with resources living in the global north.

Nate Hagens (00:59:58):

But, I don't think we're going to voluntarily choose that. And I think the biggest constraint that I can intellectually see in a smooth path to what you're proposing, is the fact that in order to avoid a degrowth scenario, we are continually changing the rules and going into more, and more debt. We're doubling our financial claims on reality globally every eight and a half years. And all those financial claims are someone or some country or some institution that actually has a mental belief that they have access to a certain amount of future resources. And it's a musical chairs situation.

Nate Hagens (01:00:39):

So, I think degrowth will happen, and it will be how our international community responds to this financial haircut that is imposed upon us in the coming decade. My hope is that the work that you, and others in the degrowth movement are doing can meet the future halfway, and have these 1000 ideas of the shared washing machines and the no advertising to kids under 12. And all the other things you're working on already starting to bleed into economies. So, people have a foothold in a different cultural path. Do you have any comments to that? It's a big statement.

Timothée Parrique (01:01:22):

Yeah, I mean, the idea of if it were the case as rich countries having to willingly decide to lower their standards of living, that would be a very difficult sacrifice they will have to undergo. And then, I would be quite pessimistic, but they don't because as I've said, they can produce and consume way less while increasing their quality of life. So, this calculus we've done for France is, if you bring people in the room representative of the French population and you ask them, "What do you need every day?" And they're going to make a list, "I need this and a house, and a car and blah, blah, blah." Then, you put money on that, right? And you estimate how much it costs where they live, and then, you aggregate for the entirety of the population. You get one number, this is the minimum national income you need to satisfy needs.

Timothée Parrique (01:02:08):

And you can compare this to the actual national income you have, the difference right now this year is 44%. So, we have a financial surplus of 44%. So, in theory, if money was equitably distributed throughout France, we could lose 44% of our national income, and no one would miss anything they need. It's not surprising. What we've realized is actually wealth is concentrated, environmental pressures are concentrated. So, I think in high income countries, we could rather easily if we were to have these big democratic discussions about what we need, and ways of organizing our lives better. So, we can be happier while producing and consuming less, even just doing this will manage to free a lot of room. And then, if that's not enough, we get to the point you've discussed. So, once we've reduced 44% of the

French monetary economy, and all of these money, resources, energy, becomes available to other countries.

Timothée Parrique (01:03:13):

I mean, some of it absolutely being saved, if we need to do more than that, then we can discuss. But, what I find surprising is we're not even willing to go that first leg of the way, what I'm arguing right now is let's go the first leg of the journey and then, let's see. But then, I want to play with another idea that anthropologist, Jason Hickel have developed recently. Most of the resources, the energy and the materials we use, they're not mined or extracted on national territory. We import them from the global south. So now, for a very long time, economists have been just legitimating globalization, and international trade using dubious theories that shows that somehow they benefit from that. I mean, in comes an energy crisis and you realize that regardless of the amount of money you have, that's not going to make it for a food crisis.

Timothée Parrique (01:04:05):

Their food scarcity is the one that's going to grow food that is rich, not the one that's got a lot of money. So, what about this scenario where the global south actually just creates coalition, like the African union, and regional coalition and decide, "Do you know what? Now, we're going to stop exporting resources, we're going to use these resources for our own development." And then, we realize that they have the bargaining power. So, I know that's just a naive thought experiment, but if we believe that somehow every economic activity is dependent on energy, and material. If, this is really the core source of value, then that makes these countries today very powerful for certain materials that they have.

Nate Hagens (01:04:48):

Well, energy material is the core source of wealth, other than ecosystems that are functioning, ecosystems that are healthy and vibrant. Well, I really hope you can continue to expand thinking, and examples on how we're going to have to live with less energy, and materials. I'm going to now, if it's okay with you, ask you some personal questions that I ask at the end of every interview to all my guests. So, given everything that you've said, do you have any specific suggestions for how individual people listening to this podcast in advanced economies today, can prepare themselves and their communities for what I call The Great Simplification, and what you refer to as degrowth?

Timothée Parrique (01:05:37):

Inform yourself, a few years back it would have been very difficult to find information on this. Now, there's just plenty of good quality books, plenty of podcasts, your documentary, all these wonderful sources that give you access to an information that was just not available before. And so, that's first, get that information and then go and discuss it. So, I want you to empower yourself to enter these discussions, very often people, when they meet you, they're like, "Oh, I'm not an economist and I haven't read your 900 page thesis." So, I'm like, "It doesn't matter." I mean, if any single discussion about the

future of humanity is just among people that have a Nobel prize in economics, which I've so far just advocated that we keep doing what we're doing. There's going to be a problem.

Timothée Parrique (01:06:25):

So, I think people get some information, and don't wait to have a PhD in something to have a conversation. If you feel there's something wrong, and you want to get to the bottom of that, ask questions, get to know the people that work on that, get in touch with … I've been doing that since the beginning of my studies, when I wanted to know something I just get to that person and ask in the most naive, candid manner. Let it be just the head of an investment fund, sociologist or anyone, just go ask them directly. Don't go around, don't beat around the bush, ask what you want, usually it works.

Nate Hagens (01:06:59):

So, you are a recently minted PhD student. What recommendations do you have specifically for young humans who become aware of the energy environment, and biophysical constraints to the current human situation?

Timothée Parrique (01:07:17):

It's an emotional shock. So, a lot of my colleagues, they suffer from eco anxiety. I mean, it's a very dismal job, I've spent my days just reading reports about how the world is burning. So, it's just that after a while, that's terrifying. It gets more and more terrifying, but it's nothing compared to the terror of when you first become aware that there's something wrong. It's like the matrix, when Neo just sees the human being used as batteries. And he's like, "Wow." So, don't do that alone, there are so many people now that are doing this. So again, get in touch, create a book club, something as simple as that, something, well, that is not including in GDP, but just book clubs, where you can discuss, where you can support each other. Where you can empower yourself as a group to get to learn more about these ideas that are terrifying, and sometimes complicated.

Nate Hagens (01:08:09):

I'm friends with numerous psychologists, and psychiatrists and one of the universal things that they tell me is, if you're anxious about some global issue just talk to someone else about it. And even if neither of you or none of the people in the conversation have any answers, it's the mere fact of sharing with another human, your thoughts and your concerns, and your anxiety and your hopes, that it reduces the cortisol, which is a stress hormone. And it boosts helper T cells, which are good for your immune system. So, I agree with you that just conversations are a big help. So Tim, what do you care personally for? What do you care most about in the world?

Timothée Parrique (01:09:01):

Now, I'm going to surprise you, because my answer is a bit silly. What I care most about in the world is footnotes.

Nate Hagens (01:09:07):

Okay, that did surprise me.

Timothée Parrique (01:09:09):

Yeah, you were not expecting that one. So, the thing is, I'm a huge academic writing nerd. If I'm studying economics, climate change, all of that, it's not because I love it. It's because we need to do that otherwise, there won't be a planet where we can write nice texts and everything, but that's to assure that for me, I'm not doing this out of pleasure. If we were living in a world that is not burning where everything is pretty much stabilized, I would not be an economist. I would be philosopher of science. And I would study what happens in a text when you create a footnote, you have nerdy books about this, the use of the coma, the use of the bracket.

Timothée Parrique (01:09:47):

What happens when you put a bracket in a footnote inception style, it's a thought within a thought, within a thought. So, these very fun questions. So that's, what I care about, that's the thing I don't care about … We are forced to care about inequality, and poverty, and the destruction of natural habitat because it's happening. And that's also another thing solving these problems will also allow us to concentrate on other things. Hopefully, that's just a transition. We focus a big time in dealing with that and then, I can just read books about academic writing on my hammock in the park.

Nate Hagens (01:10:25):

So, I appreciate and share your reverence for footnotes and science, which underpins them. I worry though that what actually is behind the footnotes is becoming increasingly watered down on the science itself, and also increasingly less paid attention to as polarization, and other anxieties and worries for our population trump what 20, 30 years ago would've been really solid science. So, do you have any thoughts on that?

Timothée Parrique (01:11:06):

Yeah, I mean, there're many things going on there, at the very core level the application or for-profit mentality to the world of science. So now, science being drawn into so many just articles being produced. So, we are applying the logic of growth, and the definition of performance to the way we do science with, again, that science has never been about quantity. It's always about quality, it's always concrete about answering problems. And then, of course, the financing of that science comes to reflect certain problems. So geologists, they're going to be spending time trying to locate new oil fields more than they're going to be spending time trying to find ways of closing them, of course, because the financing goes one way. And then, as you've said, once you've produced the science, there is a whole course of obstacles for that science to be listened to. I mean, look at the IPCC. I mean, it's the sixth report, they took eight years to write the last one. It's the biggest scientific enterprise in the history of our species, and even that people will be denying that.

Nate Hagens (01:12:17):

And yesterday, the New York times did a survey that only 1% of Americans, and 3% of Democrats considered climate change the most important issue today. The number one was inflation followed by economy in 26% or something like that. So, of all the issues that you've mentioned and maybe some others, what are you personally most concerned about in the coming decade or so in our world?

Timothée Parrique (01:12:45):

Biodiversity, I mean, in studying the natural world, I think the amount of terror I've got facing a climate collapse is nothing compared to how fearful I am towards a collapse of biodiversity. So, a world without fish, without insects, without forests, without trees, without microorganisms in the soil. I mean, imagine all all of that, we don't know how to create ecosystems. We don't know, we only know a small percentage of all the species that exist on earth. We don't know how they work. We don't even know they exist, but we know how to destroy them, but we have no clue what will happen once this is gone. I think the pandemic is showing us how violently nature that we don't understand can bite back.

Timothée Parrique (01:13:36):

And so, the future viruses are just getting used to growing food without pollinators, of realizing that the spread of diseases happen so much faster when some insect disappears, all of these kind of feedbacks, they terrify me. This is why for me as an ecological economist, I see nature as a very sophisticated economy of its own that has been developing for millions of years, even more. And we don't understand how the Bumblebee can fly, we don't understand how bees organize. And so, don't tell me we're going to just pollinate flowers with drones. No, I mean, that will be such an inefficient, and stupid way of going. The way of going would be to just protect the bees, and let them do what they do best.

Nate Hagens (01:14:31):

I share your fear for that, we will miss them when they're gone. And if you followed my work at all, you know that the thing that I find most sacred in our world is the natural world, and the species we share the planet with. And just don't include them in our decisions. I think it's starting to change very, very slowly. So, in contrast, Tim, what are you most hopeful about in the coming decade or so?

Timothée Parrique (01:14:57):

Okay. There's a lot, perhaps you've heard about the different calls for desertion among French graduates?

Nate Hagens (01:15:06):

No, I have not.

Timothée Parrique (01:15:07):

That has been this spring, oh, that's fun. So, big engineers, top engineer business schools, they graduate. And then, on their graduation speech, they just announce like, "Do you know what? We won't participate in the massacre, we've been trained to build highways to extract oil, but we won't do it. And we're inviting you to desert capitalism to build that society we want to apply our energy, our intelligence, our

creative forces into building the society we want." And so, in France, it's called for desertion. I mean, in China, it was the lying flat movement starting in June '21, same kind of move. In our generation, there's no money you can give us that's going to make us destroy the world.

Timothée Parrique (01:16:00):

Especially now, that we know that money doesn't make you happy. What we want is meaning, what we want is a feeling to improve the world. And when you think about it, that is just as a huge transformational potential. If, every single time you want to open an oil field or build a private jet, you cannot find an engineer that will do it because they'll just laugh at you and be like, "Build a private jet, do you think I've got that only that to do?" And then, you won't be able to do it. So, this general strike, striking against capitalism, is a story of transformation I rather like.

Nate Hagens (01:16:40):

I think there's a parallel strike that's happening in China right now, which is people are not paying their mortgages because they don't believe in the system. And they're having to pay for things that aren't even being built yet, and the whole property bubble has exploded. So, I think there's a complexity risk associated with that, but I do actually agree with you that there will be emergent social responses. Like the one you're discussing, that we can't even imagine yet that are going to play a role in our future. So, Timothée, if you were a benevolent dictator, which is not a completely remote possibility one day, and there was no personal recourse to your decisions. What one thing would you do to improve human, and planetary futures? What one thing would you enact?

Timothée Parrique (01:17:31):

I would eradicate extreme wealth, as simple as that. I would just take all the wealth we have, and all its various forms and I would just split it up equitably, not fully, equally, but equitably in between people of the world. It's not going to solve all the problems, but at least it will give us a fresh start where we all have an equal say.

Nate Hagens (01:17:54):

But, wouldn't everything else being unequal if we had the same rules, and the same energy surplus, eventually just following a power log, get to the same place it was, other than the fresh start part of it?

Timothée Parrique (01:18:06):

I mean, I do hope that we've learned from the mistakes of the past. I don't think there will be … There's no miracles, no easy shots. We need to learn from the mistake we've made, and we need to make better decisions, but no one is going to do that for us. And there's nothing guaranteeing we succeed, and that's also good. We need to be aware that we can fail, because that means we are humble, and we think twice before taking action.

Nate Hagens (01:18:35):

You are a bright, creative, young human. I wish there were more people like you. Do you have any other closing thoughts, advice, wisdom for the listeners of this show?

Timothée Parrique (01:18:47):

Thank you, Nate, I'm honored. If you've listened until now, I'm wishing you the best and I hope all our paths cross, all of you.

Nate Hagens (01:18:56):

Okay, mon ami, to be continued. Thank you so much for your time.

Timothée Parrique (01:18:59):

Thank you.

Nate Hagens (01:19:01):

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