

John Plotz: From the Goldfarb Library at Brandeis University welcome to Recall This Book. If you would rather understand the past than repeat its mistakes, join us in this discussion of books both new and old that shed unexpected light on the present and its problems. And boy, do we have problems. In the next half hour we're going to explore a couple of works, ideally three works in depth today and point you towards further reading on the topic.

John Plotz: So, Recall this Book is hosted by Elizabeth Ferry, an anthropologist specializing in Latin-American mining and global finance, and me, John Plotz, a professor of Victorian literature. And we're joined today by the neuroscientist, Gina Turrigiano, from Brandeis University, who works on brain plasticity and sleep these days.

John Plotz: So today's discussion is about one of the biggest elephants in the room of American politics today which is opioid addiction. So since the point of this podcast is to try to back up and move away from a present problem and try to get at it by way of other disciplines, other unexpected avenues, we are going to try to do something different today to approach the problem of addiction. To understand something more about the individual experience of drug use and to think about drug habits and drug addiction as they exist kind of on an individual, a social level, but approaching them from our respective disciplines.

John Plotz: So we're going to turn to biochemistry to anthropology, but we're also going to turn to literature because my position--most importantly we're going to end with the apex of all things will be literature. And so my position is going to be that there's an incredible amount to learn about drug use *still* from Thomas De Quincey's *Confessions of an English Opium-Eater*.

John Plotz: But okay. More about De Quincey later. For now, Gina, welcome. Can I ask you... You're supposed to say thank you.

Gina Turrigiano: Thanks.

John Plotz: Thanks.

Gina Turrigiano: John, Elizabeth, it's really fun to be here.

John Plotz: "It's really annoying to be here."

Gina Turrigiano: Well we'll see how fun it is to be here.

- John Plotz: It may turn out to have been fun to be here. Okay. So can I ask you to start by telling us about the book that you've chosen to sort of frame and open out our discussion today?
- Gina Turrigiano: Sure. So the book I want to talk about today is *The Biology of Desire* by Marc Lewis. And as John mentioned, I'm a neuroscientist and one reason why I was really attracted to this book is that it's written by a neuroscientist and it really tries to delve into changes in the brain that underlie addiction. But importantly, it's written by someone who is not just a scientist, but also was an addict and actually spent roughly 10 years, his entire 20s, in the grip of various addictions.
- Gina Turrigiano: So I think the book has this really remarkably unique perspective that manages to come at the biology from the point of view of what the experience of addiction is actually like. And I think it actually gives some interesting insight into not just how you get addicted, but maybe potentially how you get *unaddicted*.
- John Plotz: Can I ask about other words just to understand the categories? I guess *user* is one word, but I think that people talk about a drug *habit* also. How would you position habit versus... Is *habit* a better word than addiction for understanding what he's describing?
- Gina Turrigiano: I think that habit forming—So the thesis of the book really is actually that the way brains form habits is sort integral to the way you become addicted. In fact, I could read you an interesting quote from the book that gets directly at that idea of habit. So quote, "People have referred to addiction as a habit throughout recent history. That's just what it is. It's a nasty, often relentless habit. A serious habit, an expensive habit. But what makes it so enduring, so relentless, so difficult to change? What makes it different from what we might call more benign habits? Three things. First, it's a habit of thinking and feeling, a mental habit, not just a behavioral habit."
- Gina Turrigiano: And not just a... ihabit and I think this is where it gets to maybe some of the texts you guys will be talking about later.
- John Plotz: So it's not like biting your nails.
- Gina Turrigiano: It's not like biting your nails. "It's easier to stop singing" --and I'm quoting again—"singing in the shower than it is to stop seeing the world as violent or unfair."
- Gina Turrigiano: "Second, this feeling part of addiction always includes the feeling of desire" which is of course the theme of the book, *The Biology of Desires*. And third, "it's a habit that becomes compulsive." Something

he'll explore later on in the book. "Perhaps all habits, once formed, are compulsive to some degree. The brain is certainly built to make any action repeated enough times into a compulsion."

Gina Turrigiano: That's the key idea behind the biology of the book. "But the emotional heart of addiction, in a word, desire makes compulsion inevitable because unslaked desire is the springboard to repetition. And repetition is the key to compulsion."

John Plotz: Mm-hmm (affirmative). Okay. So Gina, I have a lot-

Gina Turrigiano: So you could say that addiction is a habit that crosses over some threshold to become compulsive. And at that point becomes destructive because it actually crowds out other potential behaviors.

John Plotz: So I have a lot of things that I do in my life which my children mercilessly pick apart--because that's very generous of them thing that they do generously--but one of them is that I have to go out and either take a walk or a bike ride in the morning. I can't really think straight until I do that.

John Plotz: So that is absolutely compulsive. I have no question in my mind. If I didn't do that, I would find myself banging my head against a wall or something. By this argument, is that basically exactly comparable to what drug use is? Or would he say there's still some categorical difference?

Gina Turrigiano: No I think that they're qualitatively different. Right?

John Plotz: They're *qualitatively* different?

Gina Turrigiano: I think so. I mean there is a... Well maybe I should say *quantitatively* not qualitatively. Maybe they're on the same pathway, but an addiction is further along. I think the idea that addictions get to the point where they become so all-encompassing that everything else becomes sort of a road back to that compulsion is what is so destructive about them. So in the brain, you could think of this as sort of pathways in the brain or like ruts on a road. You know? The more you keep doing that pathway, you go down a certain path and you get rewarded and that strengthens that pathway. And so you do it again. There's this positive feedback cycle. Every time you go that way, that rut gets deeper.

Gina Turrigiano: Pretty soon, you know, you're trying to stay out of the rut as you're driving along the road and you keep slipping into that rut because it's so deep. And so everything kind of feeds into that.

Elizabeth Ferry: But then that has the possibility that one could form new grooves.

Gina Turrigiano: That's exactly the other point that this book makes a little bit obliquely, but this is the idea. How is this different from a disease? So to get back to his idea that it's not a disease. I mean that sounds pretty bad, right? When you get to that point where brain pathways become reinforced over and over again and they become sort of taking... you know essentially they exclude. Other pathways through disuse just fall away.

Elizabeth Ferry: And they get deeper and deeper the more you...

Gina Turrigiano: The bad pathways get deeper and deeper. And so that's why people have thought of this as a disease. You can see changes in the brain. There's lots of ways to go and measure and find these changes. And so well it's physical. So then it must be a disease, but the question is, is it reversible? Right? Could you get out of that rut? And the answer is maybe because lots of addicts become unaddicted. And so... I mean...

John Plotz: Is there empirical evidence that backs that up? In terms of, let's say, "untreated". I'm going to put treated in quotes because I'm not really sure what treatment is, but people just cycle in and out of drug use in that way?

Gina Turrigiano: There are many... I don't think people-

John Plotz: No. Cycle's the wrong word.

Gina Turrigiano: Yeah.

John Plotz: People go into drug use and then without further external intervention come out on the other side.

Gina Turrigiano: Yes and in fact the book goes into that in some detail and there are numbers in there that I can't pull out on the top of my head, but there are many people who recover from addiction. And actually the author is one of them. He was someone who was heavily addicted for 20 years and then stopped, went to school, got a PhD. And so how do you do that? I mean you do it slowly and painfully. You have to retrain your brain essentially to get out of those addictive habits.

John Plotz: But Gina, before we get away from that question of the analogy of the rut and how sort of meaningful that is as sort of a model, here's the thing as a non-brain scientist person I want to ask you. Is that--the thing you're describing of the comparability of all sorts of different potentially compulsive or habitual behaviors or, you know, actions

that drive furrows into your brain. That all makes sense to me, but I think we non-scientists believe and maybe naively that opioids are in a special category because opioids are kind of working on the brain directly.

John Plotz: In other words, my walk-form, my walk habit goes through all sorts of different pathways and there's nothing actually in my brain that's taking a walk, but opioids are different because they're actually like little molecules that are kicking open their own pathways in the brain.

Gina Turrigiano: Right. So a lot of drugs of abuse are taking shortcuts, but they're really taking a shortcut into exactly the same pleasure pathway that your bike riding takes or that a food....

Elizabeth Ferry:Reading novels....

Gina Turrigiano: addiction takes. Or pleasurable things that we enjoy and seek out. So it's the same set of structures in the brain that are interacting in the same way. It's just that the drugs go directly into releasing dopamine or enhancing the effects of dopamine in the brain.

John Plotz: But just that makes it seem like that shortcut is not that big a deal, but I thought the shortcut... I thought it seems like it is a big deal because having that shortcut makes it that much harder because you have to go, you know, it seems harder to get at.

Gina Turrigiano: I think it's more powerful and it is easier to become addicted to it. It's easier for it to take over because it is such a powerful activator of our pleasure system, but it's not....I think that really is a *quantitative* difference, not a *qualitative* difference. These other things are feeding into the same pathways and they just activate them to different degrees. So-

Elizabeth Ferry: Maybe this is a moment to shift to...

Gina Turrigiano: Yeah.

John Plotz: Yeah. Definitely.

Elizabeth Ferry: ... another, not to leave this entirely, but this is activating some interesting pathways for me because the book that I would like to bring in, that I'm bringing in is called *The Pastoral Clinic: Addiction and Dispossession Along the Rio Grande* by Angela Garcia. And this is ethnographic account, an anthropological account based on field work. Opiate addicts in the Española Valley in northern New Mexico,

which is one of the sites of, you know, most intensive sites of opiate addiction and fatalities.

Elizabeth Ferry: Angela Garcia is from this area and worked in a clinic and she became very close with many addicts and has written a beautifully lyrical account about the kind of embeddedness of addiction in land dispossession, in climate change, in unemployment, and other historical pathways that sort of provide the context for addiction. But what's really interesting is that she also talks about this kind of dominant idea of addiction as a disease. And she talks about it in terms of... she calls it the *chronicity* model, but I think it's the same idea. This idea that idea is this chronic thing. She says that it was ...originally it emerged in the 1960's and "it was intended to dispel the long held assumption that heroine addicts are innately psychopathic and irredeemable."

Elizabeth Ferry: And she describes the way in which this sort of idea of *chronicity*, the sort of this is a chronic disease that you're constantly living with and maybe you can manage it. Maybe you can be in recovery, but you're never fully recovered. And without being an expert in this, this also sounds a lot to me like 12-step programs and the particular kind of stance of submission to your addiction. That's a precondition for recovery.

Gina Turrigiano: The idea that you're helpless and you have to just, you know, put yourself in the hands of a higher something.

Elizabeth Ferry: Yeah. And give up the idea that you can never get free of it, that you're sort of with it for life, right? And she has some really interesting thoughts about this. She talks about... She's not necessarily saying that this is a terrible way to look at it in every way or... and she's not intervening from the perspective of neuroscience about whether it's an accurate model or not necessarily...but she talks about the ways in which it kind of weirdly coincides with an idea of moral choice, right?

Elizabeth Ferry: It's this chronic thing, but you're also sort of constantly failing if you're not managing to recover. And she talks particularly about this concept of *relapse* as having this kind of moral and even sort of religious kind of association of lapsing, right? And she also links it to the idea that many of the people that she knew had that they were sort of locked in a constant depressing, unending struggle in their lives in general and that their kind of status as chronically ill... their status of addiction as chronic illness...sort of contributed or reinforced or sort of continued to put that forward.

Elizabeth Ferry: So they felt that their lives and struggles were *sin termina*, without end. That their very existence was defined precisely by this constant state of suffering. So it's just, from a totally different angle, it's an interesting idea about what approaching it from a particular, you know, when I say it's a metaphor, it doesn't mean it's not, you know, accurate in some way, but...

Gina Turrigiano: And it's an improvement over the view that it's a moral failing that got you addicted.

Elizabeth Ferry: Yeah, yeah-

Gina Turrigiano: But-

Elizabeth Ferry: Or that you're sort of a fundamentally different kind of being, like a psychopath or something.

Gina Turrigiano: Right.

Elizabeth Ferry: Yeah.

John Plotz: But it sounds like you're saying that the chronicity model still has some kind of moral charge in it. Isn't it?

Elizabeth Ferry: That there's a strange... yeah. There's a kind of-

John Plotz: I mean, if it were diabetes, people would say, "Oh it's chronic." But they wouldn't think, you know, well I take that back. Diabetes is a bad example. If it were hepatitis, let's say, you know?

Gina Turrigiano: Or obesity is a good example of something that is really....

John Plotz: That has a moral charge.

Elizabeth Ferry: That has a really strong moral.

John Plotz: Yeah.

Elizabeth Ferry: Yeah. So I don't think those things can be... I don't think that that attempt to, you know, release addiction from the kind of moral narrative has completely been successful. And maybe even there's ways in which by posing it as this kind of constant struggle, you know, there's a sort of pilgrimage metaphor or something that gets invoked or some kind of idea that you are sort of constantly being put to the test, not just once, but every day. So, and I can see how that might have a particular kind of moral charge.

John Plotz: Actually ,there's a weird way in which there is a kind of hoist by your own petard logic, right? Of addiction. I mean in terms of the price that you yourself are paying for something that is your own moral failing. I'm not... yeah.. I'm not sure how that fits in because in other words there's a disease and then there's this question of the moral judgment, but then there's also a paradigm that says, "Well basically when you look... " I think of the movie *Drugstore Cowboy* or something where you just watch the people get gradually more and more decrepit until they die. You know that that's the... You know, you're paying a moral price for it, even if you think of it as a disease.

Gina Turrigiano: Right but of course there's a huge piece of truth to that that many people become addicted and end up in a place, I mean a downward spiral, that leads to complete isolation, to lying to people they love, to stealing things, to..

Elizabeth Ferry: Physical breakdown, right?

Gina Turrigiano: And physical breakdown and all of this. So I mean addiction is a compulsion that can be incredibly... it is incredibly self-destructive so that's another sense in which the disease model kind of makes sense when you see because it does in fact lead to... It can, if it goes on long lead to a real physical deterioration and brain deterioration.

Elizabeth Ferry: Right.

John Plotz: Yeah. And-

Gina Turrigiano: But doesn't have to.

John Plotz: Yeah. And actually we were talking about... I mean Elizabeth, your framing of this was to think about the social context within which the etiology of the individual disease is understood, but of course there's another side to that too which is the way that the individual impact of this habit, if it's misrecognized and not treated the right way then ends up creating all sorts of deleterious social consequences down the road, right?

Elizabeth Ferry: Sure. It goes in both directions, right?

John Plotz: Because what you guys are describing... I mean that-

Elizabeth Ferry: Yeah.

John Plotz: Yeah. I mean I guess what I'm thinking of is the petty crime where you basically just start, you know, you start destroying the lives of people around you if you're in the grips of an addiction. Yeah.

Elizabeth Ferry: I thought I might read a little something.

John Plotz: Yeah. I was going to ask if you would. That'd be great.

Elizabeth Ferry: So again, I just as am very struck by this book and its... the kind of depth and layeredness of its discussion and description of addiction and just to give a little bit just to say what she proposes to do. "I approach heroin addiction as a human and ethical phenomenon that urgently requires understanding. I also approach heroin addiction as an analytic in which culture, politics, and history coexist as a site of struggle and whose examination requires close attention to the personal and collective histories that form subjects and their drug use."

Elizabeth Ferry: So that sounds, you know, super nerdy when I read it out on the radio, but...

John Plotz: No. It sounds clear.

Elizabeth Ferry: Yeah. Okay good. But really, one of the beautiful things about this book is the way she describe this in very concrete terms as well and she begins the book with a scene of her work at a clinic as what's called a *detoxification attendant*, which is basically someone who acts as a companion, a trained companion to addicts who are in the process of reducing their heroin addiction including through taking other kinds of drugs that allow them to slowly slowly reduce their dependence on heroin.

Elizabeth Ferry: And one of the things that she found that she ended up having to do a lot was sort of distract people or occupy people while they're waiting for their next dose and when they're very physically uncomfortable and psychically distressed. So she says, "On this afternoon as Bernadette" (one of the people in the clinic) "grew increasingly restless, I suggested a walk to the Rio Grande which formed the western boundary of the clinic grounds. John and Bernadette reluctantly agreed. We walked slowly to the river, the sun hot on our dark heads. I watched John and Bernadette concentrate on their legs and feet as they moved. Their steps were uncertain and deliberate like the very young or the very old. They stopped for a cigarette break during which they considered turning back, but by that time we were closer to the river than to the clinic." So they finally get there. Takes a little while. They have to go through thorns and things. "We cleared

the brush and then suddenly we're standing on the east bank of the Rio Grande. The river was brown and shallow. Its surface petaled. We stared at the money water and remembered summer swims."

Elizabeth Ferry: (She's from this area as well.) "And then Bernadette, 'This sucks.' Not wanting to admit defeat, I suggested walking upstream where the river widened before heading back. We walked quietly. After a few minutes, John stopped. 'Look.' He said pointing. Caught in a cluster of rocks lay a heroin cooker made of an old soda can along with two discarded syringes. '*Esta rio es muerto*. This river is dead,' John said."

Elizabeth Ferry: And they walk back and that evening John leaves, checks himself out of treatment and leaves. And the author wonders whether this kind of experience of seeing this river--that they imagined as vital but that has clearly been, you know, living under conditions of drought for at least a decade and is also sort of peopled as this place where addiction is going on--is prompting his actions.

John Plotz: Yeah. Well that really seems to go....To me, that speaks exactly to your point, Gina, about there being a quantitative but not qualitative differences between these ways that our pathways form. I mean that there's one set of things that's going on inside your brain where the molecules are tickling you, but then there's a whole other set of things which have to do with the social fabric of your life. Is there hope? Are there meaningful forces of action? Could you go and form another set of habits and what would those habits be? Sitting around looking at the heroin cookers making their way down the river?

Elizabeth Ferry: Right.

John Plotz: I mean obviously-

Elizabeth Ferry: When you expected to see the place where you used to swim as a kid and stuff.

John Plotz: Right. She has some vision of wilderness therapy where it's going to be like a Thoreauvian moment that everything gets revived, but what do you do if there's no Thoreau and no river?

Gina Turrigiano: This sort of comes back to this other book, *The Biology of Desire*, and one of the things I like about the book is he weaves in stories of five addicts and you can tell that he has really gotten to know these people and talked about their experiences with them in incredible detail and a lot of this comes from his own experience of having gone through this himself. And it's very clear he's really exploring the idea of what

gets you into this state where you are seeking something like drugs, you know? What is it that the drug is giving you that you don't have?

Gina Turrigiano: And some of the people in these stories take drugs sort of recreationally or to kind of just give them an edge, you know? For a long time, for years and years and years they don't become addicted and then something happens that sort of puts them over the edge and they become...you know, their need or desire for the drug somehow becomes much much bigger. It starts to fill a place that...

Elizabeth Ferry: And does that...?

Gina Turrigiano: ... that other things aren't filling.

Elizabeth Ferry: Does that something tend to come from the outside or is it something in the brain that happens that sort of triggers this to accelerate?

Gina Turrigiano: Well of course they're not....

Elizabeth Ferry: Right. Or maybe it's maybe the answer is some combination.

Gina Turrigiano: You know, as a neuroscientist I mean I think of myself as being my brain, but....

Elizabeth Ferry: Right. Right. But I mean is it like your marriage breaks up and therefore you begin to...

Gina Turrigiano: Yeah. I think his... Well I guess I would back up for a second and just say it's clear there's a couple answers to that. One is that there is a genetic predisposition. Some people can become addicted more easily than other people. We don't understand the genetic basis of that, but there's a piece of it. And then there are vulnerabilities that are clearly social vulnerabilities and he talks more about that in this book, the sorts of traumas that people experience, or just social isolation. Or I mean all of the things that lead you to have...

Elizabeth Ferry: Or the things that are described in Garcia's book.

Gina Turrigiano: Yeah.

Elizabeth Ferry: Right?

Gina Turrigiano: Exactly.

Elizabeth Ferry: Collective kinds of experiences...

Gina Turrigiano: Right. Exactly. Exactly.

John Plotz: Yeah, but I really like that point, Gina, about the *availability* of it for you. You know if the drug is something that does this particular set of things for you, but it's not as if just having taken the drug is enough to make you into a habitual user or an addict, but it nonetheless it's kind of like an *available* pathway for you and then at a moment when other pathways are shut down then this happened.

John Plotz: So because the book that I'm going to plug at the end, this book by Sam Quinones who's a reporter who basically studied Appalachia and drug supply. And he charts the confluence of the rise of prescription opioids, the greater availability of heroin coming from actually mostly Mexico but also probably New Mexico as well, and social decay like crummy jobs. So basically, the crummy jobs are the thing that makes people feel cruddy, and then the easy availability of these two different sources of opioids is what makes that a pathway that people would turn to.

Gina Turrigiano: Right. I mean if you look at where it's become a real epidemic, it's places where the social fabric is breaking down and where people don't have other avenues of fulfillment, right?

John Plotz: Yeah.

Gina Turrigiano: And then the drugs sort of substitutes for those things.

Elizabeth Ferry: Mm-hmm (affirmative).

John Plotz: Yeah. So this is kind of a question for you, Gina, and wearing your biology hat but I think maybe it's for all of us too because, Elizabeth, you were thinking about another book which is actually not about opioids but is about-

Elizabeth Ferry: Yeah. That's what I'll plug at the end.

John Plotz: Or you are?

Elizabeth Ferry: Yeah.

John Plotz: Okay.

Elizabeth Ferry: Yeah, yeah.

John Plotz: But so my question is kind of how much we're looking at a very distinctive pathway here when we think about addiction *vis-à-vis*

opioids versus how much this is, you know, part of a larger continuum where we shouldn't even make sharp distinctions.

Gina Turrigiano: It's the same pathway. So, neuroscience really argues pretty strongly that all of these drugs of addiction... And not just drugs that addiction to porn, addiction to exercise. I mean that addiction-

Elizabeth Ferry: Binge-watching *Stranger Things*.

Gina Turrigiano: It's coming through the same pathways.

John Plotz: But that's true even for things like PCP or mushrooms? I mean things that are more hallucinogenic drugs or-

Gina Turrigiano: Well those are not addictive in the same way.

John Plotz: I see.

Gina Turrigiano: It's-

Elizabeth Ferry: Let's say gambling. Right?

Gina Turrigiano: Gambling is another example of something that seems very much to activate the same sorts of brain structures.

Elizabeth Ferry: Mm-hmm (affirmative). Yeah.

Gina Turrigiano: So yeah. I think that all of these are tapping in one way or another....So in essence, it's a powerful reward. You can become addicted to anything that is powerfully rewarding. And if you think about it...

Elizabeth Ferry: And the reward is a neurochemical reward, right?

Gina Turrigiano: The reward can be a physical reward in the world, you know, our brain sort of... it's not like... I mean these pathways are built in, our evolution *designed* them. I hate to use the word designed, but you know what I mean. We evolved over time [crosstalk 00:29:13] to become very good-

John Plotz: We just say Charles Darwin...

Elizabeth Ferry: Right.

Gina Turrigiano: Organisms need to find things that are rewarding like food. And so these brain structures evolved to make it really easy for that to happen by basically turning that into a habit so that you're not

expending extra energy all the time worrying about how to go find the next meal. As much of that as possible becomes kind of automated as part award-seeking behavior.

John Plotz: Okay. I'm just going to pedantically circle back. I take your point about the hallucinogens, but okay so, crack same pathway?

Gina Turrigiano: Yeah. Same pathway.

John Plotz: Cocaine. Same pathway?

Gina Turrigiano: Same pathway.

John Plotz: Pot?

Gina Turrigiano: Well there's not very good evidence that... Well, is pot addictive? I suppose it's addictive in the sense that... going to mull that one for a second.

John Plotz: Okay.

Gina Turrigiano: But-

John Plotz: So pot might be in a different category.

Elizabeth Ferry: But slot machines are in that category.

Gina Turrigiano: Slot machines definitely activate the same brain structures.

John Plotz: So is this a good time to talk about Thomas De Quincey?

Gina Turrigiano: Yeah.

John Plotz: I mean there's never a bad time to talk about Thomas De Quincey. Okay. So, I think the point goes to this pathways question and maybe we can just continue thinking about that sort of pleasure-pain, that nexus.

John Plotz: So I do think it's significant at the heart of this book that Thomas De Quincey wrote in the 1810s. Just he wrote basically exactly 200 years ago and then published in 1821 or 1822. The two central sections are called *The Pleasures of Opium* and the *Pains of Opium* and the first line of the heart of the book is "opium dread agent of unimaginable pleasure and pain." So that he really puts together the way that the highs are themselves the problem. He focuses on opium where its vice is a result of its virtue so to speak. So I just wanted to read a couple of

passages that sort of speak both to how attuned he is to what is specifically pleasurable about opium and then also his awareness that the very same thing is also what's kind of what brought him up is also bringing him down.

John Plotz: So okay. So he make this distinction. He says, "Whereas wine disorders the mental faculties, opium on the contrary if taken in a proper manner, introduces amongst them the most exquisite order, legislation, and harmony. Wine robs a man of his self-possession. Opium greatly invigorates it. Opium communicates serenity and equipoise to all the faculties active or passive and with respect to the temper and moral feelings in general. It gives simply that sort of vital warmth which is approved by the judgment and which should probably always accompany a bodily constitution of primeval or antediluvian health."

John Plotz: I'm just imagining that as a warning on the bottle. He should've written for Big Pharma.

Elizabeth Ferry: Yeah.

John Plotz: So there's one side. And there's a lot to say about that passage, but then just to come back he also talks about the nightmare of it and basically he doesn't just say, *It was a nightmare to be addicted*. He said, *Also the pleasures went away and instead I just basically was left always wanting to feed the habit and I couldn't feed the habit*.

John Plotz: "Pains of Opium. I triumphed, but think not reader that therefore my sufferings were ended, nor think of me as one sitting in a dejected state. Think of me as one even when four months had passed still agitated, writhing, throbbing, palpitating, shattered, and much perhaps in the situation of him who has been racked as I collect the torments of that state." So racked as in being put on the rack.

John Plotz: So that's an incredibly euphoric account of the upbeat and an incredibly grim account of the downbeat. So I don't know. Help me, you guys.

Elizabeth Ferry: And yet there's a lot in common, right? The upbeat and the downbeat have a lot in common. Maybe not only in that quotation, but one of the things that really comes out in the De Quincy is that the... yeah. The euphoria has this kind of intensity and exquisiteness that the hell also has.

John Plotz: Yeah. He has this wonderful description where he says, *People talk about sympathizing with the poor, but I could only ever sympathize with*

the poor in their pleasures and the only way I could do that was to take opium and then I would be with... He feels this sense of common human solidarity. Basically right. All the obstacles to ordinary social intercourse, by which I take it he just means kind of all the ordinary awkwardness and neuroses and anxiety that we have in everyday life kind of vanishes. When he's in the opium state, everything seems part of this one big ocean.

Elizabeth Ferry: Yeah well and also the formalities and hierarchies of English class life, right?

John Plotz: Yeah. Everything... right.

Elizabeth Ferry: Right.

John Plotz: So I think that everything....

Elizabeth Ferry: You can see that feel this commonality with somebody who's not on the same class as him.

Gina Turrigiano: But as the biologist I'm compelled to bring up the biological side of the torment and the hell.

John Plotz: Yeah. Yeah. Let's talk about that.

Gina Turrigiano: Which is the fact that you become tolerant to many drugs and so what you would need to actually get high, that dose increases and increases and eventually you can get to the point where you can be taking it very, very high dose just to feel normal. So you're not feeling the euphoria anymore. And in fact, the pleasure of the drug drops away and so that's part of where the desire in *The Biology of Desire* idea comes from. It's not really pleasure. It's desire. What's driving you is wanting the drug, but the drug, when you get it, gives you no pleasure anymore.

Elizabeth Ferry: It only makes you feel..

Gina Turrigiano: It's the absence of feeling horrible, but you aren't experiencing the same euphoria that you did at the beginning of starting to take that drug.

John Plotz: De Quincey not only goes into the experience of that the way in which essentially he's living below the X-axis rather than above the X-axis, you might say. He also goes into the number of drops per day that he needs to get this feeling which is gradually increasing for sure. Yeah.

Elizabeth Ferry: But that seems to be...I mean in the beginning we were talking about sort of how do we distinguish this from John taking a walk and biking in the morning?

John Plotz: Yeah. And that's by far the worst habit I have.

Elizabeth Ferry: Right.

John Plotz: Taking a walk in the morning.

Elizabeth Ferry: Yeah, yeah.

John Plotz: Totally evil, yes.

Elizabeth Ferry: Also, I remember going to the museum, right? That was from an earlier episode. Quite a guy.

John Plotz: Yeah. Yeah. And I kill puppies.

Elizabeth Ferry: Yeah. I mean the compulsion to bike and take a walk, you know, you don't have to keep biking and keep biking in order just to feel normal, right? I mean it's still defined by

John Plotz: But By Gina's logic you do...

Elizabeth ferry: But I'm saying that's what distinguishes it, right? If we're saying that there's-

John Plotz: Oh I thought you were saying that's true of all habits. That they all need gradually... That they're all habituation. That you get... oh that's interesting. You get *habituated* to a *habit*.

Gina Turrigiano: I think there is an element of habituation to lots of things we do in terms of the euphoria that goes with it.

Elizabeth Ferry: But they don't all build up a tolerance that you keep having to take until you die, right?

Gina Turrigiano: I think it's a good point and this does sort of distinguish a drug you ingest directly that the physical tolerance and that's a piece of it, for instance, that really does need medical treatment. When you have physical tolerance to a drug you can't just stop taking it. So that aspect of addiction but I think that's very... you can pull that apart from the... the physical dependence can be pulled apart from the sort of cognitive psychological and brain addiction.

Elizabeth Ferry: Right. The accessing these pathways that give you this reward can be common to all of these kinds of things, but only some of them have these particular kinds of...

Gina Turrigiano: And so yeah, absolutely true. You can't just go cold turkey for many drugs without it being incredibly physically dangerous, including alcohol.

Elizabeth Ferry: Mm-hmm (affirmative). Right.

John Plotz: Well I think that gives me valuable ammunition in my other fight with my children, which is whether I'm an addict to caffeine or not because I haven't become habituated to it in that I'm still taking the same amount of caffeine I've always ever taken.

Elizabeth Ferry: Right.

John Plotz: So I feel like-

Elizabeth Ferry: Even though if you didn't take it you would probably get a blinding headache or at least I do.

John Plotz: No, no. We're not focusing on that. We're focusing on the fact that the amount of caffeine I'm taking is still the same.

Gina Turrigiano: That's the thing. You might have some physical dependence on the caffeine, but is it really doing you any harm? I don't think so.

Elizabeth Ferry: Yeah. Right. And you're probably still... as you say you're drinking the same amount more or less that you were... You're not drinking 35 cups a day probably.

Gina Turrigiano: I mean look, there are lots of-

John Plotz: No comment.

Gina Turrigiano: There lots of things that are pleasurable that we can do in moderation over and over and over again. And I think, you know, this question of what tips over into this compulsion is really interesting. Even with highly addictive drugs, that is drugs where you build up tolerance to them. And I think the more tolerance, the easier it is to get addicted because you keep upping the dose.

Elizabeth Ferry: Yeah. I mean not just interesting, but critical to understanding right?

Gina Turrigiano: Exactly. What is it really that creates that switch? And I think this book sort of explores it, but it doesn't really... And I think sounds like your book is really exploring very much the same thing in a way

Elizabeth Ferry: But from a completely different angle.

Gina Turrigiano: Right.

Elizabeth Ferry: Yeah. Yeah.

John Plotz: So I think this might be the moment in our show where we dance. Okay. Now that we've danced, where we talk about books that we would recommend to our listeners. And so, Gina, do you have a plug for us?

Gina Turrigiano: Yeah. I mean just in case you haven't heard enough neuroscience today.

John Plotz: More. Always more.

Elizabeth Ferry: Yeah.

Gina Turrigiano: I really like this book by David Linden. He's a really, you know, world class neuroscientist and also just a fabulous writer. He's written a bunch of popular books on various aspects of neuroscience. He wrote a book called *The Compass of Pleasure*. And that really gets into this idea that many, many different kinds of things activate the same pleasure pathways in the brain whether it's gambling or sex or... And I think he discusses the neuroscience in a way that is very accurate, but his writing is extremely funny and entertaining. And so, you can absorb a lot without it being too overwhelming.

John Plotz: Cool. So wait. Say the name of the book again.

Gina Turrigiano: *The Compass of Pleasure*.

John Plotz: *The Compass of Pleasure*. Okay.

Gina Turrigiano: And David Linden.

John Plotz: Awesome.

Elizabeth Ferry: And we'll have that on our website for you dear listeners.

Elizabeth Ferry: So I'm also going to bring in another anthropology book and the title is *When I Wear My Alligator Boots* and this is an anthology of sort of

low-level people in the narco trade in norther Mexico. And it's interesting because it has a lot of similarities to the kinds of things we've been discussing, but it's particularly focused on meth and addicts of... people who are involved in the meth economy, but also addicts. And like *The Pastoral Clinic*, it talks about the ways in which addiction is kind of embedded within both the lack of jobs, but in the case of meth, also particular kinds of jobs.

Elizabeth Ferry: And certain kinds of repetitive work that have long hours where maybe you have to work many hours in order to make a living and you're doing the same thing over and over again, like working on a factory line. So yeah. The title is *When I Wear My Alligator Boots* and it's by Shaylih Muehlmann and there'll be a link on our website.

John Plotz: Awesome. And the book I'm going to plug just very briefly, I already described it. Sam Quinones' *Dreamland* and it's about southern Ohio mainly, but just sort thinking about Appalachia. And it's really a social fabric book. So it is... I almost would compare it to George Packer's book, *The Unwinding*. Just talking about what is happening in small town America, but generally all over as well where jobs go away and people look for other pathways to satisfy their craving for meaningful contact with the world, for stimulation. And thinking about how the unfortunate uptick of the easy availability of opioids in either legal or illegal form coincides with that social decay.

John Plotz: So it's, you know, it's kind of Weberian. It's an analysis of... it's looking at the level of the society even as it's chronicling individual misery. So yeah. It's a laugh a minute. I love it. It's a great book, though. And again, you'll a link for that on our website.

John Plotz: Okay. So we have come to the end of another show and remember we always want to hear from you directly and I imagine a lot of folks will want to sort of reach out with their thoughts, their criticism, comments, or suggestions after this show. It's obviously a topic that all of us have on our minds. So you can email us directly or contact us via Twitter or on our Facebook page and website where you will also find links to the texts discussed today and suggestions for further reading and listening.

John Plotz: And finally, if you enjoyed today's show please be sure to write a review or rate us on iTunes, Stitcher, or wherever you get our podcast and to share the episode with friends via social media or however else you do that.

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your kind words are the single best way and maybe the only way that we can get the word out. I also want to give a special thanks to Eric Chasalow who composed the music for this and every episode of our podcast. And so from Recall This Book, this is John Plotz, along with Elizabeth Ferry and Gina Turrigiano, saying thanks for listening.