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Broadcasting the Search for Understanding: The Essay's Relationship with the Podcast

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Honors Thesis:

Broadcasting the Search for Understanding: The Essay's Relationship with the Podcast

by

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ABSTRACT

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In this creative thesis project, I explore the relationship between the modern essay and the podcast. I do so by producing the first three episodes of my own essayistic podcast, called *Peer-Refined Health*. In this foundational exploration, I consider the value of the podcast as a new medium of communication for the essay. I begin this project report with a background on both the podcast and the essay as well as a discussion of my project development. The transcripts of three episodes of *Peer-Refined Health* follow. Finally, I analyze the relationship between the essay and the podcast and suggest additional research.

ACKNOWLEDGEMENTS

My advisory committee frankly intimidated me. That was why I asked to work with them. I knew Professors Franklin, Hallen, and Rawlins would push me to produce quality work rather than accept sub-par scholarship. Professor Franklin's willingness to provide me with resources when I became obsessed with understanding the essay laid the foundation for my academic interest in the genre. Professor Hallen helped me grasp the value of using my horizontal skill set in my research rather than hiding it under a bushel in an increasingly vertical world. And, in spite of three rejections for previous project plans from the IRB, Professor Rawlins stuck with me for over a year. He not only believed in me, but worked with me to draw out my potential.

I'd be amiss not to mention the BYU Honors Department for expressing their faith in my scholarship and creative pursuits by funding and supporting this project.

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INTRODUCTION

Though he was a French nobleman, Michel de Montaigne's invention of the essay as a genre resonated with his own merchant class roots and his conversational disposition. This established the essay early on as a literature for the middle-class.[1] The essay's role as a middle-brow format for the common persons' literary communication has been tested in various subgenres that have appeared as newspaper columns, personal letters, and civil rights articles. From essayists such as Joseph Addison and Richard Steele, who were writing for the rising merchant class of the eighteenth century, all the way to twentieth century essayists such as E.B. White and James Baldwin, who used the essay to address social and civic issues ranging from isolationism to racism, essayists of all backgrounds and interests have established the genre as an accessible voice-of-the people. Essays and their cousins, magazines and newspapers, were depended upon for entertainment, information, and community.

Nowadays, the printed essay is not nearly as popular a form of literature. People no longer depend solely on a daily or weekly newspaper for the majority of their national and international information or entertainment. Technology and the internet have nurtured the creation, growth, and dissemination of all kinds of information, and the printed essay is not likely to reclaim the attention of the people. But that doesn't mean that all things essayistic are generally unavailable to the middle class. On the contrary, one particular type of media is becoming increasingly popular, and it is arguably keeping the essay alive and available to an ever growing audience. This medium is the podcast.

[1] Stuckey-French, Ned

The podcast is rapidly becoming a popular choice of media for Americans. Sixty-seven million Americans (about 21.7%) listen to podcasts every week.[2] The podcast medium can host all kinds of genres. Some of the current top podcasts are political talk shows, educational speeches, and comedy programs. Although the medium of communication for modern essayists is still typically print, recent shows—like *Planet Money, RadioLab, Revisionist History,* and *Serial*, which all rely on introspective, first-person, co-explorative, conversational narrative, just like the traditional essay—suggest that the podcast is becoming a medium of communication for modern essayists.

With such a wide audience, and with nonfiction reigning in current popularity (even the essay is making a tentative comeback in the book format[3]), the podcast would be a fertile medium for the perpetuation and evolution of the modern essay. Therefore, exploring the interplay between this historically influential genre of literature and this presently influential format of media is highly relevant. This thesis project studies the connection of the essay as a tried-and-true genre with the podcast as a current, viral medium. It explores how their combination has the potential to evolve into something widely influential. Writers and thinkers before Montaigne explored their lives and other issues around them in a search for understanding, but Montaigne was the first to detach from his writing peers and define himself as an essayist. Similarly, many podcasts employ essayistic principles—such as epistemological introspection, conversation, honesty, inquiry, and narrative with an emphasis on individual personality—that contribute to their popularity and success. However, they have not necessarily employed these essayistic principles with the intention of making an essayistic podcast. I have

[2] Baer, Jay
[3] Smallwood, Christine

followed Montaigne's example and have separated myself from other podcasters by creating a podcast that consciously uses these essayistic principles. In this project, I explore the essay as a podcast through the creation of my own podcast program, *Peer-Refined Health*.

Scope

This project report will study the epistemological nature of the essay and identify similar epistemological tendencies in podcasts. It will also identify some podcasts that do not meet the criteria for the label *essayistic*. It will seek to understand the influences of narration and didactic information on the essayistic nature of the podcast. This research will lay the foundation for the creation of three podcast episodes in a new podcast program I have named *Peer-Refined Health*. In the creation of this podcast, I will work to balance the narrative and the didactic extremes of non-essayistic podcasts to strike an epistemological balance.

Additionally, this project does not claim to prove anything definitively. It is an experimental, applied exploration, not a philosophical or empirical study. It will avoid the controlled argumentation that so often is found in academia and empirical research. In the spirit of the essay genre, the written portion of my project is an exploration and strives to provide an experimental foundation for future research on the matter.

BACKGROUND: The Essay

In the 1500s, Michel de Montaigne introduced the world to his personalized method of self-discovery in the format of the personal essay. In the introductory essay to a book of essays, Montaigne explains that the subject of his writings would be himself; he says, "It is myself I paint."[4] He tells his reader that he believes he has depicted himself honestly when he writes, "I assure thee I would most willingly have painted myself quite fully and quite naked." He then reiterates the subject of his writings with an odd admonition: "Thus, reader, myself am the matter of my book: there's no reason thou shouldst employ thy leisure about so frivolous and vain a subject. Therefore farewell." That a dismissive salutation comes at the very beginning of the book must jar readers. This is Montaigne's audience's first introduction to his notion of double mindedness.

Montaigne describes double mindedness as follows: "We are, I know not how, double in ourselves, so that what we believe we disbelieve, and cannot rid ourselves of what we condemn."[5] This double mindedness surfaces time and time again in Montaigne's writings in the form of self-contradictions. Montaigne, it seems, was never trying to prove something to an audience; he must have been trying to understand something about himself. Because of this epistemological inspiration, modern essayists choose to follow Montaigne's example and value the search for understanding over the race to be right.

Although Montaigne knew what the essay was good for, he never left a clear definition of what an essay was. In his dissertation on the modern essay, Richard F. Nordquist observed, "The essay is, indeed, a slippery form, one that actively resists any

[4] Montaigne, Michel de. "To the Reader."
[5] Gornik, Adam

sort of precise, universal definition."[6] Montaigne made an effort to use the essay to search for his own personal understanding. But the essay has evolved in the four centuries since Montaigne published "To the Reader." And, perhaps because Montaigne founded the genre on the notion of experimentation and exploration, several sub-genres have emerged over the centuries as different writers have adapted Montaigne's methods to their own work. These include the variations in rhetorical approach, such as the familiar essay, the argumentative essay, the newspaper column, and the lyric essay; and variations in topic, such as the socially conscious essay, the academic essay, and the memoir essay. Even more confounding to attempts of definition is the considerable overlap between some of these sub-genres. Additionally, essayists may have different purposes in writing, which may be anything from self-reflection to communal discovery to persuasion.

Although the essay itself doesn't fit into any one definition with one purpose, many essays serve a similar function. This function is to search for understanding. Montaigne used double mindedness to explore himself and his inherent contradictions. He used the essay to test the worth of his ideas and then examine whether he still held his original opinion after prodding and contradicting it. He was interested in the distinctions between his public and private self and often reconsidered his own opinions in a search for his own understanding. Influenced by Montaigne, other essayists have used combinations of narrative, information, emotive allegories, and rhetorical questions to examine themselves and the world. Almost all essayists find common ground in the search for understanding.

[6] Nordquist, Richard

Note the unique nature of that purpose: essays do not function primarily to find understanding, but instead to embark in a search for it. They acknowledge their own inability to consistently arrive at empirical conclusions and embrace the interplay between essayist, resources, and audience that comprises the search for understanding. The essayists involves the audience when she chooses to record a path of exploration instead of a destination, or write a question instead of offering an answer. Such literary behavior invites the audience to involve itself in a search for understanding.

In such a generalized genre, I am unwilling to suggest that *every* essay embarks explicitly and exclusively on this search for understanding. However, in this project, when I refer to the essayistic nature of something, I am suggesting that it includes an element of seeking for understanding.

BACKGROUND: The Podcast

A podcast is "a program made available in digital format for automatic download over the Internet."[7] Subscribing to a podcast feed guarantees that the program's episodes will automatically arrive on your device. Then, similarly to the delivery method of newspaper genre that came before it, the episodes will be available to you as soon as they are published.

The newspaper comparison is a useful one. For instance, although the delivery method of one newspaper to another doesn't vary greatly, the content often does. No one would accuse every newspaper of occupying the same genre—or, if they did, they would have to allow for various sub-genres as we do for the essay, for a newspaper often prints various genres, including essayistic columns, creative features, and opinion stories. Similarly, the podcast is not a genre in and of itself. One RSS feed, such as the *Podcast* app from the Apple Store, can host podcasts from talk shows and news stories to photography advice and poetry. It is important to understand the variety of content in an RSS feed because it is in the format of individual programs, not the collection of programs, that genres can be found.

Traditional essays started in books, then were published in periodicals, magazines, and newspapers. The delivery format of essays have since expanded beyond the printed page. The platform of an essay should add to its exploratory nature with a conversational atmosphere and an emphasis on inquiry, narrative-driven research, and personality. This is precisely why the podcast makes for a wonderful home for the essay.

[7] "Podcast." *Merriam-Webster*

Before delving into the types of podcasts this report is interested in, I should list a few popular and interesting podcasts that, for some reason, are either not essayistic or are not the type of essayistic we are concerned with.

The style of *How I Built This* is popular. One episode of *How I Built This* delivers the story, as told through an interview, of how an entrepreneur rose to success. These programs are primarily narrative. If Reid Hoffman, founder of LinkedIn, had joined host Guy Raz in exploring what it meant to be successful, this program could straddle narrative and essayistic worlds. But he doesn't, and this podcast does not earn a place on our essayistic list.

WBUR and *The New York Times* release a podcast called *Modern Love*. *Modern Love* publishes episodes of celebrities reading personal essays about love. The content of the episodes is essayistic; each episode *is* a personal essay. However, the content of the episodes are essays whether or not they are read aloud and recorded for the podcast. The essay exists independently of the podcast format. In order that a podcast program qualify as essayistic for this report, the delivery of a podcast episode and the content of the episode must depend on one another for the creation of epistemological value.

Plenty of podcasts succeed without using the tools of the essay. Consider the podcast *Lexicon Valley*. John McWhorter, a kind of celebrity linguist, also tackles one subject per episode. But he rarely takes the listener along with him in an exploration. Instead, he typically treats an episode like a casual lecture. And while one might argue that McWhorter is using the casual tone of an essayist, his podcasts lack that element of co-exploration.

In spite of their creative narrative and delivery of grappling with understanding some element of the world, these three podcasts do not share the essayistic characteristics of the programs in the paragraphs to follow.

Planet Money is a good example of an essayistic podcast program. *Planet Money*'s About page reads, "Imagine you could call up a friend and say, 'Meet me at the bar and tell me what's going on with the economy.' Now imagine that's actually a fun evening. That's what we're going for at Planet Money."[8] *Planet Money* tackles a topic related to the international economy in energetic twenty minute bursts of interviews, conversation, and revelation. Episode "489: The Invisible Plumbing of Our Economy," starts when Alex Bloomberg and David Kestenbaum grapple with a simple question: why does it take so long for money to be transferred electronically between businesses? Punctuated by advertisements for Ziprecruiter, Bloomberg and Kestenbaum walk the listener through their effort to understand the speed of electronic money transfers. Instead of editing out journalistic dead ends and mid-interview shutdowns from less than enthusiastic customer service agents, Bloomberg and Kestenbaum include them, giving the listener a place next to them on their path to understanding rather than presenting a finished set of facts. This element of companionship with the hosts allows the listener to partake in their curiosity and, in some cases, perhaps predict the ensuing step before the hosts themselves announce it. That audience involvement is essayistic since the essay is often a foray into the unknown (or the misunderstood or the disagreed-upon) as well as an invitation to engage.

[8] "About Planet Money." *NPR,* 1 April 2010.
https://www.npr.org/sections/money/2011/04/27/135599807/about-planet-money

Like *Planet Money*, *Radiolab* typically starts with a question and then uses every logical, academic, and scientific resource available to answer it. Like *Planet Money*, it seeks to answer a question, and like Planet Money, there isn't always one clear answer. But it is not didactic. Jad Abumrad and Robert Krulwich sometimes take turns playing the part of the informer and the ignorant, beginning an episode with a conversation along the lines of, "Did you know, Robert, that. . .?" *Radiolab* maintains an essayistic quality by shifting focus from the conversation between the expert and non-expert and towards a co-exploration of the available facts.

One may point out that Malcolm Gladwell's *Revisionist History* depends too heavily on narration and didactic principles from episode to episode to be considered essayistic. However, I would argue that the nature of this program *is* essayistic. After all, Gladwell selects a scrap of history that we may not understand or even know about and spends an episode wringing truth out of it. His desire to rewrite, not just retell, history earns him the title of essayist.

A reader may well pose the question of whether a podcast program can be essayistic or whether an episode of a podcast program must be essayistic in its own right. I submit that either may be the case, depending on the purpose of the podcast. Most of *RadioLab* and *Planet Money*'s episodes stand independent of one another. But a program or a full season of a program can be entirely dedicated to seeking one kind of understanding, like *Revisionist History* or Sarah Koenig's *Serial*. The entire first season of *Serial* followed Koenig's journalistic investigation into a murder that may have resulted in a false accusation. The full program better embodies epistemological efforts than individual episodes because the full season works towards a single truth.

None of these podcasts intentionally incorporated essayistic principles. These principles were a natural byproduct of writers and producers who were interested in the value that inquisition, conversation, narrative, and an emphasis on personality bring. Recognizing this, I began to wonder what it would look like for a podcast to be made with the intentional inclusion of essayistic principles. That was how I decided to explore the relationship between the essay and the podcast by creating a podcast on the basis of essayistic literary characteristics.

PEER-REFINED HEALTH

Once I'd determined that I would make a podcast in order to explore the essayistic possibilities within the podcast medium, I began to sift through potential themes for a program. In the nature of the harmony between the narrative, the informative, and the exploratory, I knew I needed an explorable subject. I knew the content of the podcast would have to spark questions and perhaps even controversy. I also knew that an episode could not claim to arrive at any kind of ultimate truth about the subject matter. All things considered, though, the content would have to be interesting enough to hold listeners without the promise of a satisfying resolution. For these reasons, I decided to focus the content of my podcast on common and controversial health questions, especially those without one clear answer. *Peer-Refined Health* was born with the mission of identifying common health questions and introducing a listener to the conversation on the subject by discussing any surrounding controversy and explaining current academic research on the matter.

I knew that an exploratory podcast would not need to be run by subject matter experts—especially since the intent would not be to find definitive answers, but to introduce a topic of health conversation—but I also knew it would be helpful to consult someone who was more familiar with reading scientific abstracts than I. So I engaged Rufus Sweeney—a graduate of BYU's Public Health program and a pre-medical student—as my collaborator and consultant. Together, we mined dozens of controversy-provoking health issues and researched the current academic and social conversations surrounding them. We contacted experts in the field and interviewed them. We then crafted each episode to be an interesting, collaborative search for understanding.

The following pages contain the transcripts of the first episodes of *Peer-Refined Health*. The audio version of these episode will be published online at peer-refined.com and on iTunes in late April 2018.

TRANSCRIPT OF EPISODE 1: On GMOs

Speaker	Text
RUFUS	Picture this scenario with me. You're in the grocery store and you wander over to the grocery aisle where there are two kinds of bananas. One kind costs 59 cents; the other kind costs 26 cents. You hold them both in your hands and compare the two and they're basically identical, except the one the costs 59 cents is non-GMO verified. Which do you choose? Well, if you're like me, you walk out of the store with one of the two and maybe some cognitive dissonance. Should I have spent that much on a banana? Or, should I have spent more on a banana? Today, we're not going to get into the weeds of politics on this discussion—there's plenty that's been said about that. We're going to get into the practical health benefits of choosing organics or GMOs—if there are any—and what this means for your health. I'm Rufus
MIRIAM	I'm Miriam. Doesn't even know what it means to genetically modify something until recently. How many other people are eating GMOs or non-GMOs without even understanding it?
	And this is Peer-Refined Health.
INTRO	
RUFUS	You know, I don't think I'm the only one with cognitive dissonance when I go into the grocery store.
MIRIAM	You know, Rufus, I've had the same question you've had shopping a lot. And I think the reason I've had it is because I don't actually know—or I didn't know before we started researching it—what a GMO is. And I'm not alone in that.
[Jimmy Kimmel clip]	As I usually do when people take a stance on a complicated issue, I wondered how many people who are against GMOs really know what they are.
MIRIAM	That's Jimmy Kimmel.
[Continue Jimmy Kimmel clip]	So we sent a crew to one of our local farmers markets to ask people why they avoid GMOs and, more specifically, what the letters GMOs stand for.
INTERVIEWER	Do you try to avoid GMOs in your diet?
INTERVIEWEE	I do.
INTERVIEWER	Tell me why.
INTERVIEWEE	I just—there's just a vibration with GMOs. For me personally, it's just something I don't particularly want to put in my body.
INTERVIEWER	What does GMO stand for?
INTERVIEWEE	Genetically modified. . .genetically modified.
INTERVIEWER	The o?
INTERVIEWEE	The o? I don't know.
INTERVIEWER	Do you try to avoid GMOs in your diet?
INTERVIEWEE	Yeah, absolutely.
INTERVIEWER	Why is that?
INTERVIEWEE	Just the effects, I guess, on myself.
INTERVIEWER	What does GMO stand for?

INTERVIEWEE	Oh, man, putting me on. . . on. . . under the grill. I don't even remember.
INTERVIEWER	What is a GMO?
INTERVIEWEE	It's a genetically. . . genetically. . . moni—I don't know, what is it?
RUFUS	I think what boggles my mind is, even though the participants or the interviewees didn't know what a GMO was, they were so passionately against GMOs. I'm not sure why that is.
MIRIAM	Before we can define a nutritious and non-nutritious choice when grocery shopping, for instance, we and our listeners need to know exactly what a GMO is.
RUFUS	There are two types of GMOs. There's artificial selection, or selective breeding, and recombinant DNA technology. The first kind—artificial selection—we've been doing for millennia. It's taking something that spontaneously changed in nature and planting it the next year. The modern day banana is an example of artificial selection. In 1836, a Jamaican farmer noticed that one of his bananas was yellow, as opposed to his other red and green varieties that he was growing. And when he tasted it, he noticed it was really sweet and delicious. So the next year, he planted the seeds of that banana and that's how it became the banana we know today. So artificial selection involved him noticing a change and planting the variety that was more beneficial to him the next year.
MIRIAM	Okay, I've heard of this before. Artificial selection is how we have the modern day dog. All dogs used to be wolves, right? But they were bred specifically for domesticity, for docility. And now we have dogs. So dogs are genetically modified?
RUFUS	Yeah. We take something that's useful to us—a characteristic or an attribute from an animal or a plant—and we keep breeding it. Some of those bananas in the grocery store have also been developed using recombinant DNA technology. Recombinant DNA technology is basically—if we can think of the genetic code as being a novel, a long series of letters—then putting your own fan fiction novel, splicing it into the middle of the novel, would be like recombinant DNA technology. You are able to manipulate or change the outcome.
MIRIAM	So how are those, uh, GMO-ed bananas, how are they altered?
RUFUS	Some of the bananas actually take longer to ripen. So they stay in that good zone of yellow to brown spotted longer.
MIRIAM	Okay.
RUFUS	This technology was developed in the last fifty years, and it's normally the technology that evokes fear in people. Another example is golden rice. Golden rice was developed to solve a really difficult problem in Southeast Asia. See, a lot of kids were dying and going blind because they didn't have enough Vitamin A in their diet. And the most commonly consumed food in Southeast Asia is rice. So scientists used rice to tackle this problem head on. They took the genetic code of rice and spliced in the ability for rice to produce Vitamin A, so thereby they could solve the problem.
MIRIAM	And that's what golden rice is.
RUFUS	Yes. It's a variety of rice that's gold because it has Vitamin A in it.
MIRIAM	Okay! So no more child mortality in Southeast Asia because of a Vitamin A deficiency.
RUFUS	Unfortunately, both here in the United States and internationally, GMOs are so controversial and hotly debated that Golden Rice still hasn't been successfully produced and marketed.
MIRIAM	Really?

RUFUS	Right.
MIRIAM	I guess I can understand the idea that someone has tampered with nature, so that product is dangerous. It's just hard to reconcile that with—that this product, it's not just that it's tastier or will have a longer shelf, life, but that it could actually do some good. I mean, you'd imagine that if a product was extra beneficial—you know, nutritionally or economically or something like that—that people would want it, that people would allow it onto the market, right?
RUFUS	Right. So, what if I told you that there was a salmon that grew twice as fast as normal salmon and took ten percent less feed to produce?
MIRIAM	I'd say let's have a barbecue. I mean, if that salmon requires less feed to grow to maturity, it's probably going to be less expensive to buy, right?
RUFUS	Exactly, yeah. It's both economically and environmentally better. The problem is that it's not available here in the United States due to legislation.
DR. V E	Often, we'd select for fast growth because that's an economically important trait—even conventional salmon programs breed for fast-growing salmon.
RUFUS	That's Dr. Alison Van Eenannaam. She's a professor at UC Davis, and she worked with the FDA to help clear the AquaAdvantage Salmon, that dream fish that gets to market size in half the time of a normal salmon.
DR. V E	So this is not an unusual characteristic or trait. In this case, the gene came from the Pacific salmon, in an Atlantic salmon, so it's a protein we've eaten—we've eaten Pacific salmon, so there wasn't any unique hazards associated with the fish.
MIRIAM	AquaAdvantage Salmon combines the DNA of Pacific Salmon and Atlantic Salmon—two kinds of salmon that we eat normally—and because of that unnatural combination, we're not allowed to buy it here.
RUFUS	Yeah. That's right.
MIRIAM	I wonder if people have that concern I started with—that concern of the nutritional value. I mean, because this salmon has been tampered with, have some of its nutrients been taken away? I mean, is eating something that's been genetically modified going to be inherently less healthy than eating organic food?
	I wasn't even on the fence about this. I was definitely pro-GMO. I had all this momentum, thinking that GMOs are the right way to go and that there was no disputing that.
	So one of the most interesting things we learned is how plants defend themselves. Now, earlier, Rufus introduced recombinant DNA talking about bananas, how their genetic code might be modified to not ripen too fast. Another way that some people modify crops is by making them develop an internal defense mechanism to protect them for whatever would bother them in nature. The crazy thing is, many of these plants would have produced their own defense mechanism without the genetic modification help.
	Yeah, so the carrot, for example, is in nature in the organic variety would normally produce chemicals that are disgusting to carrot flies. Carrot flies are the natural predator of carrots. So, by doing that, they deter the carrot flies, the carrot flies don't eat the carrot, and serendipitously—what do you know—it's actually healthy for humans.
MIRIAM	The stuff that carrots produce, right?
RUFUS	Right, to repel the carrot flies. So in the GMO variety, the carrots don't produce those same chemicals. We don't get that same benefit. I'm not saying this is going to be earth-shattering or if it's going to cure cancer or anything like that. But I am saying that it could add slight nutritional benefits to the food.

MIRIAM	The scientific journalist Jo Robinson talks about this in her book *Eating on the Wild Side.* And while I'm not sure Jo Robinson and Dr. Van Eenannaam would agree on a lot of things to do with genetic modification, I think it's worth looking into what she has to say. She says, “Plants can’t fight their enemies or hide from them, so they protect themselves by producing an arsenal of chemical compounds that protect them from insects, disease, damaging ultraviolet light, inclement weather, and browsing animals. . . . When we consume plants that contain high amounts of bioavailable antioxidants, we get added protection against noxious particles." In other words, if a plant has had to defend itself from the elements, it’s likely going to be more nutritious to us. That means that if a plant has been engineered to be inedible to an insect that would otherwise eat it for lunch, then it doesn’t have to produce the compounds that would make it extra nutritious to us.
RUFUS	The thing that complicates this the most for me is that 25% of organic crops fail.
MIRIAM	And that's significant. That's a lot.
RUFUS	That's enormous.
MIRIAM	It's kind of a hard trade off, though.
RUFUS	Yeah. If I choose the organic variety, then it's less efficient.
MIRIAM	But the GMO variety isn't necessarily going to be as nutritious for you, assuming that the organic variety has developed those compounds that would be more nutritious for you in defending itself. That's a hard tradeoff.
RUFUS	It is.
DR. V E	If you don't know much about Ag, you might not appreciate that animals get sick and plants get rust and diseases and fungus invades—I mean, everyone's trying to eat our lunch. The pests, the weeds, the bugs, so farmer's job is try to get as much of that to the human supply as they can. And they need to protect it from everything else that's trying to eat our lunch. And that's really the basis of farming. So anything we can do to help the farmer bring it to us rather than give it to the bugs or the weeds or the rust or the funguses is going to improve the environmental footprint of our food production because we'll have more yield on each acre of land that's under cultivation. And, if that's true, then we can spare more land for wild purposes. But if we have inefficient agriculture, then we're going to need to keep putting—and, you know, we lose half our lunch to other things, then we're going to have to cultivate more land. There's a real tradeoff there that isn't discussed very much, and the kind of the more nuanced, grown up conversation around GMOs has to look at those tradeoffs and decide what is the best approach going forward.
MIRIAM	We don't pretend to have all the answers. But we do feel like it's important to understand these issues beyond what's advertised. Now that we know this—now that we've studied this—you and I can make this decision at the grocery store between the two kinds of bananas in an educated way. We want to know what you as our listener decide to do after listening to this. So let us know at peer-refined.com. How are you making your organic versus GMO choices?
RUFUS	Thanks for joining us.

TRANSCRIPT OF EPISODE 2: On Chocolate

Speaker	Text
MIRIAM	Do you like chocolate?
STEPHEN [voice over]	If you really want to enjoy dark chocolate, the secret is you need to experience it with as many of your senses as you can.
RUFUS	A 2015 estimate concluded that the average American consumes about 12 pounds of chocolate per year.
STEPHEN	And then, because you know you want this to be a really good experience, you've got to listen also as you open it, even when you've got the little foil business, just listen to how it comes out. And, if nothing else—I mean, this isn't the chocolate experience, but you're building your anticipation up.
MIRIAM	The US is fifth place in the world.
STEPHEN	But then you break off a bit and [snap] now you're dealing with the real chocolate.
RUFUS	The UK, Russia, and Germany have us beat.
STEPHEN	You don't want to hold it too much because it will melt, but even that's kind of an important thing, because good chocolate will melt if you touch it a lot. And you smell it.
MIRIAM	And the Swiss come in first place per capita for chocolate consumption worldwide.
STEPHEN	And then you've got to hear it and so you can hear the [snap] little snap. And if it's a good piece of chocolate, you can get that really satisfying snap—it's not a harsh snap. It's just a chocolaty snap.
RUFUS	The Swiss consume nearly double what Americans consume per capita.
STEPHEN	You might let it melt a little bit in your mouth at first, if you want, and if not, just chew it, and wow. You sure appreciate it a lot more when you use all of your senses, and it becomes an event, not just a hunk of candy you're eating.
MIRIAM	We live in a chocolate crazed world.
RUFUS	And there are some who say that this addictive substance is actually good for you. I'm Rufus.
MIRIAM	And I'm Miriam.
RUFUS	And this is Peer-Refined Health. Join us today for a conversation about one of the world's favorite flavors.
MIRIAM	And an exploration of how chocolate could maybe be good for you.
[intro]	
MIRIAM	What's unfathomable to me is how the candy I associate with holidays and birthdays and guilty trips to the vending machine could actually potentially be good for me. I've never eaten that double pack of Reese's specifically with the intention to feel better afterwards or get needed nutrients or anything. It has always been an instant gratification guilty pleasure kind of experience.
RUFUS	Yeah, and I think that's basically how my upbringing was, too. Chocolate is your post-meal, congratulations, you ate your peas, sort of treat.
MIRIAM	I kind of wonder, if it's actually healthy, why we don't just include it in the meal. Why isn't it sitting there right next to broccoli, you know?
RUFUS	Or instead of broccoli. You know, that's a good point, and today happens to be Valentine's Day—what a way to celebrate, recording a podcast—and it occurred to me that today might

	just be the day that Americans consume the most chocolate of any other day, right? Because this is the day you give your loved ones chocolate.
MIRIAM	Well. Halloween. This is the day you give chocolate. It's not necessarily the day you actually eat the chocolate, though.
RUFUS	That's true, but for those who are single, they can definitely relate that today is the day you eat chocolate, right?
MIRIAM	Sounds like you have experience.
RUFUS	Plenty of years.
MIRIAM	Anyway, before we can make assumptions about this, we need to actually know whether chocolate is healthy, and in what circumstances it is actually healthy.
RUFUS	Right. We mentioned the Swiss, and they love their chocolate. But the Kuna Indians off the coast of Panama—they have them beat.
MIRIAM	What do you mean?
RUFUS	So here's the thing. In 2007, researchers when down to this island off the coast of Panama. There lived this group of people called the Kuna Indians. They had an extremely low incidence of cardiovascular disease, atherosclerosis, stroke, diabetes, everything. And this is really interesting because this population has been isolated for centuries. So the researchers thought, "Maybe there's some kind of genetic marker in these people. Maybe there's some kind of thing that protects them against these diseases genetically." So they performed a study—an epidemiological study—they compared that group of people on the island to those who were on the mainland in Panama—
MIRIAM	Wait. So, like, the Kuna Indians who had left their island to go to the mainland?
RUFUS	Right.
MIRIAM	So same genetics?
RUFUS	Presumably the same genetics.
MIRIAM	Okay.
RUFUS	They had a look at these people, and it turns out that the Kuna Indians in Panama had the same incidence of stroke as everyone else—the same incidence of cardiovascular disease, same incidence of diabetes.
MIRIAM	The same incidence as everyone in Panama.
RUFUS	Right.
MIRIAM	So once they left their island, they no longer had whatever practically magical protection was over them.
RUFUS	Mmhmm.
MIRIAM	So it's not genetic.
RUFUS	No.
MIRIAM	Well, what was it?
RUFUS	Turns out, the Kuna Indians on this island consume about five cups of cocoa a day, which is extraordinary—it's way more than everyone else. And researchers believe that that was the difference.
MIRIAM	So their diet of cocoa was potentially protecting them from all those diseases.
RUFUS	Potentially. It's fair to not that the chocolate from the Kuna Indians isn't quite the same as

	the chocolate in the Hershey's Kiss or the Reese's Peanut Putter Cups.
DR. TESSEM	We've been interviewed about this and we've talked about this. This is something we've always tried to push on—we're talking about cocoa rather than chocolate.
MIRIAM	This is Dr. Jeffery Tessem of the Nutrition, Dietetics, and Food Science department at Brigham Young University.
DR. TESSEM	Chocolate is full of other things. We're bringing a lot of sugar there, bring a lot of fatty acids in there—there are protein products that come in, and that changes the composition. Also the way the cocoa is processed can affect the stability and the abundance of the different compounds within.
MIRIAM	So the chocolate we talk about isn't necessarily the chocolate that scientists focus on when they're talking about nutritional benefit. So the nutritional benefit chocolate is a lot more similar to the chocolate ancient Americans consumed. We see that in the example of when the Spanish conquistador Hernan Cortez came over and talked to Montezuma. When he came, there's the legend that Cortez asked for gold, and he was presented with chocolate. And it wasn't like a chocolate bar—the kind of thing we have now. It was a cup of steaming hot, fatty chocolate. That was what Montezuma consumed fifty cups of a day, legend has it, and that was the kind of chocolate that was first introduced to the Europeans by Cortez, not a chocolate bar.
	So can we assume that Montezuma lived forever?
	Probably. He's probably still alive somewhere.
RUFUS	It's also fair to note that the process for making chocolate bars is a little more involved.
POLLARD	In my view, chocolate is probably the most highly undervalued food product in the world.
MIRIAM	That's Art Pollard. He was the first American chocolatier to receive an international chocolate award for his brand, Amano Chocolate.
POLLARD	When you look at all the labor that goes into cutting each cocoa pod off the tree, getting them to a central location, scooping out all the beans, putting them through a fermentation process, drying them, and—well, and then, you know, every hour or so, they have to turn the beans over while they're drying—and then, uh, the whole chocolate making process. This is an incredible amount of work.
MIRIAM	Okay. So it sounds like chocolate-making is a lot of work. But what I most want to know is how does it affect the nutritional content of the cocoa bean?
RUFUS	We posed that question to Dr. Tessem.
DR. TESSEM	There are different ways of going about processing this cocoa. One of the first steps is—they pick it, then they ferment it for a little bit. Changing any steps from then on can change the different amounts and composition of the compounds.
MIRIAM	So post-fermentation is central to nutrition. Here's Amano's process post-fermentation.
POLLARD	Everything gets roasted. Every type of bean has its own unique roast that you give it. Some beans like a darker roast, some beans like the lighter roast. From there, the shell gets removed. After that, all the little bits of beans are taken into a grinder and are ground until they're liquid. They get to the consistency of peanut butter. 54% of the bean is fat.
RUFUS	So over half of the bean component is fat?
POLLARD	Yeah. That's your cocoa butter.
MIRIAM	Do you have to remove that in order to make it the smooth—
POLLARD	No, that's what makes it nice and melty
MIRIAM	I think I ate half a chocolate bar and a spoonful of peanut butter after that conversation. I

	don't see how you could avoid it.
RUFUS	Why the peanut butter?! Anyway. Right? We may not know how the chemical composition of the chocolate changes when it converts from bean to bar, but there are some recent studies about the effects of eating the finished chocolate product.
MIRIAM	Right. A 2005 study specifically published in the American Journal of Clinical Nutrition tested the influence of dark chocolate on insulin resistance. (Insulin resistance is the first step towards Type 2 diabetes.) The subjects in this test were split into two groups that each ate about 100 grams of either white or dark chocolate.
RUFUS	That's right. So it's important to note that they had a small sample size—just fifteen people—but they maintained validity by using a crossover study. Basically, what that means is that they had the participants cross over to the other condition after a seven day cocoa-free washout phase, so the participants acted as their own control.
MIRIAM	Those who had eaten the dark chocolate had lower blood pressure and increased insulin sensitivity compared to those who ate the white chocolate. But here's the thing about this crossover study: it could have been 1 group not changing anything and the other group eating white chocolate, The way it's set up, it might say more about white chocolate than dark chocolate, right? Or am I understanding it wrong?
RUFUS	So that's a good question. I think, after going through the literature and reading through it and testing, you know, understanding the statistical models that they used, and, you know, the graphics that they showed, it did show that they were comparing those who had eaten the dark chocolate to healthy people. So it made them more insulin sensitive compared to healthy populations. So that means that it wasn't the white chocolate making them worse compared to the dark chocolate, which kept them the same. It was that the dark chocolate actually improved their insulin sensitivity.
MIRIAM	Oh. Okay. That makes sense.
RUFUS	So, in other words, it looks like some amounts of chocolate can be very good for you. Some studies suggest that the optimal amount of chocolate per week is about 2 or 3 ounces, or roughly 1 to 1.5 chocolate bars every seven days.
MIRIAM	Dr. Tessem told us about a study that had similarly hopeful results.
DR. TESSEM	What this group at Virginia Tech did was they took these animals and they put them on a high fat diet. And, of course, they became obese. Then they took some of these animals on the high-fat diet and supplemented with cocoa extract and cocoa polymer. And what they found was that the oligameric polymer decreased their—their body weight was comparable to that of the low-fat fed animals. Their blood glucose was comparable to the low fat fed animals. Glucose tolerance tests were fantastic.
MIRIAM	So, basically, in this trial, the cocoa counteracted the effects of the high fat diet. If that doesn't sound magical, I don't know does.
RUFUS	One theory about why chocolate may be good for us has to do with epicatechin. Epicatechin plays a special role in the processing of energy in our bodies.
MIRIAM	That's right. Bear with me; this is worth it. Glucose—or sugar—is a source of energy for our bodies. When we eat something with sugar in it—like, a banana—the glucose needs to be converted to ATP in order to feed our hungry cells with energy. The thing is, our bodies aren’t perfectly efficient at converting glucose into energy. That’s where epicatechin comes in handy. Epicatechin, a chemical found in chocolate, makes that conversion of glucose into energy more efficient in certain cells in our body. In other words, eating something high in epicatechin should give you more bang for your buck energy-wise than eating something similar without epicatechin.
RUFUS	So it's kind of like epicatechin primes the pump energy-wise.
MIRIAM	Yeah, I guess so.

RUFUS	Cool. So, the chocolate outlook is pretty solid at this point. But that doesn't mean you should walk into the candy aisle at the grocery store and pile on the chocolate bars.
MIRIAM	Yeah, not so fast. Nature, one of the most respected scientific journals in circulation, published some bad news on that front. They published a study that did more than identify the positive effects of the epicatechin in cacao beans. This study measured the amount of epicatechin present in solid chocolate before consumption. Then, participants ate the chocolate. One group was given dark chocolate and the other was given milk chocolate. Naturally, the researchers expected to see the amount of epicatechin in the bloodstream increase relative to the actual cocoa content in the chocolate. They didn't. While those who had the dark chocolate reflected higher levels of epicatechin, those who had eaten the milk chocolate had hardly any in the blood stream.
RUFUS	The scientists pursued this unexpected result. They formed a new group of participants. These would eat the dark chocolate, and then drink milk. They ran the blood tests. There was hardly any epicatechin in the blood.
MIRIAM	Somehow, milk inhibits the absorption and cancels out the effects of epicatechin. It seals the nutritional value of chocolate inside itself and makes it inaccessible to our bodies. Any chocolate with milk or cream is no longer quasi-magical; it's just a dessert.
RUFUS	This is gonna disappoint so many people. By some estimates, 85% of adults under 45 prefer eating milk chocolate its darker counterpart.
MIRIAM	I'm one of them. I mean, I know Reese's has a dark chocolate option, but it's just never been my favorite. I mean, dark chocolate—it's just an acquired taste, right?
RUFUS	Dark chocolate has always been better than milk chocolate.
MIRIAM	Either way, we know the value of dark chocolate now. We noticed that Art Pollard's Dos Rios chocolate bar, made from chocolate from the Dominican Republic, didn't have milk. It made us wonder if he somehow knew about the ill effects of dairy on the nutrition of chocolate before the rest of us. So we asked him what his top priority is when chocolate-ing.
POLLARD	For me, the number one thing that I worry about is flavor. I mean, other than flavor, nothing else really matters.
MIRIAM	Well.
RUFUS	It looks like we have at least two parties with a vested interest in chocolate for entirely different reasons.
MIRIAM	I mean, what Art said made sense; if you're selling a chocolate bar and the flavor's not good, you're not gonna get a returning customer, even if it doesn't necessarily match what we've learned about the importance of a lack of dairy for the nutrition of chocolate.
RUFUS	That's true. Still, I wonder if Amano chocolate buyers would gravitate more to the Dos Rios bar if they knew that it could be more nutritious than the chocolates with milk or cream, like Hershey's.
MIRIAM	Yeah. Or even like some of the other Amano chocolate bars. I wonder if people would actually change their chocolate-eating habits because of finding out about a nutrition benefit. Because I'd assume that most people just hope that chocolate is good for them and would use any excuse as validation for a sweet-tooth indulgence.
RUFUS	True. I know I would. And if it takes more for someone to change their mind than finding out that it would be a good idea to change their mind. . . I mean, where's that tipping point?
MIRIAM	That's probably beyond the scope of this episode.
RUFUS	Right.
MIRIAM	But I've got a feeling that, no matter how much sense it makes or doesn't make, my dad's going to stick with his dark chocolate.
STEPHEN	You might let it melt a little bit in your mouth at first, and if not, just chew it. . . and wow.

	You sure appreciate it a lot more when you use all your senses, and it becomes an event, not just a hunk of candy you're eating.
RUFUS	Thanks for joining us.

TRANSCRIPT OF EPISODE 3: On Sleep

Speaker	Text
MIRIAM	Hi there! Can I ask you a question? My name is Miriam and I'm working with a podcast for Peer-Refined Health. I'm wondering, how much sleep do you feel is optimal for you?
INTERVIEWEE	Well, I think nine hours is the best, but if I can get eight, it's a good day.
MIRIAM	How much have you gotten in the past couple days?
INTERVIEWEE	. . . Like, six? Six and a half?
MIRIAM	I'm looking to understand people's sleep preferences. How much sleep is optimal for you?
INTERVIEWEE	Uuh, probably eight hours.
MIRIAM	Eight hours?
INTERVIEWEE	Yeah.
MIRIAM	How much sleep do you actually get?
INTERVIEWEE	Ooooh. . . maybe, like, four to six hours a night.
INTERVIEWEE	It kinda depends on the day. Maybe seven to nine hours.
MIRIAM	How much have you gotten in the last couple nights?
INTERVIEWEE	Somewhere between seven to eight.
INTERVIEWEE	Seven's good enough for me.
MIRIAM	How much did you get in the past couple nights?
INTERVIEWEE	Six. . . five and a half. It depends on the day.
MIRIAM	Eight and a half to nine, to be honest.
INTERVIEWEE	How much did you get in the past couple nights?
INTERVIEWEE	[4:37] I dunno. . . usually, like five, six hours, I dunno. In a perfect world, in a healthy world, I would probably get my full eight. But sometimes that doesn't happen, Miriam. I'm sorry.
MIRIAM	What's keeping you from your healthy world?
INTERVIEWEE	I like to experience life, so. Sometimes I do all my homework the night before, go to bed, wake up super early so I can go fishing, and then go to class! So I am experiencing life. It's not always homework and stresses that keep me up.
MIRIAM	How much have you gotten in the past couple nights, then?
INTERVIEWEE	See, it's funny you ask me. I'll do this four or five hours of sleep every night, and then I'll, like, break down after a few weeks. So yesterday, I was very ineffective at classes. I came home at three and I slept from about four in the afternoon to about six o'clock this morning. So that happened. But, on the bright side, now I'm good for another two or three weeks of irresponsibility and fishing.
MIRIAM	Obviously, there is a big divide between how much sleep people get and how much sleep they think they should get. And that divide only widens with people who are affected by a particular illness—an illness that affects their energy and ability to operate all day, every single day. I'm Miriam

RUFUS	And I'm Rufus, and today, we're going to talk about insomnia and how it affects us.
[intro]	
MIRIAM	So, not being able to sleep—for me, it doesn't happen all the time, but when it does happen, it sucks. I mean, I'm grumpy, I'm groggy—waking up and not feeling like I got enough sleep or waking up too early and not being able to get back to sleep, I anticipate having an awful day anytime that happens. I bet it makes me a pain to live with.
RUFUS	I honestly can't remember the last time that I went to bed with the intention of going to sleep right away and then actually managed to fall asleep. I usually take at least five, ten, up to thirty minutes lying there in bed.
MIRIAM	Yeah, and imagine that you and I have normal sleep health—I mean, at least we haven't been diagnosed with any sleep disorders—imagine how hard it is for people with insomnia. To be diagnosed with insomnia, you have to struggle to sleep well for at least three months. And guess what? That's a reality for at least 60 million Americans. Here's one of them.
JOSEPH	So you've been on road trips? So what's the longest road trip you've done? Or have you been on, say, an eight-hour road trip? Which is, say, the average amount of time you're in bed.
RUFUS	Meet Joseph, who has had insomnia since before he can remember.
JOSEPH	So imagine that, except the windows are all painted black, you don't have anyone to talk to and you aren't driving or doing anything, and every minute, half hour, hour of the road trip you get more and more anxious because you're supposed to have been asleep but every minute you're not asleep is less sleep you're going to have. Which, of course, does not help you fall asleep.
MIRIAM	Insomnia sounds terrifying. I've never had it. But I've lived in fear of it when I found out that insomnia is something you can develop. I learned about that talking with Dr. Daniel Kay, a clinical psychology professor at Brigham Young University,
DR. KAY	The predominant theory about how insomnia develops is that there are three Ps. So there are predisposing factors—and these are those genetic things that you just mentioned. And if you just had those, you'd never get insomnia. But typically what we'll see is that individuals will have a precipitating event.
MIRIAM	I live in fear of that event.
DR. KAY	Some experience, for example—getting sick, or we see it with older adults when they retire. You see it a lot with students who—maybe they had a schedule growing up and now they're in college and they can do anything they want, then all of a sudden you have this event that leads them to have this sleep disturbance.
MIRIAM	Now I'm also afraid of getting sick, getting old, and going to school.
DR. KAY	When it becomes perpetuated—so we have the perpetuating factors, that's the third P in this chain—it's those behavioral and cognitive reactions to the acute insomnia—
MIRIAM	(meaning the suddenly not being able to fall asleep after a precipitating event)
DR. KAY	—that then perpetuate it. So it's no longer the arousal necessarily. It's no longer the stressor. It's not the disease anymore. Now, it's because of the way you reacted to that, that you're continuing to have insomnia. Then I think, okay, what am I trying to treat here? Do I need to treat the genetic thing? Not necessarily. Do I need to treat the precipitating event? Nah. It's usually gone. And even if I treated their condition—for example, I could treat their depression. Fifty percent or more of these patients who I treat for depression—guess what they still have.
MIRIAM	Do they still have insomnia?

DR. KAY	They still have insomnia.
MIRIAM	So you need to treat the perpetuation somehow.
DR. KAY	You've got to treat the perpetuation. So that's exactly what I do in the treatment of insomnia.
MIRIAM	I don't want everyone worrying about this too much because that worrying could theoretically be that precipitating event we're so scared of, but insomnia is something you may not have now, but could get. However, there's hope: Dr. Kay has some methods of treating the root of the perpetuation.
DR. KAY	One is you can target the hyper arousal. I definitely think there's a hyper arousal component to this. If the patient, for example, is ruminating, they're very anxious, they're gonna have a hard time going to sleep with that. And so the treatment, then, corresponds to what I think is contributing to that, that they're getting in bed and they're ruminating and they can't go to sleep. So what do I do? I help that patient then develop a scheduled worry time where they carve out a period of time earlier in the day and they worry in that time—
MIRIAM	About not being able to sleep?
DR. KAY	Yeah, or it could be about anything.
RUFUS	I didn't expect that. I thought we'd hear about medications or something.
MIRIAM	Yeah. He may use medications, but in our conversation, they didn't even come up. Dr. Kay has people with insomnia do a lot to retrain their experience with sleep. And once Dr. Kay has helped remove all remnants of wakefulness from a patient's sleeping environment, he focuses on helping them get sleepy. And to be honest, the advice he gives—even though it's specifically for people with insomnia—it includes stuff we could all do to understand our personal sleep needs better.
DR. KAY	Over the course of two weeks, I'll have them fill out a sleep diary. Some days they'll sleep six hours, sometimes eight. You average that together and you get a good sense of what their body is telling them they need. Then we say, I'm going to give you thirty more minutes per week than what you need to sleep. We're going to carve out a window during the day when you're going to allow yourself to try to sleep. If the average is seven and a half hours, then you carve out eight hours. Now, if you don't fall asleep in that eight hours, guess what's gonna happen? You're going to get sleepy the next day.
RUFUS	What else can a person who has insomnia try?
DR. KAY	What I want to do is help them sleep deeply. I want them to go to sleep quickly, sleep deeply through the night, and wake up feeling refreshed. So there's a study by a professor at the University of Tele Aviv at Israel. She found that found that, by having these older adults with insomnia do a cognitive training—like working memory tasks and problem solving during the day—guess what happens to their insomnia.
MIRIAM	Did it go away?
DR. KAY	It actually improved their insomnia.
MIRIAM	Really? Because they were mentally active during the day?
DR. KAY	That's right. So the idea is, the more you use your brain, the more your brain needs to sleep. [13:20]
RUFUS	No surprise there, I guess.
MIRIAM	What intrigues me is the idea of keeping a sleep diary—the idea of taking two weeks to figure out exactly how much time your body needs to rest in order to feel refreshed and energized for the next day. I mean, we can't all just cancel all our daytime responsibilities

	and upset our schedules to ensure that we sleep as long as we want to. That's just not realistic. But it sounds like something—especially for people who actually have troubles sleeping—it sounds like it's worth trying, if only to be more informed about what we need. So guess what that means for mornings when you wake up having not slept well?
RUFUS	I don't think I want to hear this.
MIRIAM	You don't call in sick. You don't let yourself sleep in. You don't take a treat yo'self day and spend time with Netflix or Hulu.
RUFUS	NOPE! Didn't want to hear it.
MIRIAM	You get up and get working and thinking so that your brain knows you're serious about wanting to go to bed at night. Theoretically, having a bad night of sleep is the right time to push yourself harder and retrain your body and brain to accept sleep right when they can get it.
RUFUS	That's tough for me to hear. Try telling me that when I've only gotten four hours of sleep and then we'll have something to talk about.
MIRIAM	Okay. We'll talk then. But here's the thing. Sleep therapy doesn't work for everyone who has insomnia. In fact, the only thing that's worked for Joseph has been sleep medication.
JOSEPH	So this week, and actually for the past several years, I've been good because I am medicated for it. There definitely are patterns that help—not doing anything else in bed except sleeping, I've noticed, has helped, and a consistent sleep schedule makes a huge difference. But the only thing that's really made a difference is being medicated. At least for me.
MIRIAM	When it comes to sleeping issues, 10 million Americans have self-medicated in the past month, according to Dr. Matthew Walker. He's the author of the book Why We Sleep. These 10 million Americans have taken at least one dose of a sleeping aid, like a sleeping pill. And sleeping pills don't quite have the effect most people would hope. In his book, Dr. Walker writes, "No past or current sleeping medications. . . induce natural sleep." So, in other words, when you knock back your Nyquil, you're not sleeping the same way you would sleep if you were sleeping naturally. You're actually sedated.
RUFUS	So that begs the question, what's the difference between sleeping soundly and being sedated?
MIRIAM	There are a lot of technical differences between the two. The most significant appears to be the your electrical brain wave. When you're on a sleeping pill, you don't ever get the deepest electrical brain wave reading that you get when you sleep naturally. But it also influences you the next day. The day after you use a sleeping aid, you're groggy. You're forgetful. You have a slow reaction time. You have a hard time forming new memories. Those might seem like little things, but they're not. Think about what happens when you get behind the wheel of a car with reduced reaction time. When something or someone darts in front of you and your reaction time is impaired, you're not going to be able to slam on the brakes as fast as you should. And guess what?
RUFUS	What?
MIRIAM	Those side effects of using sleeping pills are some of the same side effects of not sleeping well or not sleeping enough. That forgetfulness, that slowed reaction time, that general grogginess—you're going to get it either way.
RUFUS	Okay, so why subject yourself to that Nyquil hangover if you're just going to get the same effects as if you didn't sleep in the first place?
MIRIAM	Exactly. It's a depressing reality. But that's not how Joseph has felt about it. If he misses a day of his sleeping pills—let's hear it from his own words.
JOSEPH	On bad nights, if I have a bad sleep schedule, I'm pretty much like anyone else. I'm groggy, I'm tired.

RUFUS	Wait a second. He's pretty much like everyone else? Does that mean that when he doesn't get enough sleep, he feels the effects of his insomnia, and he compares that to how everyone else feels? This is kinda crazy. I mean, it's indicating that when he's groggy and tired and lethargic, he thinks that he's a normal person. He thinks that everyone around him feels that way normally, too. I kinda feel like he's right sometimes. We do operate at half speed. We kind of are walking around half zombified. It's depressing to think that someone who struggles to sleep on his own has such a negative view of the people around him all the time.
MIRIAM	Well, it also makes me wonder how people used to be before modern inventions like the electric light that made them stay up past sunset. I mean, I imagine, you know, back in the 1600s, for instance, when the sun went down, you either spend your own fuel to light your own home and keep yourself up, or you go to bed. And, I mean, I don't want to make any crazy assumptions—they didn't have the same health research or technology we have now—but still, I sometimes wonder if people who lived before we had electric light bulbs—I wonder if they felt more energetic during the day.
RUFUS	Yeah. I wonder that, too. And you know what else I wonder? I wonder if nowadays, we think we're giving something up when we sleep. I know that in the United States and in the industrialized world in general, we really do put a premium on industriousness. And when we're asleep, we're not being productive. We're knocking ourselves unconscious for eight, hopefully eight or nine hours a night. So, because of that we have to sacrifice all that productivity we could have accomplished while we were asleep. And it makes me wonder, after hearing about all those harmful effects of not getting enough sleep, are we doing ourselves more harm than good by having those extra three or four hours of productivity during the day?
MIRIAM	Oh, I'd imagine so. Especially if our memory, our reaction time, our attention span, all that is influenced by not getting enough sleep, I bet we're really shooting ourselves in the foot doing what we do, staying up later.
RUFUS	Yeah. So maybe there is no compromise. Maybe if you get the eight, nine hours of sleep you should get every night, perhaps you're more productive with the hours that you do have during the day.
MIRIAM	There is no shortcut. At least, that's how it seems. And I know a lot of what we talked about today was about insomnia. Hopefully, most of the people who listen to this don't have insomnia. But I think we could all do well to take some of those therapy methods that we learned about from Dr. Kay. I think we'd do well in using them at least to understand our sleep a little better. So maybe we can do that to avoid precipitating events that might onset insomnia or some other kind of sleep disorder. And in order to look into that, I'd also recommend this book, *Why We Sleep* by Dr. Matthew Walker. It's been a great read, and I've learned so much about my health.
DR. KAY	My number one piece of advice would be wake up at the same time everyday, no matter what.
MIRIAM	Even weekends?
DR. KAY	On the weekends, every single day. If you wake up at the same time every single morning, your body will know, "Okay, if I'm going to get sleep, then I need to do it when that time comes." And your body will actually do the rest for you, for most people. If I wanted to do a favor for my own children, what would that favor be? The number one thing I could do for them would be giving them a sleep schedule. And if I could give them that sleep schedule that they maintain for the rest of their lives, I will have given them a true gift.
RUFUS	So tell us about your sleeping patterns and how this episode has influenced them at peer-refined.com. Thanks for joining us.
	[ending jingle]

ANALYSIS

Not all modern essay topics or subgenres would likely fit into the podcast format. Personal essays, for instance—Montaigne's preferred genre—depend on the power of a single voice. The co-exploratory nature of the podcast would have to be altered to allow for a conversation with a single voice. But as far as its presentation is epistemological, allows for contribution from various voices, and is willing to balance narration with information, the podcast would be an excellent format for essayistic creativity.

My initial attempts to explore the relationship between podcast and essay involved transferring an essay through the podcast medium. In other words, I wrote out what could have been published as a printed essay and then recorded myself reading it, much in the style of *Modern Love*. The written content of the episode was essayistic because it was an essay. But, because none of the conversational or audible traits of the podcast were engaged in the process, the episode as a whole was not essayistic.

After visits with my advisors and mentally overcoming my own resistance to disposing of a first draft in favor of a second chance, I recognized the need to incorporate the characteristics of a podcast—which include atmospheric music and tones, stitched-in sound bites from interviews, incomplete sentences representing a natural conversation, and pregnant pauses after a thought-provoking proposal—in order for the episode to be holistically essayistic. So I relinquished my determination to craft a perfectly worded piece for each episode and made room for the conversationality that makes podcasts unique and exploratory.

It turned out that the topic of common health questions lent itself perfectly to a harmony of narrative, information, and seeking for understanding. When researching for

the GMO episode, for example, we found plenty of contradicting research. It was easy to find people who would bet their lives on the toxicity or the perfection of genetically modified products, so it was easy to format the episode as a conversation. We even opened up the conversation to two leaders in the field: Dr. Alison Van Eenennaam, a professor and advocate for genetic modification in agriculture, and Jo Robinson, a popular science journalist who advocates for organic and whole foods. Although we didn't manage to get the two experts in a room together to discuss their differences, we simulated such a conversation by pulling content from our in-person interview with Dr. Van Eenennaam and responding to with with Robinson's writings. The simulated conversation would have not taken place if it weren't for the flexibility of the podcast format that allows for jump cuts between sound bites of different conversations.

In simulating this and other conversations, we achieved a double mindedness that we would not had achieved had we simply discussed a single perspective during an episode. This allowed us to end episodes with invitations to synthesize the potentially contradicting information we had presented. The open-endedness of the episodes is part of our plan to engage the listeners in a co-exploration; after all, it doesn't require much energy or mental participation to hear something without dissonance and be told it's an indisputable fact. Double mindedness came in both the format of the conversations and the invitation to the audience to cope with the dissonance that contradictory information may have presented.

In creating *Peer-Refined Health*, I realized that humankind is in need of the essay now more than ever. Since technology has shrunk the earth and brought people from different continents shoulder to shoulder, there's significant pressure to generalize issues

and jump on bandwagons of opinions. Political affiliation and other identifiers that indicate personal values are becoming more polarizing.[9] If the lack of variety in any ecosystem is a recipe for stagnation and eventual extinction, then the lack of variety in intellectual, political, and social opinions bodes ill for our future as a human community.

But that's where the essay can help. Essayist Cynthia Ozick wrote that the essay "makes us deny our usual opinions."[10] The act of working through an issue logically and unbiasedly keeps us from jumping to conclusions. Blanket statements—like "chocolate is bad for you" or "chocolate is good for you"—just don't fit in in an essayistic world. The conversation evolves from black and white and becomes more complicated. This complex conversation has the potential to lead us away from polarizing political and social debates and towards a more holistic, intellectual existence. And if over 20% of Americans are listening to podcasts, then podcasters have the opportunity to initiate that mental shift. A study of the podcast, then, can and should be a study of the essay and its influence.

Additional Research and Action

There is plenty of room for additional experimentation and scholarship into this field. I would hope that additional research would include some of the following:

- A project (including a controlled study) to determine listener churn rate (how often a podcast loses a regular listener) when comparing essayistic podcasts and purely narrative or informative podcasts.

[9] Pew Research Center, "Political Polarization"
[10] Ozick, Cynthia

- A project exploring listener perception of a podcast that is advertised as essayistic versus a similar podcast whose literary quality is not publically defined.
- A project exploring political polarization and the influence of essayistic principles when used in political debates or commentary. This project could also include public response to a political candidate who uses essayistic reasoning to defend or change his or her own opinions.

Although I am just beginning to contribute to this field, I feel I have hit upon something important. I believe that the way we communicate can influence the way we think, and if we can introduce conversational, essayistic searches for understanding into our dialogue, perhaps we can learn to think in a more tolerant, introspective, constructive fashion. I plan to publish *Peer-Refined Health* in springtime of 2018 and make it available to download at peer-refined.com and on iTunes and other RSS feeds. I hope that the accessible format of thought-provoking content will help shift conversation about controversial and non-black-and-white issues towards something more productive.

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