

# **BRAIN SCIENCE PODCAST**

*With Ginger Campbell, MD*

## **Episode #68**

**Interview with Dr. Peter Whitehouse, Geriatric Neurologist and  
Author of  
*The Myth of Alzheimer's: What You Aren't Being Told About Today's  
Most Dreaded Diagnosis***

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## **INTRODUCTION**

This is [Episode 68](#) of the *Brain Science Podcast*, and I'm your host, Dr. Ginger Campbell. My guest today is [Dr. Peter Whitehouse](#), who is a professor of neurology at [Case Western University Medical School](#) in Cleveland, Ohio. We will be talking about his book, [\*The Myth of Alzheimer's: What You Aren't Being Told About Today's Most Dreaded Diagnosis\*](#).

You may be tempted not to listen to this episode, but I promise you will be glad that you did. The last few episodes of the *Brain Science Podcast* have been pretty technical, but this one is a perfect one for listeners of all backgrounds.

As always, you can get detailed show notes and episode transcripts at [brainsciencepodcast.com](http://brainsciencepodcast.com). And you can send me feedback at [docartemis@gmail.com](mailto:docartemis@gmail.com).

I want to get right into the interview, but I need to make one brief announcement that has to do with the iPhone application that is available for the *Brain Science Podcast*, and also my other podcast, *Books and Ideas*. A few days ago I opened the application on my new iPad to see if the transcripts were going to be easier to read than they are on the iPhone, and, unfortunately, what I discovered was that all the transcripts had disappeared from both of my applications.

This has to do with my being transitioned to a new system on Libsyn, and I just found out that I now have to upload all those transcripts again by hand—which represents over 100 files. When you listen to this episode, if you have the app, you will be able to get the transcript for this episode. But it might be awhile before I get all the rest of the back episodes back into the application.

I apologize for this, because I think that being able to read the transcripts on your device is one of the biggest advantages of the application. I would mention, however, that the application is compatible with the new iPad, as well as the iPhone and iPod Touch.

I will be back after the interview to do a brief review, and during my closing comments I will tell you how you can get some extra content. But now, let's listen to my interview with Dr. Peter Whitehouse.

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## **INTERVIEW**

**Dr. Campbell:** My guest today is Dr. Peter Whitehouse, the author of *The Myth of Alzheimer's: What You Aren't Being Told About Today's Most Dreaded Diagnosis*. Peter, it's great to have you on the *Brain Science Podcast* today.

**Dr. Whitehouse:** It's great to be with you, Ginger.

**Dr. Campbell:** Will you start out by telling us a little bit about your background, and how you came to write *The Myth of Alzheimer's*?

**Dr. Whitehouse:** Certainly. I have been interested in the relationships between brain and behavior since being an undergraduate at [Brown University](#), but I matriculated into an MD/PhD program at [Johns Hopkins University](#), and have kind of gone down a clinical route as a geriatric neurologist, and have spent a quarter of a century caring for people with memory challenges.

But I also worked in neuroscience and in psychology, and consider myself a cognitive neuroscientist, as well as a clinician. And it's from that perspective I also began to be concerned about the way we were addressing what I prefer to call the cognitive challenges that we all face as we age.

**Dr. Campbell:** That's an excellent short introduction, which I'm glad you were able to do because we have so much to talk about, and so little time. How about giving us an overview of how this book challenges conventional wisdom and assumptions about [Alzheimer's](#).

**Dr. Whitehouse:** I think the conventional thinking about Alzheimer's disease is that it is a single discrete entity. They call it a disease. But the fact is that there are a lot of biological processes that are enfolded into what we label by this man's name. And even starting a hundred years ago when [Dr. Alois Alzheimer](#), in Germany, characterized the first individual that was eventually called Alzheimer's disease, he himself was not sure that he had described a separate entity. And so,

from a clinical perspective it overlaps with the kinds of memory problems we see in older people.

I should point out that Alzheimer's first patient was 54 when she died, so this raises the issue of early-onset Alzheimer's. But the other thing is that he described in the brain of [Auguste Deter](#)—this first patient—both neuritic, or [senile plaques](#), and [neurofibrillary tangles](#). Yet, in the second case that was eventually published there were only plaques.

So, the warfare (if you want to call it that) between those who believe that the amyloid plaques are the most important feature and those who think that the [tau protein](#) associated tangles are critical, started. The controversy began. So, the first point to make is that I don't think this is a single condition, and I don't think many experts really think it's a single condition, either (and I can elaborate on that), and it is related to aging in complicated ways.

**Dr. Campbell:** Why are you speaking out against what you call the traditional view?

**Dr. Whitehouse:** I think we are living in a very challenged world, Ginger. Brain health is a very important topic. We have got to, as a species, learn to think our way out of complicated challenges, both socially and environmentally. And resources are becoming an issue. That is to say, we have got to make some smarter, wiser choices about how we approach complex problems like Alzheimer's disease.

I'm speaking out in large part because the dominant model supported by the [Alzheimer's Association](#) is that, if we just spend enough money, we can cure this condition—we can end this condition. And so, the calls are always for more money for research. And I'm a researcher, and I believe in the power of investigator-driven curiosity. But I think when it comes to research for brain

aging we need to take a broader perspective on the kinds of things we should do as a society, rather than just putting all our hopes—our false hopes—into biological solutions.

I'll presage what approaches I think are important to use by saying that my wife and I (my wife is also a psychologist; we met at Johns Hopkins) developed an [intergenerational public school](#) that has been very successful. In that school older people and younger people share stories and create wisdom. And some of those older folks have some cognitive challenges—have been diagnosed as having a dementia. So, that's the kind of broader social response we need in these challenged times, not these simplistic solutions that we can just fix every problem we put a name to.

**Dr. Campbell:** And you've already alluded to the fact that scientists don't agree on exactly what Alzheimer's is, so why is this label of 'Alzheimer's' so powerful and so destructive?

**Dr. Whitehouse:** I think it's powerful and destructive because in our society, which emphasizes rationality and quick thinking (you're defined by your thought processes; "I think, therefore I am," to quote Descartes), we overvalue that cognitive part of our lives. And so, Alzheimer's represents a threat to our ability to think. There are studies that show that people are more afraid of so-called Alzheimer's than they are of death.

Something I say often is that Alzheimer's is more important than just Alzheimer's. By itself it's a huge challenge—that is to say, the notion that as you get older, you may lose your memories and other abilities. So, this is a social challenge. I'm in no way suggesting that this is not something we should address in our individual lives and in our communities. I am suggesting, though, that the response needs to be a broader one than the one that's often said. So, I think it's

a combination of false hope and fear that's created this word as a terrorizing concept in our society.

**Dr. Campbell:** So, there's no such thing as a single disease called Alzheimer's disease, and so it's not something that you can get, like you get strep throat.

**Dr. Whitehouse:** That's my perspective. And even [Robert Butler](#), who was the first founding director of the [National Institute of Aging](#) (that made, when they founded the Institute in 1974, Alzheimer's their disease, because they figured they needed a disease in order to get people to pay attention to the National Institute of Aging), who created the Alzheimer's 'Politics of Anguish,' as he called it, even he now says that it's not one disease.

Even [Zaven Khachaturian](#), who helped develop the research programs that I participated in at Hopkins and Case Western Reserve—by that I mean he was a federal bureaucrat who helped establish these programs—has come to highlight the heterogeneity. So, it becomes a little bit of a political issue, not so much a scientific issue, about what you call this.

But there's no question, most scientists who work in the field, most clinicians, most people who have experienced this in their lives in their families, see that this set of processes affects people in very different ways. And the brain changes reflect the fact that there's variability clinically.

**Dr. Campbell:** I hope you will forgive me for oversimplifying, but is it fair to say that one of the key ideas of your book is that it's not a good idea to label brain aging as a disease, and whatever Alzheimer's is, it reflects some part—even if it's only a small part—of brain aging? I know you pointed out that aging is a broad spectrum—everybody is different. We could look at what we call Alzheimer's now as being at one end of that spectrum of what can happen to your brain as you age. Would that be accurate?

**Dr. Whitehouse:** Well, Ginger, I enjoy your podcast, because I think you have a remarkable ability to get to the central aspects of a book's message. And our central message is, in one sense, simple: Alzheimer's disease is not a singular condition. It's not a disease; it has a heterogeneity to it.

Now, the more complicated issue is whether you call something that is on a continuum with aging, a disease or not. What societies consider as diseases is not just up to doctors, it's up to society. Is homosexuality a disease, for example? We've clearly changed our attitudes about that since the [American Psychiatric Association](#), in 1973, decided not to label it as a disease. So, too, brain aging can be understood in different ways.

I'll just tell you another thing, Ginger, that reflects the importance of these labels, if you don't mind. And that is the word 'dementia.' I often get asked what is the difference between dementia and Alzheimer's. And the standard definition is that dementia is the broader category; meaning you can have a progressive cognitive problem because you've had multiple strokes, because you've had head injuries. Alzheimer's is thought to be more specific.

Well, I'm arguing that Alzheimer's isn't very specific. And the new [Diagnostic and Statistical Manual](#) from the American Psychiatric Association—the Version 5, which is under discussion at the moment—gets rid of the word 'dementia.' So, they, themselves are recognizing that our terminology is confusing in this area.

**Dr. Campbell:** I guess we could talk, as it relates to this, about how Alzheimer's is diagnosed. Can it really be diagnosed?

**Dr. Whitehouse:** Well, of course a doctor can put a label on a person and call them 'Alzheimer's disease.' But formally speaking, when I started working on these research criteria, the diagnosis of Alzheimer's disease could only be made possibly, or probably, in life. The definite diagnosis (and those are the words we

use—‘possible,’ ‘probable,’ and ‘definite’) could only be made when you examined autopsy tissue. So, there was always a caveat about whether the clinician could accurately identify the brain changes clinically. That’s a problem in a lot of these kinds of conditions—that the clinical and the pathological features don’t match up.

However, the bigger problem is this notion of the autopsy as being the gold standard. We already talked about the fact in the first two cases, the first one had plaques and tangles, and the second one plaques only. What’s happened over the last several years is that people have identified that maybe as many as 30% or 40% of older people, who have much milder memory problems, actually have enough plaques and tangles to be diagnosed as Alzheimer’s pathologically, with the arbitrary criteria that we’ve set around diagnosis. So, we have this strange situation where we’re actually asking is Alzheimer’s a clinical diagnosis, or is it a pathological diagnosis. And neither one is completely reliable.

**Dr. Campbell:** And then there’s the fact that most people that get labeled with Alzheimer’s don’t have autopsies when they die.

**Dr. Whitehouse:** That’s right. The frequency with which autopsies are done in this country has been going down for various reasons. But what I’m also suggesting is that, even if you do examine brain tissue, you can’t be sure whether somebody had Alzheimer’s or not. No neuropathologist who’s smart enough would be able to just look at the brain and say this person had Alzheimer’s.

They would ask the clinician if this person had significant memory and thinking difficulties. Because if the person didn’t, the clinician would say the patient didn’t have dementia, didn’t have this cognitive problem, and the pathologist would not diagnose Alzheimer’s. So, the gold standard is rather tarnished (if I could put it that way), the autopsy being not definitive. It depends on what the clinician says.



**Dr. Campbell:** Or, if you were looking at it from a greater distance, you might say that put doubt on the whole idea that that pathology is what's causing the dementia.

**Dr. Whitehouse:** That's absolutely the right question. We've talked about plaques and tangles because that's where it all started with Alzheimer's. But many people believe that there are other, more important features in the brain. For example, I've studied neuronal loss a lot—the loss of nerve cells—and we're not sure exactly what the relationship is between either the tangles or the plaques and the death of nerve cells. That connection has not been made. There are even some people who are not sure that it's the neurons that are the key players in this. It may be the synapses. It may be the interconnectivity.

Yes, there's doubt about what the essential biological features are. Going back to what I was saying before, most people agree that there's not one biological process. And so, we're trying to find one marker—as we sometimes call it—one biomarker to characterize what is a variety of different biological processes. So, we have to think about this disease differently. In fact, even when I say, 'this disease,' I'm making the mistake of presuming that there is a single disease. 'These conditions' is what I should say better.

**Dr. Campbell:** Peter, aren't you really arguing that we should (and I'm shifting slightly here) help people focus on successful aging, rather than labeling them with an incurable disease?

**Dr. Whitehouse:** Yes. I'm not saying that we should ignore the suffering that can occur with aging; particularly when your brain is not behaving as efficiently as possible. That's exactly what we're saying. And it comes to a different way of addressing it as a clinician, or in our own individual lives. We don't sit at home expecting that the next news story will announce a cure for Alzheimer's; we get out there and take some responsibility for our own brain health.

**Dr. Campbell:** Right. As I was walking my dogs before I got on the line, I was thinking about how we aren't teaching (or, at least, I don't think the average clinician is teaching) patients with dementia, coping skills; for example, simple things like keeping lists, or using some of the technology we have that could help us keep track of things. We can't keep track of everything, but there are lots of tools people could use, instead of taking expensive drugs that don't do much.

**Dr. Whitehouse:** That's absolutely right. And I think, frankly, doctors don't do much talking to people with dementia, in general—with Alzheimer's. It's a tragedy that once the diagnosis is made, patients often complain that the doctor just spends the time talking to the caregiver—the wife, the daughter, or whomever. And so, frankly, we victimize two people by labeling one person as Alzheimer's. The other one becomes one suffering from caregiver burden.

So, physicians need to recognize, particularly as we are identifying people with these kinds of problems earlier and earlier, that they need to focus their attention on the whole family unit. I have said for years—including to drug companies, when I was a major consultant for many of them—if you really want to improve people's cognitive functioning, I frankly think there are going to be more opportunities in the information technology area than in the biotechnology area.

Kind of alluding to what you were saying, a list on a piece of paper is good, a list on a white board is good. A list on a computer that is intelligent enough to adjust itself to a human being's cognitive abilities, that's the wave of the future: embedded intelligent devices that can adjust to our abilities to multitask. That will be a smart computer that will help us all stay smarter as we age.

**Dr. Campbell:** Nobody thinks anything of wearing a hearing aid if they need that as they get older, so it shouldn't be a stigma if you need other aids.

**Dr. Whitehouse:** Absolutely not: the latest generation of hearing aids connecting with Bluetooth, and from Bluetooth you can go to a phone that can feed you information in a number of different ways. In Norway, where I've done some work, they're making all the nursing homes smart nursing homes. That is to say, kind of like the concept of a smart home that we talk about in this country. But, how can we create an environment – in fact, how can we create communities –that's probably the biggest challenge—that are more friendly to people that have cognitive challenges?

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This episode of the *Brain Science Podcast* is sponsored by Audible.com. *The Myth of Alzheimer's* is available, along with many of the other books I've talked about. If you are new to Audible, you can get a free audiobook download by going to [audiblepodcast.com/brainscience](http://audiblepodcast.com/brainscience).

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**Dr. Campbell:** Later on, if we have time, I want to talk a little bit more about the pathology, and the story of Dr. Alzheimer, but I really want to spend some time exploring what you call 'the new story' that you advocate in your book. First I guess I should ask why does it matter what story we tell ourselves about brain aging?

**Dr. Whitehouse:** I'm a cognitive scientist who spent a fair amount of time early in my career studying how people process words. And as I got more experienced, I recognized that how people put words together in stories is really the way in which we guide ourselves through life. The stories are of our past, they are what we're doing today, and they are stories that project ourselves into the future.

I've been fortunate enough to work with a number of people, like [Oliver Sacks](#), the master storyteller for neurology, and [Rita Charon](#), from Columbia, [The Program in Narrative Medicine](#), and [Rachel Remen](#). Rachel Remen teaches medical students the power of story—the healing power of story.

**Dr. Campbell:** She's fantastic.

**Dr. Whitehouse:** Yes. So, healing, to me—to come to the essential answer to your question—means 'whole.' It means that you feel that you are integrated. I'm a believer in integrative medicine; integrative health. And how we make sense of our lives and our relationships to others, and therefore, feel healthy, is by telling a healthy narrative.

Now, the narrative of the people want who promote the Alzheimer's story is that you've got an incurable disease that's going to kill you, and the only hope is finding a magic bullet. That is not a story that gives people a lot of choice.

The story that brain aging affects people in different ways, and you need to take care of your brain when you're younger, and you need to continue to walk your dogs, or do your computers, or whatever, that's a message that says to people that they have control over their own brain aging, and there's more they can do that doesn't depend on some Nobel-Prize-seeking scientist, or some profit-seeking company.

**Dr. Campbell:** Do you mind if we go through some of the key story bullets you had in your book? Because I think they're really valuable. You've sort of incorporated some of them into that, but I want to just take them one by one, if it's OK with you, because I think this is a very important concept to share with people. So, is it OK if I just go through the ones that are in your book, and let you elaborate a little? Or would you like to do that yourself?

**Dr. Whitehouse:** No, that's absolutely good, because you'll serve to remind me what they are.

**Dr. Campbell:** Right. It has probably been awhile since you sent it to the publisher.

**Dr. Whitehouse:** Although I will put a plug in to say that we're now translated in France and Germany, and we're expecting it in Italian and Japanese. And there's an active website, which I'm sure you were going to mention at some point, Ginger, for people who don't want to buy the book. If they just go to [TheMythOfAlzheimers.com](http://TheMythOfAlzheimers.com), the advantage of a blog, which Danny and I do ([Dan George](#) being my co-author) is that, of course, you can keep that more up to date than a book that was finished in 2007, and was published in 2008.

So, let's do it. Let's go through the points that you think are important to emphasize for your listeners.

**Dr. Campbell:** When you used this phrase, 'AD,' in your book, does that refer to Alzheimer's disease? Because you use 'AD' a lot.

**Dr. Whitehouse:** Yes. Sometimes we call it 'so-called AD,' or sometimes we put 'AD' in quotes to signify that we're challenging the very concept. But 'AD' is Alzheimer's disease, yes.

**Dr. Campbell:** OK. So, the first idea is to change the story from, "AD is a brain disease," to, "brain aging is variable."

**Dr. Whitehouse:** That's right. As I said earlier in the call (and, as you pointed out, we're kind of summarizing information point-by-point to make a story that's complicated as simple as possible), what gets defined as a disease in society varies. Doctors and scientists don't discover diseases, they invent them. They're concepts. They're words. So, I'll put it this way. Is Alzheimer's disease first a

chronic degenerative brain disease—which is the way most people think of it—or is it first two words?

A hundred-year-old term: Just think about it—a man’s name. How much more ignorant can you be—not that I in any way want to insult Dr. Alois Alzheimer—than to describe a phenomenon by somebody’s name; not even to describe what’s going on in the brain, or in the patient? So, we’re dealing with this fundamental challenge. It’s very important what we call things in life, and particularly diseases that can have such a profound effect on people’s lives.

**Dr. Campbell:** The second one: “AD ravages the brain,” to, “brain aging creates age-associated cognitive challenges.”

**Dr. Whitehouse:** The ‘ravage,’ and the ‘terrorize,’ and the ‘fear,’ and the ‘degenerative’ words are all words that promote an emotional reaction that, frankly, makes it hard for some people to open their minds to other possibilities. We’ve learned in this country that terrorism, and being terrorized by people or words can provoke a negative reaction that restricts people’s ability to think differently. So, I like the words, ‘cognitive challenges.’

Now, I kind of make fun of my colleagues, because we’ve invented lots of words, some of which are in the book: ‘mild cognitive impairment,’ and, ‘aging-associated memory impairment.’ So, I like ‘AACC’—aging-associated cognitive challenges.

Why do I like that? Well, of course, everybody has a challenge, whether it be a child or an older adult. Life is challenging your mind. The other thing about it is that a challenge is something that you can rise to, or not. So, that’s something that isn’t like an impairment, or a decline, or a deficiency. It’s something that you can address in your life, and come out of it feeling better about certain aspects of your life.

**Dr. Campbell:** This next one I think is a really important one: “AD leads to a loss of self;” changing that to, “brain aging creates a change in self.”

**Dr. Whitehouse:** That’s right. There was a book written by some people who I know, that called Alzheimer’s “a loss of self.” This gets into the neuroscience of self, and what a self is; and then it also gets into a lot of cultural differences about what a self is. We believe in what’s called ‘person-centered care’—a concept developed by [Tom Kitwood](#), mentioned in our book.

And so, we believe that, yes, aging affects the self; it changes the self. And, of course, if you have a great deal of difficulty remembering things, that’s a pretty profound change. But it’s not a loss, in the sense that the person is still the person that we call by their name—whatever their name is.

And a self is also, even in our society, which is very individually organized—individual autonomy is dominant; and certainly in Japan and other countries, a self is much more socially-defined—even in our society you’re defined by the relationships that you have with other people. And those relationships change, but they don’t necessarily have to decline or degenerate. It’s just an opportunity for people to have a sense of solidarity about brain aging, rather than a sense of isolation and loss.

**Dr. Campbell:** The next one is “fighting a war on Alzheimer’s;” changing that to, “accepting and adapting to our finitude.”

**Dr. Whitehouse:** Yes, there is a sense in medicine that we use military metaphors a lot. We’re declaring war on cancer, and war on Alzheimer’s disease, and fighting battles. There are many people who have criticized war metaphors. I would prefer to use ecological metaphors about being in harmony and balance with life. War metaphors relate to conquering diseases, and conquering death.

Part of the aging-associated cognitive challenge is to gain some wisdom as we age. That's a possibility that aging offers us. And part of wisdom, at least for me, is recognizing there are limits to what we can do as human beings, in our own lives and in our behavior in relationship to others.

And I think that's one of the problems with our healthcare system; that's the problem with science; that's the problem with capitalism. We don't recognize that there are limits to our natural resources, and limits to our ability. If we recognize those limits we will be wiser than if we just go off and think we can do anything if we have enough money. And, of course, we know—particularly these days—we do not have enough money to do everything we'd like to do.

**Dr. Campbell:** Yes. And even if money was in an endless supply, spending it the way we do in certain situations like this doesn't make it wise, even if we could. I agree with you completely on that.

OK, so this one sort of could be more personal: "My dad has Alzheimer's;" changing that to, "My dad has what people used to call Alzheimer's."

**Dr. Whitehouse:** When you said that, Ginger, I was thinking, 'Oh, my heavens, maybe Ginger has some experience with this in her family.' But you were actually quoting the book. But I'll tell you that when you go and talk about these issues, lots of people are affected by relatives who have this condition. In fact, it goes up, and up, and up. The supercentenarians—those over the age of 110—have a very high percentage of dementia, unfortunately. So, this is something that a lot of people face in their families.

This goes back to this notion of storytelling. The word 'Alzheimer's' has changed already historically. When I started my career, Alzheimer's disease was basically reserved for the relatively rare situations in which people got this kind of condition under the age of 65. It was a so-called 'presenile dementia.' And that



was the original use. Those listeners who have been listening to the whole podcast will remember that I mentioned that Alzheimer's first patient died at the rather early age of 54.

However, we've changed it during the last 25 years from being a presenile dementia to everybody who's got a dementia, regardless of age, who doesn't have another cause that you might be able to determine, as we talked about before. So, the story has changed, and the story can change. And, frankly, the story is changing.

The book, even though it has a controversial title, as I've mentioned before, from the science perspective and the clinical perspective is not that controversial. The people who find it controversial are the people who want to raise money or make a lot of money out of selling Alzheimer's disease, and selling the hope for potential solutions through pills.

**Dr. Campbell:** I want to talk about that again a little bit more in a minute, but I want to finish up our list here. The last one was "Alzheimer's is a slow death;" changing that to, "aging persons can still be vital contributors." I think this is a very important idea.

**Dr. Whitehouse:** Well, thank you, Ginger. We do, too; which is why my wife and I started this intergenerational school I mentioned earlier. This is why the story of Alzheimer's is so limiting for people. And remember, when you think about so-called Alzheimer's disease, we can be talking about people with a wide range of abilities before they started with the brain aging process, and a wide range of abilities after.

And so, we believe that communities that find a place for older people that have these cognitive challenges are going to give these older folks what they really

want. And that is a sense of purpose and, increasingly as you get older, a sense of legacy: What do I want people to remember me for when I'm gone?

The intergenerational school is a place where older people can come and learn alongside others—sometimes we call them volunteers, which they are, because we don't pay them; on the other hand, they're co-learners. That's what the intergenerational school does. It creates an environment, a community that celebrates lifelong learning, and in that environment people with memory challenges can still get a huge sense of purpose by participating in the lives of children, and keeping their own brains active in the process.

**Dr. Campbell:** Is there anything else you'd like to say about the problems of what I'm going to call, and I think you called in your book, 'the old myth'—the one we're trying to get rid of? It's not that old.

**Dr. Whitehouse:** You know it wasn't the original story—because that was the presenile dementia, the younger onset—this story that is changing now. I've been pretty critical of it. I would say another thing. For some people the certainty of a diagnosis means something. So, there are some people who really seek out the best possible medical labels. The nice thing about our message—if you can forgive this—is it's kind of pro-choice.

What we're trying to say is you can tell your own story. Certainly you need to see a physician; you need to make sure that you don't have some medical conditions causing your problem. We're not suggesting that there aren't aspects of this that don't require a doctor. We're not suggesting that the science isn't exciting. It's at the heart of trying to understand brain and behavior.

But we are saying that we've got to stop pretending that we know as much about Alzheimer's disease as we do, that we've had all these breakthroughs, and that we're on the threshold of a major cure. Privately most of my friends will agree

with what we're saying, and they realize that there is a lot of hype going on in the field at the moment.

**Dr. Campbell:** One of the points you make in your book that I think is very important—I think you may have said it just a minute ago—is the fact that brain aging hasn't always been a disease called Alzheimer's. You mentioned your own experience. I remember when I was in medical school a little less than 30 years ago, the label 'Alzheimer's disease' was only applied to people with, as you said, premature senility. It was considered separate from what we called 'senile dementia.'

When I was reading your book I was really struck by how insidiously we got label creep. It was the thing that most struck me when I was reading your book. I didn't even notice how this happened, because I'm not directly involved. I mean I see patients with Alzheimer's disease every day as an emergency room doctor, but it's not my main focus. But it just kind of snuck up on us.

**Dr. Whitehouse:** I think it has in some sense, partly promoted by the National Institute of Aging wanting to have their own disease, partly promoted by some caregivers who organized the Alzheimer's Association, who really felt that they could believe the idea that we could find more effective biological therapies. And I've been in the field for 25 years. I've gotten a bit disillusioned at the likelihood of biological approaches, in part driven by this diagnostic creep the drug companies foster.

So, I mention that there's the term, 'mild cognitive impairment,' which is kind of dementia without dementia. You have some cognitive problems, but not enough to affect your functioning in daily life very much. And now they have 'early mild cognitive impairment.' And there's a man promoting the notion of 'subjective cognitive impairment,' which means you just have to complain about the memory being bad.

So, there is a certain tendency for drug companies and doctors (frankly, we have a moral crisis in this country that too many doctors are too close to drug companies), because you have to get a diagnosis before you can sell somebody a pill. I used to think that we developed pills to treat diseases. Now I think we develop diseases to be treated by pills—this whole notion of off-label prescribing and diagnostic creep, as I think you called it a minute ago.

**Dr. Campbell:** And then, of course, if we admit that we are looking at the variability of brain aging, we would also have to admit the fact that brain aging can't be cured the way a traditional disease might be. You talked before about not wanting to admit our limits. I think there's this attraction that if it's a disease, we could fix it, instead of having to learn to cope with it.

**Dr. Whitehouse:** I'll say this—and I have to be careful, because these people have sued academics for making some statements: There is an organization called [The American Academy of Anti-Aging Medicine](#). In my opinion they really go over the top with regards to claiming that aging is a disease.

**Dr. Campbell:** Yes, I'm familiar with them.

**Dr. Whitehouse:** I think there is an awful lot of hype around trying to cure or prevent aging, that makes aging a disease. And some of the things that they say and that I say—which is to exercise, keep your brain active, and watch your diet—those kinds of things are good. But when they get to taking human growth hormone or its analogs, or telling you to read their book, or there's something they want to sell you that's going to prevent your aging, then I think they're over the top. And that's what concerns me about the Alzheimer's field. How over the top are they, selling the scientific solution to brain aging really exists?

**Dr. Campbell:** And false hope, and wasted resources. I was in practice briefly during the time of some of the first anti-Alzheimer's drugs, and I remember they

just don't do much of anything. I mean I get these patients from the nursing home that are still on this stuff. It really is a waste of resources.

And if an elderly person is on Medicare and they can barely make ends meet, and they're spending that money on a medication that, if it's doing anything, it might be a placebo effect, and as you pointed out in the book, we're not giving people the kinds of stuff they need (supports that help them stay in the community), to me that's a big reason for changing the story.

**Dr. Whitehouse:** I agree with you. The challenge is how do you do that in a way that provokes people to think about changing the story, without being too inflammatory? Because you're never going to make everybody happy. And there are certainly some people who read the title of the book—*The Myth of Alzheimer's*—and got annoyed enough that they wouldn't read the book. But if they read the book, then they understand why the theme is changing the story, and why this dominant mythology—that it's one thing that we can fix—needs to be challenged in order to be routed directly.

**Dr. Campbell:** And I guess this is a good time to point out that when you use the word, 'myth,' you're not referring to something that's totally false; you're referring to a powerful story.

**Dr. Whitehouse:** That's right. Although I think we are saying that there is something about this current scientific story that is mythical—that is to say, it's false. I think the problem with the word, 'myth,' is that some people interpret it to mean we don't think that the phenomenology (if I can use that word), that the existence of age-related cognitive changes occurs.

That would seem to be a rather silly position, A) for somebody who's been caring for folks with these kinds of conditions for 25 years, and, B) for anybody who has any older person in their family that's affected by memory problems. This is a

real phenomenon. It's a question of how you label it, and therefore, after labeling it, what you do about it.

**Dr. Campbell:** I want to quote from your book on Page 40, because I think this is a good summary of what we would like to do. You said, "We can provide quality care and resources for our elders, without stigmatizing them with a scientifically imprecise and socially damaging disease."

**Dr. Whitehouse:** I don't want to make that as a criticism of science, although there is a certain science that is imprecise because it's often molecular, and reductionistic, and genetic, and there is this sense in science that if we just had the right molecule, we'd be able to fix everything. But this is a time for a different kind of science in medicine. This is a time for an environmental science, an ecological science, an evolutionary science; a science that puts genes into a context, and doesn't promise—again, with the whole personalized genetic medicine—too much.

**Dr. Campbell:** The thing is, there is more to medicine than science. That's something that I think is maybe being lost.

**Dr. Whitehouse:** I think it's absolutely being lost. And that's why we focus on narrative medicine and the power of stories. That's the cultural side of medicine; the art of medicine. But I'm a scientist, and I would just say that we've got the science wrong, too. It's seductive to be in a world in which we've mapped the human genome and think that all the answers to our health problems can be addressed by the understanding of genes.

That's a more dangerous claim than that Alzheimer's is a single disease. Yes, genes play a role. But if we just allow the environment to continue to deteriorate, there is no way that our species will be able to evolve biologically through gene

mechanisms to survive. We have to survive by changing our culture. And changing our concepts of Alzheimer's disease is a piece of that.

**Dr. Campbell:** We're going to take a break, and when we come back we're going to talk about the science behind the idea of Alzheimer's as a disease, and also the history about how it became the focus of so much fear and research money, and some of this molecular material you alluded to.

[music]

**Dr. Campbell:** Peter, in your book you gave a very excellent overview of memory and its complexity, which we don't really have time to get into today. But perhaps you could describe the standard story—the one that medical students are taught about Alzheimer's—and go from there.

**Dr. Whitehouse:** Sure. The standard story of Alzheimer's disease has changed a bit, because the term 'Alzheimer's disease' is now used and applied more generally. But what a medical student is taught is that if an older person—or a younger person; but usually an older person—comes to the office, sometimes they'll be complaining, sometimes they won't, and often the family will be complaining that their memory isn't as good as it used to be.

If you ask a little bit more you'll find out that maybe they were getting lost, or having difficulty finding words. You teach the medical student this is the loss of cognitive abilities in more than one domain of human intellectual activity. Then you ask has it been progressive? And if it's progressive, then you say, 'Well, I'm going to check on my physical examination, and by using CT scanning and some blood tests, to see if there are any conditions we can identify that caused this memory problem. You don't want to miss a benign brain tumor, you don't want to miss hypothyroid—an underactive thyroid gland—which could be explanations for why the person is presenting with those symptoms.

Once the doctor has done these tests, the diagnosis of Alzheimer's disease is viewed by some as a diagnosis of exclusion, meaning you exclude all these other conditions, like the brain tumor or the thyroid condition, and say this is possibly, or probably Alzheimer's. That's the standard story; with the other part of the standard story being that in order to make a definite diagnosis, we need to look at brain tissue—which, of course, you don't recommend to people in the clinic, although if somebody participates in research, you might ask them for a brain donation.

But the problem with that is there are some people who think there are going to be in the future, biomarkers. Now, those are clinically available tests, for example, by measuring something in the cerebrospinal fluid by doing a lumbar puncture, or perhaps doing a special kind of brain x-ray. There are some people who believe that through those means we may be able to make a more precise diagnosis.

However, those tests have not proven to be reliable enough. And in all the tests there's always an overlap between those that have severe memory problems, those that have mild memory problems, and those that have essentially no memory problems. So, no biomarker—no imaging or CSF test—has proven itself. My own personal opinion is I don't think that they will.

Now, I've diverged there from the standard story about how you do it in the present, to what people hope the standard story will be down the line, which is that we would have more precise in-life diagnostic tests. But I think, despite spending tens of billions of dollars, we have not gotten to that point yet.

**Dr. Campbell:** What about genetics?

**Dr. Whitehouse:** Genetics is a complicated topic. There are two kinds of genetic types of Alzheimer's, if you will. The very genetic forms are often early



age of onset, in the 40's, 50's, and 60's. These are associated with genetic changes called mutations that are labeled autosomal dominant. That means that if you inherit the gene from either of your parents, and if you live long enough, you will likely come down with so-called Alzheimer's disease. So, those are the younger age of onset with a strong genetic risk.

Now, we are increasingly realizing genes modify our risk for diseases—they're called genetic susceptibilities—that aren't causative. And so, there are genes that, if you have them, can modify your risk for getting a late-life dementia, but don't necessarily cause it. I'll illustrate that with the strongest associated one—[apolipoprotein E4](#). Apolipoprotein is a fat-related protein that relates to cholesterol transport. We all have one version of it—either a 2, or a 3, or a 4 (1 went away somehow).

If you have the 4 kind, everybody can transport their cholesterol OK, but that kind makes you more at risk for bad things to your brain as you get older. And I put it that way because it's not only so-called Alzheimer's and memory problems, it's stroke and it's other diseases. It's also bad for your heart. So, if you're an ApoE 4, you may be more at risk for various heart conditions. That's a susceptibility gene. And you can be an ApoE 4 and live to be the same age as your parent, and not get significant dementia, or you can be an ApoE 3 and get dementia. So, it's not a one-to-one kind of match, the way that the autosomal dominant ones are more likely to be.

**Dr. Campbell:** So, it's very important, I think, to emphasize that increased risk is not the same as predicting disease. Genes are not destiny.

**Dr. Whitehouse:** You're absolutely right. It's such a common condition that people will come in to see me, saying, 'My mother had some memory problems,' or, 'my grandmother. Am I going to get it?' It's hard to provide precise numbers.

What I say to people is we are both the beneficiaries and the victims of the genetic risks that exist in our families.

And they're very hard to understand completely, but certainly, if you have some diabetes, some obesity, some premature heart attacks in your family, that is going to affect your risk. The answer is not to wait until somebody recognizes that their parents had a problem, for them to do something about it. It's for them to realize that they should stay healthy, in general, throughout their life, to try to avoid these risks as much as possible.

**Dr. Campbell:** The problem with all this hype about so-called personalized medicine (they're saying that eventually everyone will have their genome sequenced, and they'll get personalized medicine) is it seems to me that this whole thing is less personal, since if they're going to start focusing on your genes instead of considering you as a whole person (the life you're living, what you do, your habits, and all), it's totally backwards, it seems to me, to call it 'personalized medicine.'

**Dr. Whitehouse:** I couldn't agree with you more, Ginger. I think personalized medicine is depersonalized medicine. If you think that coming in and seeing your primary care doctor, or your emergency room doctor, in your case, and the emergency room doctor thinks that by looking up your genetic material on their personal computer, that's going to help them take care of you better, rather than spending the time listening to your story (that's where the narrative approach comes in), the problem with our healthcare system is we're spending money on technology and we're not spending enough time to have primary care doctors talk to patients to educate them, for example, about how to avoid the emergency room.

No offense, but obviously you'd prefer to see people not come in there for non-emergency situations. That would save us a whole lot of money, if we could just

have people understand how an emergency room visit fits into their story. It's not when they first get a symptom that they could see a primary care doctor about, if they had one.

**Dr. Campbell:** Yes. And it's a vicious cycle, too, because patients get mad if you don't order tests that, if you actually talked to them, you'd know you don't need.

**Dr. Whitehouse:** I think that's a huge problem we doctors bear some responsibility for, lawyers bear some responsibilities for, and insurance companies do. Doctors do things that they get paid for. And if they get paid for doing procedures, they're going to do that more than they are going to talk to patients. This is why in our intergenerational school, that I've mentioned before, we educate people about health issues.

In fact, I'm moving part of my health practice into the school-based situation, because I think we can teach people how to be future patients: How do you responsibly understand what health is, and how do you avoid this notion that to be healthy, all it means is you have expensive tests and expensive pills? It's just completely the wrong message.

**Dr. Campbell:** Yes, I'm looking at, in my emergency room, a whole generation of people that I see being trained, essentially, by their parents to come to the emergency room for every little thing. It's totally backwards.

**Dr. Whitehouse:** Yes. It's totally backwards, partly because they'll get healthier if they see their PCP, or have done something themselves to prevent the problem in the first place. And it's also dangerous, because going to an emergency room not only is costly, but who knows what might happen to you there. No offense, but it's kind of getting to the way it was a hundred years ago. You can catch nasty things in hospitals. And obviously, it's appropriate to admit

some people to hospitals, but as a geriatrician I've spent my entire career trying to keep people out of hospitals, and out of emergency rooms.

**Dr. Campbell:** Which is as it should be, I think.

**Dr. Whitehouse:** Yes.

[music]

I want to take a moment to thank those of you who are helping to support my work through your donations and monthly subscriptions. I recently got an email from a listener who's a student, who was apologizing for not being able to make any donations. And it just reminded me of why it is so important to be able to make the podcast and the transcripts freely available to everyone.

This is made possible because of the generosity of listeners like you. If you want to know how you can help, just go to [brainsciencepodcast.com](http://brainsciencepodcast.com) and click on the tab at the top of the page labeled [Donations and Subscriptions](#). Thanks again.

[music]

**Dr. Campbell:** I don't think we're going to have time to talk about the competing theories of Alzheimer's, which we've kind of alluded to. But I would like for you to spend a few minutes talking about Dr. Alzheimer and the circumstances that led to what I will call the invention of Alzheimer's disease.

**Dr. Whitehouse:** Dr. Alois Alzheimer was a remarkable man, actually. He practiced in Germany, and moved around a little bit. But when he saw Auguste Deter—this 51-year-old wife of a postal clerk—he was in Frankfurt. We know a fair amount about this, because a friend of mine, [Konrad Maurer](#), who I edited a book with, actually found the original case hidden in the bowels of the Frankfurt

Hospital. And in that case, we have Alzheimer's handwritten notes, and we actually have a photograph taken by the hospital photographer of Auguste Deter.

Of course, Alzheimer had no idea that the word was going to, in a hundred years, be misused in the way that it is. He thought that this was an unusual situation because of the person's young age. But, again, he wasn't sure that it was a separate disease, nor that it was separate from aging.

However, he moved to Munich, and in Munich he worked with [Emil Kraepelin](#), who was probably the most famous psychiatrist practicing at that time. And in his very influential textbook in 1910, Kraepelin called the few cases that Alzheimer had collected at that point, 'Alzheimer's disease' for the first time.

So, the disease appeared in the medical literature in 1910, for unclear reasons, but certainly not the least of which was that Kraepelin was probably competing with other schools in Germany, and trying to promote this notion that understanding brain changes was important to psychiatry. So, medical politics played a role in the invention of Alzheimer's disease a hundred years ago.

**Dr. Campbell:** It's kind of interesting that that's how it started, because that's also how it reached its current level of dominance. Do you want to talk a little bit about that piece of the story?

**Dr. Whitehouse:** The one thing that the history of Alzheimer's disease illustrates is that medicine and science are never practiced in a vacuum. They're always practiced in a cultural context, in a national context, in which doctors and scientists are trying to get resources. And that's certainly true today.

I think we have amazingly distorted our notions of health because of an unholy alliance between two isms—scientism and capitalism. Now, I'm a scientist, and I believe that science can do powerful things. Scientism is the religion that science

can do more than perhaps we are right to believe that it can. So, it's the faith that science, with enough money, can do anything.

And, of course, short-term capitalistic approaches to health have led to the dominance of multinational pharmaceutical companies, and to the commodification—to use that word—of everything medical. So, doctors do what they get paid for, and drug companies use direct-to-consumer marketing to convince people that their pills are wonderful. Frankly, I think we should get rid of direct-to-consumer marketing in this country. We're only one of two countries in the world that have it, and I think it is basically a social harm.

**Dr. Campbell:** Related to that is the fact that every time we see a patient, because of the way reimbursement works, we are forced to label them with a diagnosis, because we have these thick books full of codes for diagnoses. And so, doctors are sort of pushed into labeling people 'Alzheimer's disease,' to a certain extent, aren't they? Even the doctors who don't have any financial rewards from, say, prescribing drugs or whatever, still are sort of being cornered.

**Dr. Whitehouse:** The problem with human beings—and this is a fundamental problem, not just in medicine—is we like to label things. I mean we got to be successful because we apply labels to lots of things in the world. But, as the Chinese philosophers and the Western philosophers have said, be really careful about what you call things, because if you call things by the wrong name it can distort the way you think about things. And, of course, medical diagnoses are particularly powerful words.

I'll give you the example of 'drapetomania.' I would be very surprised if any of your listeners, or you, have heard of that word. But just imagine if we had spent, a hundred-and-fifty years ago, all this research on drapetomania, trying to find its cure, and trying to diagnose it more precisely. 'Drapetomania' was a word invented by pre Civil War doctors as the disease that caused slaves to run away.

So, this is a very powerful example of medicalizing a social condition. And that's what we tend to do. We tend to medicalize older people, and they end up with lots of diagnoses and lots of pills. And I'm not sure that's best for their health.

**Dr. Campbell:** Yes, it drives me crazy in the emergency room that we always have to have diagnoses, because a lot of times you don't have one, or even really need one, except to keep some bean counter happy.

But back to the label of 'Alzheimer's.' In your book you really did emphasize its destructive power. Before we run out of time, can you talk a little bit about what you called 'the war on personhood?'

**Dr. Whitehouse:** The focus in medicine—as we've been talking about during this hour—is too often on technology, and not on person. A real personalized medicine would focus on understanding a person's history. Doctors take histories. That's an expression we use.

We kind of abstract somebody's life into a form that we can understand. And people's lives are much richer than that. And yet, in that richness comes an appreciation for who those people are as persons. And in that knowledge comes the ability for the physicians to understand and help guide people with their brain aging, let's say.

Because doctors only have a limited amount of time with people; but if they can develop enough of a relationship (I'm a believer in relationship, and narrative-based care), so that what advice they offer can help the patient change their behavior and the family change behavior in a way that's healthier, that's what we're all about. And that means we've got to take the person, and the relationships, and the community seriously as people trying to help people with their aging.

**Dr. Campbell:** There's one other thing I was struck by, as I was reading your book, about the current approaches—that they totally fail to tap into our brain's plasticity. It's almost like labeling people with 'AD' has the opposite effect, since it tends to cause people to become withdrawn and isolated, rather than remaining active and involved.

**Dr. Whitehouse:** Right. The standard story of Alzheimer's is this is a terminal, progressive disease, and that after you get the label your life is over and you're just waiting to die. That's the danger of a label. And that label is created that way because they want to make people afraid, they want people to donate money, they want people to have these hopes that there will be a cure. If you just say, as many people can, 'My memory is not as good as it used to be,' that's practically everybody out of adolescence.

I have a terrible sense of direction, so I'm sure when I get older my wife is going to have to take more care when I'm driving around even the neighborhood. But everybody has a pattern of their strengths and weaknesses that is brought into aging. And yet, if I can just say, well, even if I'm developing a much more serious problem and I need more help from my wife, there still is a relationship that we have that allows us to enjoy a quality of life if we don't impose on it this notion that all of a sudden I'm in a different category: I've got Alzheimer's and she doesn't.

What I try to say, Ginger, when I talk is the world should not be divided, as it is, into people who have Alzheimer's and those who are afraid of getting it. This is a message of solidarity. It's a message that we're all at risk for it, we all get a touch of it, because none of our memories are as good as we get older, and if we live long enough, we probably would all get it—meaning a much more significant memory problem. Fortunately some people die (if I can put it that way) before they develop those severe dementias, and other people have them before they die.



So, this is a message of solidarity. We're all in this aging business together. We've all got to figure out how to use our brains to help us think wisely about this, including recognizing our limits.

**Dr. Campbell:** I have a couple more minutes if you do. Do you want to say anything about your recommendations for healthy brain aging?

**Dr. Whitehouse:** Sure. 'Brain health' is an expression that gets an awful lot of play in society. It's one recognition that the story is changing. By that I mean The National Institute for Aging, the AARP, the CDC, if you were to Google 'brain health' I think you'd find lots of people doing it. There are academic centers, including ours in Cleveland—Case Western Reserve University, with the [University Hospitals Case Medical Center](#)—that are focusing on developing brain health. Our colleagues at the [Cleveland Clinic](#) are doing it. This is something that is attracting attention.

So, you have to ask, well what are all these people doing? And what I sometimes say is brain health is what your grandmother told you it was. Now, I don't know everybody's grandmother, and some grandmothers are wiser than others, but it is (not necessarily in this order, but I'll give you it in this order): First, regardless of how you're aging, you're still a member of a community. See what you can do to contribute to that community, because cognitive aging is a reality, and keeping your mind active is important.

There are computer programs you can try. Do you do crossword puzzles? Do you do Sudoku? I don't think what you do with your brain is really that important, as long as you enjoy it and do it. I would have a caveat to that, and say if you use your brain to help other people, that's probably best, because every sage, every religious leader says helping other people is the best way to help yourself. So, keeping your brain active in a community helping other people, I think, is the most important thing.

The second thing, though—and it's underestimated—is physical exercise. People have a sense that being physically fit is important for your health in general. But I think it's important to emphasize it's particularly important for your brain, not only because it supports your heart and the pump to the brain, but also because of a lot of evidence that exercise, itself, helps brain function.

Third, I would say, is diet. I'm personally a believer in something like the Mediterranean diet, which is not what most of us follow (and I know we'll get comments from the American beef manufacturers), and getting rid of too much red meat, too many processed foods, foods that are high in sugar. So, a low glycemic index, roughage, fruits and vegetables, that's the way to go.

I would add number four is have a good healthcare provider that you trust to have a relationship with, because there obviously are things that go along with brain aging where you need a doctor's attention occasionally, and you should have that relationship to build on.

So, those are the four things: keeping active in community, keeping your mind active, ideally in community; exercising; diet; and having a trusted healthcare provider.

**Dr. Campbell:** I really think that the basic message of your book is one of hope. You're saying let's reject this idea that the aging brain is an incurable disease, and say all of our brains are aging, at different rates, and we have some control over what happens.

**Dr. Whitehouse:** It is a message of hope. And I love the fact that you caught that, because so many people say, 'You've taken away my hope if you say we're not going to develop a pill that's going to fix this.' I'd love to be wrong, Ginger. If there was a headline tomorrow that said Alzheimer's was cured, I'd be happy to be wrong.

I would wonder what that means. Does that mean that our brains are going to be perfect until we die, and that somehow the brain is the only organ that's been saved from the aging process? I'm not even sure what a cure would look like, frankly. But I'd love to be wrong. I'd love to have an announcement saying there's been a genuinely effective medication developed.

But I think that we can't put all our hope in that category. The hope comes from community. It comes from human beings willing to admit their frailties and their limits. And it comes, frankly, from a very difficult thing for human beings to embrace, which is the notion that we are mortal—that eventually we have to die, and that will leave space for the next generation to, hopefully, do a better job than we have done, or at least are currently doing with our planet.

**Dr. Campbell:** Well, I don't know what to say to that, except I definitely agree. Is there anything else you want to say before we close?

**Dr. Whitehouse:** Yes, let me just build on that for a second. We've talked about different ways of viewing brain aging, and that the standard story is that a genetic drug will fix this kind of a problem. And we've talked about the power of stories in people's lives to promote healing. And we've also talked about the need for a broader science to medicine—an ecological and environmental science. I think that's particularly true in today's era of global climate change.

But I want to emphasize one particular part of environmental health that gets ignored, by telling you one case illustration. And that is there are lots of toxins in our environment. There are lots of drugs floating around. We've know about the dangers of lead poisoning for centuries, and yet in Cleveland and other big cities around the world, kids are still having their brains damaged by lead.

No amount of lead in your blood is a good thing. And there are lots of other things in our blood, because we do not have this ethic in environmental matters

of ‘first, do no harm.’ We need a precautionary principle. We need to challenge manufacturers before they put drugs or toxins into the environment, to be reasonably assured that they’re safe.

The point I make, and the point I connect to the conversation we’ve been having about severe brain aging is, if you damage your brain as a young child—be it from lead, or some other toxin—you’re not going to have the full cognitive reserve, the full ability to adjust to the changes that occur with aging. So, we’ve got to think of brain health and preventing dementia as a lifetime perspective that pays much more attention to the quality of our environment than the quality of our genes.

**Dr. Campbell:** Absolutely. Thanks so much for coming on the *Brain Science Podcast*, Peter. I really enjoyed talking to you.

**Dr. Whitehouse:** Thank you, Ginger. I’ve enjoyed it, too.

[music]

I want to thank Dr. Whitehouse again for coming on the *Brain Science Podcast*. While this is not one of those episodes that is full of exciting new scientific ideas, I think it is one of the most important interviews I’ve done. As Dr. Whitehouse pointed out, it is never too soon to be interested in brain aging, since the choices you make when you are young may impact your future brain health.

Dr. Whitehouse’s book really resonated with me because, as a physician, I have witnessed firsthand how the diagnosis of Alzheimer’s disease has evolved. Originally Alzheimer’s disease referred to a form of premature dementia that was associated with certain pathological brain changes that could be found only after death. Now it is being used as the diagnosis for anyone with dementia that doesn’t have another obvious cause, such as vascular disease.

This change is not based on any scientific evidence. It is rooted in the politics of medicine and medical research. Ironically, at the same time as the diagnosis is being applied more widely, research is actually shedding doubt on whether the original brain changes observed by Dr. Alzheimer are what cause dementia.

Consider this: Some people with severe problems don't have the expected changes in their brain, while there are others with severe brain changes on autopsy who had minimal deficits while they were alive. This information isn't new to me, but until I read Dr. Whitehouse's book, I really hadn't thought about the implications. If one looked at this objectively, one would have to conclude that there is some doubt about the existence of any one disease called 'Alzheimer's disease,' let alone the so-called epidemic.

Now, clearly dementia is a significant problem among our aging population. But is labeling people with Alzheimer's disease doing more harm than good? Since I'm an emergency room physician, I'm not faced with having to decide whether patients have Alzheimer's. But if I was still in private practice, I would be reluctant to use this label.

I agree with Dr. Whitehouse that while basic research is very important, it is equally important that we be putting money and other resources into helping people cope with the cognitive challenges of brain aging. This would include providing resources for people with so-called normal brain aging, and for people with more severe cognitive challenges.

As always, there are a lot of details in this book that we didn't get into in the interview, so I highly recommend [\*The Myth of Alzheimer's\*](#). Usually when someone writes a book like this it's either aimed at a general audience, or at physicians. But in the case of Dr. Whitehouse's book I think he has managed to write a book that physicians, and patients, and people who know patients with

dementia can enjoy. There's information here about what to do before you go to the doctor, how to choose a doctor, and lots of other practical advice.

And don't forget, you can get *The Myth of Alzheimer's* from Audible.com, and there's also a link on my website at [brainsciencepodcast.com](http://brainsciencepodcast.com).

And I don't want to forget to mention that I actually recorded a second interview with Dr. Whitehouse's co-author, [Daniel George](#). I had originally intended to put this in the premium version of this episode. However, since there has been an extremely poor response to the premium versions that I released of the last three episodes, I decided not to make a premium version of this episode.

Instead, I am going to release the interview with Daniel George as an episode of *Books and Ideas* later this month. If you aren't already subscribed to *Books and Ideas*, you will find it at [booksandideas.com](http://booksandideas.com), and in iTunes.

One of the contributions that Danny made to this book was a lot of the historical research involving Dr. Alzheimer, so we'll be talking about that, and some of the other aspects of his experience with the book. It's a good interview, and I know that you'll enjoy it.

The next episode of the *Brain Science Podcast* will be coming out on the second Wednesday in May, and it is going to be one that those of you who love the basic science research will enjoy, because we are going to be talking about [glial cells](#). This is a topic I've been wanting to get around to for quite some time, so I'm really looking forward to it.

I want to let you go, but I do want to remind you to visit the website at [brainsciencepodcast.com](http://brainsciencepodcast.com), and send me feedback at [docartemis@gmail.com](mailto:docartemis@gmail.com). When you visit the website you will see not only the detailed show notes and transcripts, but links to our [Facebook Fan Page](#), [Discussion Forum](#), and lots of

other good stuff, including the new email [newsletter](#), which will allow you to get show notes delivered automatically with each episode.

Thanks again for listening. I look forward to talking to you again very soon.

[music]

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