

**Shrink Rap Radio #161, June 28, 2008, Shrink Rap Radio LIVE! #10**  
**David Van Nuys, Ph.D., aka “Dr. Dave” and Jerry Trumbule, M.A.,**  
**ABD**

(transcribed from [www.ShrinkRapRadio.com](http://www.ShrinkRapRadio.com) by Susan Argyelan)

**Dr. Dave:** Hello, world! This is Dr. Dave, otherwise known as David Van Nuys, Ph.D., with my good friend, Jerry Trumbule. And we’re here bringing you our monthly get-together on Blog Talk Radio. We have a weekly show, and then once a month, I get together with my good friend Jerry, and we discuss things psychological here. Are you there, Jerry?

**Jerry Trumbule:** Dr. Dave, I’m here and I’m ready to talk.

**Dr. Dave:** All right! Well, today we have a bit of an agenda, a little less “drifty” than some of the times in the past. And our focus is going to be on the question of Google: Is it making us smarter? (laughs) Or is it making us stupid? And we’ve got several articles that bear on this, that have kind of stimulated this conversation. So, are you prepared to wax forth (laughs) on this topic?

**Trumbule:** Yes, I am. I’m always prepared. I’ll just Google the answer, and I’ll read it to you. (laughs)

**Dr. Dave:** Yeah, right! (laughs) Well, actually, I’m planning to do a fair amount of that myself. And this is something that you and I have, I think, been discussing anyway, that’s kind of been lurking in the background as we’ve talked about Google becoming a prosthetic for our brains. (laughs)

**Trumbule:** Yes, indeed. And like you, I’m sure I use Google hundreds of times a day. I don’t know what I would do without it...

**Dr. Dave:** Yeah.

**Trumbule:** ...and I even save the articles I find for later reference if I have to go back. And I was just thinking the other day about what we did before Google. There was indeed a kind of a precursor, which would search seven or eight different search engines at the same time. And then Google came along with, I guess, the proprietary algorithms they use, based on links, and seem to solve all those problems. They all went away. We could now instantly find what we wanted.

**Dr. Dave:** Well, I haven’t even tried to think back to before there was Google. I mean, even before there was what you were just talking about, you know, there was going to the library, which sort of...

**Trumbule:** (laughs) Yeah...

**Dr. Dave:** ...that was a big deal, you know, if you had to go to the library to do “a literature search.” And I wonder if anybody goes to the library to do “a literature search” anymore. I mean, it just seems like it’s all available online, and it’s so much easier. But in fact, that’s also evidently, you know, some people are worried that that may be part of the trap is that it’s just almost *too* easy.

**Trumbule:** Yeah. In fact, last time I was in the library, which wasn’t that long ago, I went up to the section that includes the online computers, and it seemed to me that most of the people there were homeless...

**Dr. Dave:** Yes.

**Trumbule:** The homeless people using the computers for whatever reason. So, I’m guessing you’re right. There’s probably been a decrease in that. And then I thought, it’s kind of interesting. People say, “Oh, you spend too much time on the computer; you need to get a life.” And then I’ve also read people who say, “Well, I have a life; it happens to be an *online life*. And that made me think back to when I was a kid and the library was a block away. People used to – people like my parents – used to say, “You’re spending too much time in the library. You need to go out...”

**Dr. Dave:** (laughs) Right! Now, parents would hope that their kids would *go* to the library!

**Trumbule:** Exactly! Exactly. In fact, I remember one time I went down to the library, and I didn’t know it, but my parents had arranged a surprise birthday party for me. And so I was sitting in the library, reading, and all of the sudden, one of my friends came up and said, “Hey, Jerry, what are you doing?” I said, “Oh, I’m sitting here, reading.” And they said, “Uh, well, your parents need you to come home.” (laughs)

**Dr. Dave:** (laughs)

**Trumbule:** Because I was carried away with my reading. I wasn’t, the time had flown by, and I had said I would be back earlier. So I was kind of miffed, and I went back to my house. And there was my dad saying, “Oh, I need you to come downstairs and help me move this sofa.” And I said, “What?” (laughs) Because I knew the sofa could be pushed by one person around on the tile floor. So I was all, I was kind of bent out of shape, and I was mumbling and grumbling. Walked down into the basement; of course, the recreation room. That’s where all my friends were hiding, waiting to surprise me...

**Dr. Dave:** Oh!

**Trumbule:** ...with a happy birthday.

**Dr. Dave:** Oh, how cool!

**Trumbule:** And well, it was kind of cool, but it took me a minute or two to readjust my attitude. Because I was pissed off that they were all in my basement...

**Dr. Dave:** Yeah...

**Trumbule:** ...when I wanted to be down at the library reading. (laughs)

**Dr. Dave:** Right, that's a good one. My prototypic library memory that comes to mind as I hear you talk about being at the library... It wasn't as close as a block away, but it was an important place for me to hang out, too. And when I was a teenager – young teens, I would say; probably around 12 years old, maybe – I was captivated by the magic of ham radio. I didn't know any hams, but I had heard about it, and the idea of being able to communicate with friends and with strangers in distant places around the world and maybe using Morse code, and so on. You know, it's the stuff of spy thrillers, and so on... I guess the Hardy Boys, I had grown up with. And so I was always checking out books on electronics, and so on. And one day I was at the library, and I saw a boy somewhat older than I was, but not by much. And he was checking out something like the Amateur Radio Operator's Handbook.

**Trumbule:** Mm-hmm, mm-hmm...

**Dr. Dave:** So I summoned up my courage and I went up to him, and I said, "Are you a ham?" (laughs) And he said, "Yes, I am." And that was the beginning for me of my thrilling adventures into ham radio, because he was willing to kind of take me under his wing and tell me about the equipment I would need, and began to coach me in Morse code, and got me through that first license. So boy, what a role the library played for me, in my life. We're going to...

**Trumbule:** Yeah, in fact...

**Dr. Dave:** Go ahead.

**Trumbule:** Oh, go ahead. I'm sorry.

**Dr. Dave:** Okay, well, I just...

**Trumbule:** I was going to recount...

**Dr. Dave:** (laughs)

**Trumbule:** ...another...

**Dr. Dave:** Go ahead.

**Trumbule:** ...another little anecdote here. I was raised in a small town called Greenbelt, Maryland, and the library was one of my favorite hangouts. But they had it divided into the children's section and the adult section.

**Dr. Dave:** Oh, yeah.

**Trumbule:** And I had read most of the interesting books in the children's section; Black – what was that horse's name? – [The Black Stallion](#) was a favorite series. But then I noticed that you could sneak from the back of the children's section into the adult section.

**Dr. Dave:** Aha!

**Trumbule:** So I would go into the children's section, and I would kind of pretend I was looking at some books. And then I would meander around...

**Dr. Dave:** (laughs)

**Trumbule:** ...sneak into the adult section, go to the human anatomy section.

**Dr. Dave:** (laughs) Right, right! Or the photography, the art photography section, right?

**Trumbule:** Yeah, pulled down a few books which I would then try to “consume” without checking them out, of course...

**Dr. Dave:** Yeah...

**Trumbule:** But enough of that. Let's get on with this topic, here.

**Dr. Dave:** Okay. Well, we're going to be making reference, probably, to primarily three articles. And I just want to let people know that I'm going to put links to those articles, because they're all available online. I'm going to put links on the show, in the show notes at [www.ShrinkRapRadio.com](http://www.ShrinkRapRadio.com), which is where all the regular show notes are, so be sure to look for them there. So, first I want to say that sort of synchronistically, you know, we've talked in the past here about Google, and we talked about it in the context of the singularity, this idea that maybe their Google or the Internet – the Web, actually – is becoming sort of the “big brain in the sky.” And in fact, the term is now coming into popular usage, at least among the computer cognoscenti, of [The Cloud](#). Let me just – and so synchronistically, as we were thinking about this topic, we get our latest issue of Wired magazine. And here the whole issue, or the [major story](#) of the issue, they've called “The End of Theory: The Data Deluge Makes the Scientific Method Obsolete.” And this is written by Chris Anderson, who I think is the editor-in-chief of Wired right now. And I'm just going to read a couple little sections here. It starts off defining what they're calling the Petabyte Age. Very interesting. It says:

**Sensors everywhere. Infinite storage. Clouds of processors. Our ability to capture, warehouse, and understand massive amounts of data is changing science, medicine, business, and technology. As our collection of facts and figures grows, so will the opportunity to find answers to fundamental questions, because in the era of big data, more isn't just more. More is different.**

So they seem to be saying that the more is going to push us into kind of a quantum leap, if you will, into something different.

**Trumbule:** Mm-hmm. Mm-hmm. I'm not sure what that "something different" is going to be, but maybe no one is. And this cloud concept, could you speak to that for a minute or so? I'm not sure I understand.

**Dr. Dave:** Yeah. My understanding of it is, you know, I haven't actually read an explanation of the cloud, but I listen to all of these sort of tech-oriented podcasts, where I get a lot of my information these days, plus I subscribe to a bunch of Mac-related magazines. And so I'm seeing these references to the cloud. And from the context, I think I understand it. Basically, what it's referring to is an increasingly wireless world in which we access data wirelessly not only through wi-fi and through our cell phones, but supposedly there are technologies on the way that will, you know, be more broadly based than wi-fi. Wi-fi has a limited distance...

**Trumbule:** Mm-hmm. Mm-hmm...

**Dr. Dave:** ...and there are going to be broadband technologies that are wireless that you can access from virtually anywhere.

**Trumbule:** Mm-hmm.

**Dr. Dave:** And so what people assume will go along with that is more and more of what's been called "the thin client," that is, that you'll need to carry less and less actual data with you. Maybe you don't need a hard drive; it's all in "the cloud."

**Trumbule:** Mm-hmm.

**Dr. Dave:** That is, you can access all of your data from anywhere, anytime...

**Trumbule:** Mm-hmm.

**Dr. Dave:** ...and Apple is one company, I think, that sort of driving towards that, that concept, making the bold step of bringing out their latest hardware announcement. Just either simultaneous or prior to the iPhone was a new laptop, an ultra-thin laptop – at the time, the thinnest – I don't know if that's been eclipsed yet or not. But the

shocking thing was, is that there's no... well, actually I guess there is a hard drive, but there was no removable storage.

**Trumbule:** Mm-hmm. Mm-hmm.

**Dr. Dave:** A rather small, a smallish hard drive, most people felt, but no disk drive in there; no, you know, no DVD/CD drive, which...

**Trumbule:** Yeah.

**Dr. Dave:** ...all laptops have now. And so people were like...

**Trumbule:** In fact...

**Dr. Dave:** "Oh, how could they do that?"

**Trumbule:** In fact, you may remember way back when, I think it was Netscape that came out – it was one of the founders – who came out with a statement that the Internet is the computer. And at the time I was going, no, that's not true. That's really not true. But it has proven to be true more and more. And by the way, while you were talking, I went to Wikipedia and looked up cloud computing. I'll just read a couple of sentences here.

**Cloud computing refers to computing resources being accessed which are typically owned and operated by a third-party provider on a consolidated basis in Data Center locations. Consumers of cloud computing services purchase computing capacity on-demand and are not concerned with the underlying technologies used to achieve the increase in server capability.**

Or "surfer capability."

**Dr. Dave:** (laughs) I like my explanation a lot better. (laughs) But it does...

**Trumbule:** Yeah, this one, this one really doesn't really get to the...

**Dr. Dave:** It doesn't get to the magic of it. (laughs)

**Trumbule:** Exactly.

**Dr. Dave:** Yeah, yeah. Let me read a little bit more from this [Wired article](#) here. It says:

**Sixty years ago, digital computers made information readable. Twenty years ago, the Internet made it reachable. Ten years ago, the first search engine crawlers made it a single database. Now Google and like-minded companies are sifting through the most measured age in history, treating this massive**

**corpus as a laboratory of the human condition. They are the children of the Petabyte Age.**

**The Petabyte Age is different because more is different. Kilobytes were stored on floppy disks. Megabytes were stored on hard disks. Terabytes were stored in disk arrays. Petabytes are stored in the cloud. As we moved along that progression, we went from the folder analogy to the file cabinet analogy to the library analogy to — well, at petabytes we ran out of organizational analogies.**

**At the petabyte scale, information is not a matter of simple three- and four-dimensional taxonomy and order but of dimensionally agnostic statistics. It calls for an entirely different approach, one that requires us to lose the tether of data as something that can be visualized in its totality...**

**Trumbule:** Hmmm.

**Dr. Dave:** So, that sort of hints at the answer. What do they mean when they say “bigger”?

**Trumbule:** Mm-hmm...

**Dr. Dave:** Because “bigger” is different. Well, one of the ways they’re suggesting it’s different is you can’t quite visualize it anymore. All of the old metaphors aren’t going to work.

**Trumbule:** Uh-oh...it sounds like the Matrix to me...

**Dr. Dave:** (laughs) Well, it does have that...

**Trumbule:** (laughs)

**Dr. Dave:** It does have a bit of that. And it’s funny, they... I won’t go on to the rest of the argument that this article makes, because it talks about science. And basically, it’s saying that this is going to do away with theory, that you don’t need theory anymore. You don’t even need to understand what’s going on. You just need to understand what is, and since everything that is, sort of is going to be contained in this massive database...

**Trumbule:** Mm-hmm...

**Dr. Dave:** ...people will just go through the database to figure out what is, at any given moment.

**Trumbule:** Mm-hmm, mm-hmm...

**Dr. Dave:** It’s a kind of a strange and interesting argument.

**Trumbule:** Well, it is. And in fact, I had a couple of theories going for a while. And recently, I thought, I'm going to see what's up with that. And sure enough, using – just plunging into the mass of data that's available – I found studies that actually supported some of my theoretical ideas without any research. And I take it that what they're saying, petabytes allow us to say correlation is enough. We can stop looking for models. We can analyze the data without hypotheses about what it might show. Mm-hmm, we can throw the numbers into the biggest computing clusters the world has ever seen and let statistical algorithms find patterns where science cannot. That's pretty impressive.

**Dr. Dave:** Yeah. Are you reading from the article there?

**Trumbule:** Yeah.

**Dr. Dave:** Yeah, I couldn't tell if you were extemporizing brilliantly or (laughs)...or reading.

**Trumbule:** (laughs) No, that was verbatim.

**Dr. Dave:** (laughs) Well, here's another place that bears on what you just read.

**This is a world where massive amounts of data and applied mathematics replace every other tool that might be brought to bear. Out with every theory of human behavior.**

This was interesting because it links to psychology, which supposedly, we're talking about, here. (laughs) So, it says:

**Out with every theory of human behavior, from linguistics to sociology. Forget taxonomy, ontology, and psychology. Who knows why people do what they do? The point is they do it, and we can track and measure it with unprecedented fidelity. With enough data, the numbers speak for themselves.**

**Trumbule:** Hmm...

**Dr. Dave:** "Hmm," indeed!

**Trumbule:** (inaudible) that quote, it sounds like kind of a black-box, Skinnerian approach.

**Dr. Dave:** Exactly. Exactly. They're actually saying, "Well, it doesn't matter what's going on inside." Yeah, exactly. You don't need to know the inner workings...just if you can, if you just know what happened or what's going to happen, or you can predict what happened, what's going to happen. That was basically the Skinnerian idea.

**Trumbule:** Right.

**Dr. Dave:** You know, the thing that kicked this off, I think, for me originally, was an [article by Leonard Pitts, Jr.](#) Do you, do you get him in your local newspaper? Do you read a local newspaper anymore? Or does everything on the web for you...

**Trumbule:** After 37 years, I cancelled my subscription to the Denver Post, mostly because I was already reading online the Washington Post, New York Times, and a number of other papers. And I got tired of dealing with the recycling problem. The paper.

**Dr. Dave:** Yeah. It's true, I...

**Trumbule:** So I just cancelled.

**Dr. Dave:** Yeah, we throw it out every day. We do have a guest in the guest room, I see. Guest #167. Welcome (laughs), #167! Hope you're enjoying this conversation. Feel free to type something into the chat window, if you wish. We'll try to keep our eye there a bit. Well, you and I have – I think we've made reference either in our public (laughs) conversations or certainly in our private ones. We were talking about memory issues and, you know, how, as we get up there, it's kind of harder to keep as much in our minds as we used to, etc., etc. And so, Leonard Pitts, who's one of my favorite columnists – he's just a wonderful columnist – he writes for the Miami Herald, and his column is syndicated. And the story that he's titled "Does Googling Make Us Stupid?" in its reference to an article that appeared in the Atlantic, which we also have with us here... But I like the way that Leonard Pitts starts off his article. He says:

**I had thought it was just me. In reading the cover story in The Atlantic, however, I have learned that I am not alone. There are at least two of us who have forgotten how to read. (laughs)**

**Trumbule:** (laughs)

**Dr. Dave:** And he says:

**I do not mean that I have lost the ability to decode letters into words. I mean, rather, that I am finding it increasingly difficult to read deeply, to muster the focus and concentration necessary to wrestle any text longer than a paragraph or more intellectually demanding than a TV listing.**

**Trumbule:** Hmm.

**Dr. Dave:** You're talking to a fellow whose idea of fun has always been to retire to a quiet corner with a thick newspaper or a thicker book and disappear inside. But that has become progressively harder to do in recent years.

**More and more, I have to do my reading in short bursts; anything longer and I start drowsing over the page even though I'm not sleepy, or fidgeting about checking e-mail, visiting that favorite Web site, even though I checked the one and visited the other just minutes ago.**

So, what do you think about that? I think in the past, I've shared with you that I felt like my attention span has been decreasing, and I've kind of blamed that on computers...

**Trumbule:** Yeah, I don't know what to think, because I've definitely seen a similar trend in my own behavior. I have a stack of about 15 books waiting to be read, and I don't seem to be reading them. I don't know if, I haven't noticed that my attention span is changing while I'm reading, 'cause I still get lost in the book if it's a good, interesting book. But the idea that this vast cloud of knowledge could, in some way, make us dumber – I just can't, I can't relate to that very well. Now, I have noticed that in our private conversations, for example, we're often quoting stories that we read somewhere from the cloud, but we don't remember who wrote it or where it exactly was. We can find it by looking back at our Google history...(laughs)

**Dr. Dave:** Right...

**Trumbule:** But if we didn't have our computers on, we would just be saying, "Yeah, I just read this article," without attribution. It's kind of like everybody has a zillion factoids at their fingertips, but if you want to follow up on it, you have to do your own Google search.

**Dr. Dave:** Yeah. Yeah. Yeah, you know, part of what I've thought for myself is that the computer gives sort of instant gratification; like you want to find something on Google or on the Web, you can find it usually pretty darn quick.

**Trumbule:** Mm-hmm.

**Dr. Dave:** You can, when you're on a site, you know, we're used to being able to be in "browse" mode. In fact – and I think we've both talked about this, and other people have mentioned it as well – it's hard to read really long documents on the Internet. I think we're sort of trained in a different modality to just kind of skip around and scan, and hyperlink and so on. And to actually sit and read, let's say, a 15- or 20-page paper on the Internet, do you find that difficult to do?

**Trumbule:** Well, I've kind of, I've played with it. I've read whole books on the Internet to see how that goes. My partner, Ed Hawkins, is very much into e-books these days, and I've been helping him, kind of incidentally, to get his six published novels converted into e-books and put up on... I think, I'm not sure he has them for sale on Amazon yet, but I've been encouraging him to do that. So, yeah, I have read

whole books. Who was it? Stephen King had an experiment where he put up a chapter a week. Do you remember that?

**Dr. Dave:** I don't remember that.

**Trumbule:** Yeah, it was an early experiment. And I think the deal was, the first few chapters were free, and then he wanted you to pay a dollar per chapter after that, or something, and so get up close to the price of a book. And I went through with it. I think I read the whole book. And it was a failure; not very many people were willing to pay to go forward. But these days... Remember back when you found a good article, and you wanted to print it out?

**Dr. Dave:** Yeah.

**Trumbule:** So that you would, you would "have it" in some sense. You would have it in your possession. And I used to discourage people from doing that, and I would say, "Well, just save it to your hard drive." And now, of course, we don't need to do that anymore. Some things do disappear from the Web, but they're always available on the "way back machine." You can go back into the archives if you have to find them. But these days, it's fairly rare that I do anything more with an article than to bookmark it in some way for later reference, either using Digg or one of those services. Just like...

**Dr. Dave:** Well, it's interesting, you know. As you talk, it's really clear how dependent you/we are (laughs) on the Internet and on Google, because everything that you're saying is kind of making reference to that. What about...

**Trumbule:** Mm-hmm...

**Dr. Dave:** What about books? Do you still read books? Oh, well, you said you have a big stack of books that you've been intending to read. What gets in the way of that?

**Trumbule:** I have about 15 books lined up, ready to read. The latest book I read was a result of one of our discussions. Was it [Rudy Rucker](#)? Was that the guy's name?

**Dr. Dave:** Yeah.

**Trumbule:** And I read his fictional, latest fictional book. And it was kind of a struggle. I mean, I, you know, I read while I'm soaking in the bathtub, so the book is there. And if it's a good book, I'll continue reading it after I get out of the bathtub. (laughs) But that one I just left by the tub...

**Dr. Dave:** (laughs)

**Trumbule:** ...and I worked my way through it, so I have read a book within the last month or two. But I've also got a stack of magazines here. For some reason, the

magazines always go on the floor...which I haven't read. And which once a month, I go through and throw out...the ones that are getting old.

**Dr. Dave:** (laughs) Yeah! Right. And there are all these good articles that you *mean* to read, right? That you have good intentions, probably...

**Trumbule:** I don't save 'em anymore, you know. I, um...

**Dr. Dave:** You stopped deluding yourself?

**Trumbule:** Because I know they're on the Internet. (laughs)

**Dr. Dave:** (laughs) Yeah, right.

**Trumbule:** If I really want to find them.

**Dr. Dave:** Well, one of the, one of the notes that was really resonant for me in what Leonard Pitts was saying, was he was talking about getting drowsy over the reading, and...

**Trumbule:** Hmm.

**Dr. Dave:** ...one of the places where I'll read is – or I'll try to read is – when I have to go to a doctor's office and I'm sitting in the waiting room.

**Trumbule:** Mm-hmm

**Dr. Dave:** So I've brought some kind of book along with me. Invariably, I get really sleepy and end up...

**Trumbule:** (laughs)

**Dr. Dave:** ...nodding off in the chair (laughs) in the waiting room! That's where I get some of my best rest these days.

**Trumbule:** Well, that's because we're all sleep-deprived all the time because of computers! (laughs) And when we should be going to bed early, instead, we're staying up late, pursuing some arcane whatever that popped into our minds. (laughs)

**Dr. Dave:** Yeah, yeah. (laughs) Well, you know, part, the argument of the Atlantic article – and we should get to that, you know, (laughs) while we, while the sun still shines... Let's see here, "Is Google Making Us Stupid?" by Nicholas Carr. "What the Internet Is Doing to Our Brains." And so the argument there is (a) very interesting and plausible one, which is... You know, there's all this new research on the brain which shows that it's far more plastic than we previously realized, and

by “plastic,” we mean, what that... I guess it refers to the ability to learn, but in a sort of vivid new way, that we’re actually understanding that new neural connections are being made all the time...

**Trumbule:** Mm-hmm...

**Dr. Dave:** ...and that the brain is, if you will, sort of constantly being rewired, or rewiring itself, based upon what’s happening in our lives. And so the argument here, you know, in a thumbnail, is that Google may be rewiring our brains in such a way that we aren’t able to do sustained concentration of the sort that sitting down and reading a whole book requires.

**Trumbule:** Yeah, I can’t buy into that. I really don’t think that’s true. I mean, the rewiring of the brain, I’m sure, is somewhat true, but I don’t feel like I can’t read a book or that my attention span is shortened to the point that I’m fidgeting or falling asleep, or any of those things. I really... To me, it’s too exciting! How can you fall asleep when you’re tracking down some exciting stuff, and now you’ve finally found the source, and here it is, and now you’re just going to have to read the article.

**Dr. Dave:** Well, I guess that really helps, in a sense. If it is exciting, I suppose that helps a lot...

**Trumbule:** Yeah...

**Dr. Dave:** Not all reading’s exciting, though. (laughs)

**Trumbule:** That’s true.

**Dr. Dave:** And particularly, like when you’re in school...

**Trumbule:** Yeah.

**Dr. Dave:** Remember all the stuff we read in college that wasn’t exciting?

**Trumbule:** Oh, yeah. (laughs) I sure do.

**Dr. Dave:** Yeah, and...go ahead...

**Trumbule:** Along those same lines, I read recently... you know, I spent a lot of time making YouTube movies, and for anyone that wants to check them out, you can go to Denver Direct. You go to YouTube and just type in “Denver Direct,” and you’ll see all this stuff. A lot of “talking heads” but some fun stuff as well. And I read recently that the average YouTube movie-watcher will basically watch about a minute and a half before they kind of get tired or whatever it is at what you’re trying to present...

**Dr. Dave:** Yeah, it's true.

**Trumbule:** So, I keep that in, I keep that in mind. I try to keep my movies short and sweet, and just get it over with, get it done, and get out in a minute, two minutes...because even five, ten minutes is the limit.

**Dr. Dave:** Right.

**Trumbule:** But even five minutes starts to become kind of boring.

**Dr. Dave:** Oh, that's interesting. Yeah, I have, I've experienced that as a YouTube viewer. That, you know, sometimes I just haven't watched the whole thing, or I've had to kind of lean on myself to hang in there, to watch the whole thing... 'Cause maybe some friend has sent it to me or referred (laughs) me to it. So okay, I'm going to try to watch the whole thing.

**Trumbule:** Mm-hmm... On the other hand, your YouTube discussion of the Zodiac killer... I didn't find myself getting bored at all during those, and those were just a talking head...I mean...

**Dr. Dave:** Yeah, my talking head!

**Trumbule:** Your talking head.

**Dr. Dave:** (laughs) Right.

**Trumbule:** Maybe I have other motivation, you know, hoping you'll make a mistake...

**Dr. Dave:** (laughs)

**Trumbule:** ...that I can catch you...(laughs) No, I found the subject matter very interesting, as did, apparently, thousands of other people. And I suspect that those kinds of things are watched in their entirety.

**Dr. Dave:** Yeah, if it's stuff that we're really interested in. Let me read a little bit from – I've sort of highlighted various portions from this (inaudible) article for those who haven't seen it...

**Trumbule:** Mm-hmm...

**Dr. Dave:** ...and because I have lost all capacity to think deeply...

**Trumbule:** (laughs)

**Dr. Dave:** ...I need to rely on these (laughs) extended quotes.

**Trumbule:** Mm-hmm, mm-hmm...

**Dr. Dave:** He writes:

**For me, as for others, the Net is becoming a universal medium, the conduit for most of the information that flows through my eyes and ears and into my mind. The advantages of having immediate access to such an incredibly rich store of information are many, and they've been widely described and duly applauded. "The perfect recall of silicon memory," Wired's Clive Thompson has written, "can be an enormous boon to thinking." But that boon comes at a price. As the media theorist Marshall McLuhan pointed out in the 1960s, media are not just passive channels of information. They supply the stuff of thought, but they also shape the process of thought. And what the Net seems to be doing is chipping away my capacity for concentration and contemplation. My mind now expects to take in information the way the Net distributes it: in a swiftly moving stream of particles. Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski.**

**Trumbule:** Hmm. Yeah, kind of a nice image.

**Dr. Dave:** Yeah, yeah, and I...

**Trumbule:** You know what I find helps me when I'm doing research is, if I'm going to be writing about what I'm researching – and because I have a blog as a writing outlet, a couple of blogs – I feel compelled to make a few notes, even. You know, use a pencil and paper while I'm reading and formulate my own thoughts in writing, also on the Web, perhaps adding unnecessarily (laughs) to the cloud. So I (laughs)...

**Dr. Dave:** (laughs) Right.

**Trumbule:** But it certainly helps me do more than just skimming and then going, "Oh, okay, now I know about that, so I can leave that alone."

**Dr. Dave:** It's...

**Trumbule:** Maybe that's part of the answer, I don't know.

**Dr. Dave:** Well, yeah. It sounds like part of the answer, and I'm not sure what the question is (laughs), but part of the answer is interest. You indicated, the stuff that you're interested in, you really hone in to. You start taking notes because you know that you're going to have a use for it...

**Trumbule:** Mm-hmm, mm-hmm...

**Dr. Dave:** ...and so you're preparing for that use. And I think what's unique about this time that we're living in is that there is so much more information that is available to us. We're just being inundated with it. And so, somehow, our brain, our selves, we're trying to, we're figuring out coping strategies for dealing with all of this stuff that's coming at us. And of course, the major filter, I guess – one of the major filters – is going to be relevance. Is this relevant to my interests? If not, trash it. Keep moving, keep moving. Find something that's relevant. Ah, here's a little tidbit. Make a note. (laughs)

**Trumbule:** Mm-hmm...

**Dr. Dave:** Because maybe I'm trying to build some kind of edifice of meaning, or a career or something, you know, out of this welter of information.

**Trumbule:** Mm-hmm...

**Dr. Dave:** Reading a little bit more...

**Trumbule:** Yeah, I was...

**Dr. Dave:** Okay, go ahead.

**Trumbule:** One last little story. I was recently totally off the Internet, which, for me, is usually not more than however long I'm sleeping...

**Dr. Dave:** Yeah.

**Trumbule:** But this time I went on a trail ride in the southeastern part of the state of Colorado. And so, for four days, I had no access to the Internet. And thinking about it – thinking back on it – I did not once think, "Oh, golly, I wish I could get online and check my e-mail," or anything like that. The environment I was in was a very different hangout, with the ranchers, cowboys... I was videotaping, so that took up a lot of time. But I seem to have gotten by without my daily fix of Google and the Internet. So, that was a good sign.

**Dr. Dave:** And did it feel good to have that break?

**Trumbule:** Well, uh, it was kind of a rough ride. We didn't have amenities. There was no place to wash up, or... So, it felt good to get home and take a shower. That was the first thing...

**Dr. Dave:** (laughs) Well, I guess I was asking if having a respite from being connected and "wired in," if that felt good.

**Trumbule:** Yes, it did feel good in the sense that I was totally away from not only my computer, but from my house and my town. And I'm always amazed when I leave

Denver and travel out into the West, first of all, because I think most Americans have forgotten that the Midwest – now commonly known as the “breadbasket” of the United States – used to be called the Great American Desert, because it is in actuality a desert. We have irrigated and fertilized, and so on, to the point that we’ve dropped the water table in Kansas by 15 feet. And some large patches of the Midwest are actually sinking because we’re sucking all the water out of it. But down in southeast Colorado, it’s still the desert, and it takes like an acre or two to support one cow, one beethe (ph), which I guess is the appropriate term. And it’s amazing to see where I actually am on the planet.

**Dr. Dave:** Yeah...

**Trumbule:** So that was really...

**Dr. Dave:** (laughs)

**Trumbule:** ...that was very refreshing. You get to see... Out here in the West, because there are no trees, (laughs) you get to see that you are actually sitting on a globe. You can just barely detect the curvature of the earth when you look at the horizon...

**Dr. Dave:** Wow.

**Trumbule:** ...and especially if you’re up a little higher. And it’s mind-boggling. It really is. It’s something we all need to do once in a while.

**Dr. Dave:** Well, when I want to know where I am on the earth, I just go to Google Maps...

**Trumbule:** (laughs)

**Dr. Dave:** (laughs) No, I agree with you that, you know, I think one of the real dangers here is losing touch with reality. (laughs) With the real earth, with nature. Nature is such an important counterbalance to all of this, and unfortunately, it’s being encroached upon and diminished all around us, and to our peril, I think. But that’s kind of a different rat hole. And let me just mention...

**Trumbule:** Mm-hmm...

**Dr. Dave:** ...that while you were off on your trail ride, which, after this, I’ll want to hear more about – after we get off the air...

**Trumbule:** Mm-hmm...

**Dr. Dave:** ...I was having my own respite from the Internet. I was really sick with nothing worse than a bad cold, but it really had me knocked out, so that all I could do – I didn’t even want to watch TV or read a book or anything. And so, I was not

on the Internet, I didn't want to listen to podcasts, I didn't... (laughs) So that was kind of an interesting experience, you know, to just, from the point of being sick, all of this – the electronic gizmos and all of that – just had lost all of its appeal, all of its glitter. I saw it for the shallow (laughs) piece of tin that it is! Are you there?

**Trumbule:** Hmm...

**Dr. Dave:** (laughs)

**Trumbule:** Yeah, I was just thinking about, your sick brain must've been shutting down to some extent, to concentrate on making you well. I don't know if that's really true or not, but I know what you mean; I know what you're talkin' about. But it seems superfluous if you're running a fever, although I've been running a fever on the Internet many times (laughs) in the past...

**Dr. Dave:** (laughs) Yeah...

**Trumbule:** So, I can understand what you're saying, though, that those outside things become less important.

**Dr. Dave:** Yeah. Back to the Atlantic article. Let me read a little bit more from it:

**I'm not the only one. When I mention my troubles with reading to friends and acquaintances—literary types, most of them—many say they're having similar experiences. The more they use the Web, the more they have to fight to stay focused on long pieces of writing. Some of the bloggers I follow have also begun mentioning the phenomenon. Scott Karp, who writes a blog about online media, recently confessed that he has stopped reading books altogether. "I was a lit major in college, and used to be [a] voracious book reader," he wrote. "What happened?" He speculates on the answer: "What if I do all my reading on the web not so much because the way I read has changed, i.e. I'm just seeking convenience, but because the way I THINK has changed?"**

**Bruce Friedman, who blogs regularly about the use of computers in medicine, also has described how the Internet has altered his mental habits. "I now have almost totally lost the ability to read and absorb a longish article on the web or in print..."**

**Trumbule:** Hmm...

**Dr. Dave:** (quote continued:)

**His thinking, he said, has taken on a "staccato" quality, reflecting the way he quickly scans short passages of text from many sources online. "I can't read War and Peace anymore," he admitted. "I've lost the ability to do that. Even a**

**blog post of more than three or four paragraphs is too much to absorb. I skim it.”**

**Trumbule:** Hmm...

**Dr. Dave:** Hmm...

**Trumbule:** I don't feel like I've been drawn into that trap, but I'm sure some have. I, in fact, I still will occasionally resort to printing something out. I recently wanted to bring a question to the three candidates for office in my local area, here, and I wanted them to respond. And although the information I was sending them was on the Internet, I decided to print it out. And it was 60 pages long, and that seemed a bit much. But I really wanted them to read this, and it was very dense reading, factually oriented kind of stuff. And they actually read it – I think because I sent it to them in a hard copy. One of them came back to me and said that they had loaned the hard copy out to somebody else. And so in that case, I referred them to the source on the Internet. But that approach – mailing somebody a printout, a hard copy of the thing you want to call to their attention – seems to kind of reinforce what you're saying here.

**Dr. Dave:** Yeah, I sometimes, you know, I sort of have to debate with myself, when somebody sends me something longish to read, whether or not to print it out. And I do have the sense that hmm, maybe I need to print this out so that I really will read it. Or, if I have to proofread something, I find I probably will proofread it better if it's printed out than if I try to proofread it on the screen. I'm not sure what that's about.

**Trumbule:** Yeah. My partner, Pat, is helping my partner, Ed Hawkins, with his books, and she's doing a lot of editing. And I noticed the other day that she was sitting in front of her computer with a hard copy in front of her, with the same thing on the screen. And I said, "Oh, you're doing the editing on paper first?" And she said, "Yeah, I just can't edit on the screen."

**Dr. Dave:** Yes. Yeah.

**Trumbule:** So, I think that kind of reinforces what you're saying there. I don't know what the difference is, but I certainly understood the point she was making.

**Dr. Dave:** Yeah, you might ask her, "Well, how come you can't edit on the screen?" It would be interesting to see, you know, what her explanation for that would be.

**Trumbule:** Mm-hmm, mm-hmm...

**Dr. Dave:** Here's another passage I'd like to share because it refers to some research by a developmental psychologist:

Thanks to the ubiquity of text on the Internet, not to mention the popularity of text-messaging on cell phones, we may well be reading more today than we did in the 1970s or 1980s, when television was our medium of choice. But it's a different kind of reading, and behind it lies a different kind of thinking—perhaps even a new sense of the self. “We are not only what we read,” says Maryanne Wolf, a developmental psychologist at Tufts University and the author of *Proust and the Squid: The Story and Science of the Reading Brain*. “We are how we read.” Wolf worries that the style of reading promoted by the Net, a style that puts “efficiency” and “immediacy” above all else, may be weakening our capacity for the kind of deep reading that emerged when an earlier technology, the printing press, made long and complex works of prose commonplace. When we read online, she says, we tend to become “mere decoders of information.” Our ability to interpret text, to make the rich mental connections that form when we read deeply and without distraction, remains largely disengaged.

This, I thought, was a very interesting point:

Reading, explains Wolf, is not an instinctive skill for human beings. It's not etched into our genes the way speech is. We have to teach our minds how to translate the symbolic characters we see into the language we understand. And the media or other technologies we use in learning and practicing the craft of reading play an important part in shaping the neural circuits inside our brains. Experiments demonstrate that readers of ideograms, such as the Chinese, develop a mental circuitry for reading that is very different from the circuitry found in those of us whose written language employs an alphabet. The variations extend across many regions of the brain, including those that govern such essential cognitive functions as memory and the interpretation of visual and auditory stimuli. We can expect as well that the circuits woven by our use of the Net will be different from those woven by our reading of books and other printed works.

**Trumbule:** I'm guessing that's true. I don't know if it's an important distinction. Now, here's another offshoot from what we're talking about, here, and maybe it's just me. But I've noticed not just in reading, but in talking to people that there seems to be a general decline in the ability to pay attention.

**Dr. Dave:** Yeah, yeah.

**Trumbule:** Now, I think this may be related to my age and the dismissive attitude that people tend to have towards older people: “Oh, yeah, we've heard that before.” (laughs) But it's really disconcerting when you're talking to somebody and then you notice they're looking over your shoulder, and they've got this kind of blank look on their face. So, I'm trying to adapt to that, and I'm trying to say things that are not complete, in and of themselves. In other words, I just want to give

somebody a taste of what I'm thinking and let them ask me a question if they're interested.

**Dr. Dave:** Yes. Yes.

**Trumbule:** It's not really working, because they're not asking me questions.

**Dr. Dave:** (laughs) Well, you know, I notice a similar thing in myself, that I have to be careful not to do that sort of – and I'm making “air quotes” here – not do that “old man” thing of... “air quotes” around “old man.”

**Trumbule:** (laughs)

**Dr. Dave:** I'm not willing yet to not have (laughs) “air quotes” around “old man.”  
(laughs)

**Trumbule:** (laughs) Right.

**Dr. Dave:** So, I have to watch that ten- Sometimes, I have this, I guess I see that person's attention wandering, and the thought goes through my mind, “Oh, I'm talking too long. I've got to shorten it up.”

**Trumbule:** Mm-hmm, mm-hmm...

**Dr. Dave:** And that anxiety can almost make me get more fumble-tongued than I was already, and sometimes I can hear myself, and I just don't feel like I'm as clear – as incisive, maybe – as I used to be. But, so I think there are two things going on. It may be that as we get older, we're not quite as concise and maybe not as interesting as we used to be, I don't know. The other side of it is that I do think that computers and modern life in general – but computers in particular – I think they've impacted my attention span. So I have to assume they've impacted other people's attention span as well. You know, I've said this before. When I, in my early days at the university, people used to sit... You'd walk down the hallways and you would see people sitting and talking to each other. Now, when you walk down the hallways, you see people looking at computers, and it's very rare to see two people engaged in conversation. And of course, the people who are looking at computers, they're in control. That's the thing: when you're at the computer, you're in control of what you're... of the speed, you know, of what you're looking at and the choices about what you're looking at.

**Trumbule:** Mm-hmm...

**Dr. Dave:** When you are a listener, you're *captive!*

**Trumbule:** Yeah, you are.

**Dr. Dave:** This is causing me marital problems, but there's not, there's not time here to explore, and I wouldn't want to, anyway. (laughs)

**Trumbule:** Aw, heck! (laughs)

**Dr. Dave:** (laughs) But you know, it's clear that I can't pay attention nearly well enough for my wife's satisfaction.

**Trumbule:** Uh-huh, yeah.

**Dr. Dave:** And sometimes, it works the other way around, too.

**Trumbule:** That may explain why I'm single. I don't know.

**Dr. Dave:** (laughs) Right, yeah.

**Trumbule:** I did want to raise one issue. Part of the solution may be in specific devices, such as the [Kindle](#). Are you familiar with this new reader that Amazon is selling?

**Dr. Dave:** Yeah, I was going to –

**Trumbule:** It's called the Kindle?

**Dr. Dave:** Yeah, I was going to ask you the same thing.

**Trumbule:** Because even though that machine can download from the Internet - so in a sense, it is "wired up" – I don't imagine you do surfing when you're reading a book on a Kindle. I don't own one yet. I'm thinking about buying one, but it seems a little strange. But maybe you've got a book downloaded into your Kindle, and you're going to read the book.

**Dr. Dave:** Yeah, yeah.

**Trumbule:** You know, you're not going to be jumpin' (inaudible) other stuff.

**Dr. Dave:** Yeah, it doesn't have hyperlinked text, so you won't be jumping around.

**Trumbule:** Right.

**Dr. Dave:** It will be to read the book. So, you know, I've thought about the Kindle and wondered, hmm, is this something I'm interested in? So far, particularly at the price point – it seems a bit expensive – I'm not drawn to it yet. Also, you know, it's like a paperback, I can shove it into my back pocket. I don't (laughs) think I could shove this into my back pocket. What are your thoughts on the Kindle? We only have three minutes left, by the way.

**Trumbule:** Oops. Boy, how time flies! Well, I kind of like the idea, especially because my partner is into e-books. And yet I have not purchased one, and my thought would be, they're making the same old mistake again. They ought to be, they ought to practically give you the Kindle...

**Dr. Dave:** Yes, yes...

**Trumbule:** ...if you buy 10 books. And the books are cheaper – six dollars, 10 dollars – and so they can have a deal like, purchase 10 books and get a free Kindle.

**Dr. Dave:** Yeah.

**Trumbule:** It's the old Schick razor...no, Gillette. Gillette was the guy who invented the disposable razor, and he soon learned he had to give away the holders to get people to buy the refills.

**Dr. Dave:** What I'm hoping, as has been pointed out on one of my favorite iPhone podcasts, is new software is going to come out for the iPhone – I think I said "iPod;" I meant iPhone – on July 11.

**Trumbule:** Hmm.

**Dr. Dave:** And one of the things that I'm hoping to see in this whole wave of applications that are going to become available for that device is, it seems like it would be a perfect device to be kind of Kindle-like for the reading of e-books.

**Trumbule:** Mm-hmm...

**Dr. Dave:** I'm hoping that some smart person out there writes that software. And then that will be my, my Kindle.

**Trumbule:** Is it big enough? I mean, do you think you get enough onscreen?

**Dr. Dave:** Well, that remains to be seen.

**Trumbule:** Okay.

**Dr. Dave:** I think it could be. It's certainly not as big as a Kindle, and some people have hoped that Apple would release a version of an iPhone-like device that's somewhat larger than it is...

**Trumbule:** Mm-hmm...

**Dr. Dave:** ...so that it would lend itself well to some other kinds of applications like being a reader.

**Trumbule:** Mm-hmm...

**Dr. Dave:** Well, we're in our final minute here. This has been one of our more focused discussions.

**Trumbule:** Indeed.

**Dr. Dave:** I've enjoyed it, and really, really...

**Trumbule:** Yes.

**Dr. Dave:** ...happy to have you on board here.

**Trumbule:** It's always fun, Dave.

**Dr. Dave:** Yeah. Great.

**Trumbule:** And remember...

**Dr. Dave:** And remember – yes! (laughs) You're right. I was going to forget, so it's probably not too soon to... We have 49 seconds, though.

**Trumbule:** We could draw it out reallll sloooow... (laughs)

**Dr. Dave:** (laughs) We don't need to do that. Actually, today I've remembered to record this separately, so that...

**Trumbule:** Oh, good. Good.

**Dr. Dave:** ...when I put it on my main feed, it's going to sound a lot better. So, we're at the place where I'm going to say, "It's alllll in your mind."

**Trumbule:** It's alllll in your mind...

**Dr. Dave:** ...alllll in your mind...