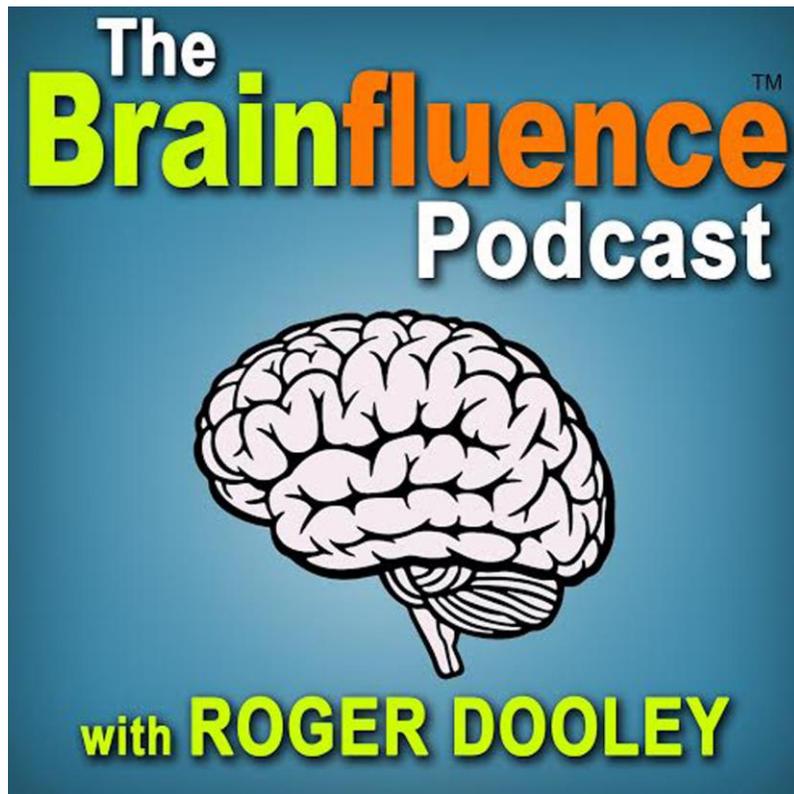


Ep #33: The Chemistry of Influence with Paul Zak



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Roger Dooley

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Ep #33: The Chemistry of Influence with Paul Zak

Welcome to the Brainfluence Podcast with Roger Dooley, author, speaker and educator on neuromarketing and the psychology of persuasion. Every week, we talk with thought leaders that will help you improve your influence with factual evidence and concrete research. Introducing your host, Roger Dooley.

Roger Dooley: Welcome to the Brainfluence Podcast. This is Roger Dooley and today I'm really excited. Our guest is Paul Zak. He's a scientist, author, entrepreneur and speaker. He's the founding director of the Center for Neuroeconomic Studies at Claremont Graduate University and he's the founder of O-factor, Inc. A particular interest to our listeners today, I think, is that he is credited with the first use of the term neuroeconomics, which I've always considered to be a parent of neuromarketing which perhaps neuromarketing is a step child in some eyes. Neuroeconomics is really behind most of what we talk about in neuromarketing.

For the last 10 plus years Paul's been leading the charge on understanding the role of the brain chemical oxytocin and in particular its role in how people trust each other. He's the author of *The Moral Molecule*, a book that describes the chemical basis for a lot of human behavior. It's a great read. It combines some really interesting science with plenty of amusing anecdotes. It's fair to say that Paul's work has spawned more amusing nicknames than most researchers aspire to. He's been called Doctor Love, the lab is the Love Lab, his field of work vampire economics. I'm sure there's probably a half a dozen others that you throw out, Paul. Welcome to the show.

Paul Zak: Thank you so much Roger. What a pleasure to be here.

Roger Dooley: Paul, most of our listeners are marketers and trust is a huge issue. There are lots of guides in marketing

[The Brainfluence Podcast](#) with Roger Dooley

Ep #33: The Chemistry of Influence with Paul Zak

literature to producing trust signals on your website or in your literature, things like emblems that you can include and so on, but your work shows that, at least in part, trust is based largely on brain chemistry, right?

Paul Zak:

That's right and this was really a radical idea about 12 years ago, 13 years ago. When we started writing these studies at the time oxytocin was just known to facilitate birth and breastfeeding in women and it wasn't thought to do much else. But there was an emerging animal literature suggesting that it allowed individuals of the same species kind of recognize each other.

It occurred to me that going from recognition to trust runs on a continuum, so we began studying transfers of money. Why would you transfer money to a stranger that you don't know, you can't talk to? We found that when that transfer was intentional, when you wanted to actually send money to somebody as opposed to just randomly send you cash, the brain produced oxytocin and it motivated individuals to reciprocate.

That takes us to two interesting areas. One is that oxytocin is very evolutionarily old and it's active in evolutionarily old parts of the brain. It says that for human beings, trust is an ancient activity. That is, we have evolved the circuits for trust many, many years ago and that decision is largely unconscious.

The second part, which perhaps is more applicable for this conversation is, knowing about oxytocin and a larger brain circuit it activates, allows us to ask questions like, what inhibits this brain circuit activity? What promotes it? That's the work we've done for the last dozen years, really understanding the variations in trusting behaviors.

Ep #33: The Chemistry of Influence with Paul Zak

This is clearly conditional. Just to dissuade listeners from thinking that it's not a zero, one choice. It's a ... I'm neutral towards you, Roger. I'm sure you're perfectly nice, but if I got to know you, had more information, we interacted together, then I would release oxytocin and I'd be motivated to go from neutral to plus 10 or plus 20. This is not a sledgehammer in the brain because it wouldn't be adaptive otherwise.

Roger Dooley: Maybe if we hugged. Tough to do electronically, I guess. Perhaps eventually there'll be devices that will facilitate that oxytocin release remotely. In your book you talk about oxytocin as being an antidote or an alternative to the fight or flight options which are sort of the very basic behaviors in both animals and presumably early humans, that when you're dealing with a communal animal or person, fighting or running away aren't always the best options, right?

Paul Zak: That's right. Oxytocin helps balance out that appropriate fear of strangers with a desire to interact with a stranger because that person may be valuable in some way. They may become a friend or a collaborator, a romantic partner. We're constantly balancing trust and distrust, approach and withdrawal. Much of the scientific literature prior to the work we did in the early 2000s really focused on that fear side and that aggression side because it's easy to measure in the lab.

This sort of positive side, trust, compassion, empathy, it's much harder to measure that objectively and there wasn't a really good target in the brain to tell us how this worked. I think that work we did was quite useful.

Then if I can transition a little bit into marketing, we got into doing consumer neuroscience work in a classical way

[The Brainfluence Podcast](#) with Roger Dooley

Ep #33: The Chemistry of Influence with Paul Zak

that all work gets done, which is ass backwards. We were looking for a really reliable way besides having people transfer money to each other or donate money to a charity or something to have an objective way to reliably cause the brain to make oxytocin.

One of my graduate students at the time, now a faculty member with me, Jorge Barraza, who's a social psychologist said, hey, in Psychology we use things like videos and I wonder if a video might do this. He developed a short video, quite sad video actually, of a father and his two year old son. The son has terminal brain cancer. That was actually a fund raising video that we got from Saint Jude Children Hospital in Memphis.

We found that as an extraordinarily reliable oxytocin stimulus. You watch this, you feel very connected to this father and the poor son who's dying. What we discovered from that was a couple things. One is that stories are very effective ways to engage people, number one. The release of oxytocin accentuated our sense of empathy. When my brain makes oxytocin, I'm more connected to the people in the story.

Going from that finding to why do we cry at movies, or why do we pay attention to commercials, wasn't a giant leap. That's the work we've done the last five years or so.

Roger Dooley: I read about the movie with the father and son in your book. Have you found some other themes that also are productive in generating oxytocin that aren't really such-hate to say incredible downers, but I think most marketers wouldn't want to show a terminally ill child in their literature, for example.

Ep #33: The Chemistry of Influence with Paul Zak

Paul Zak: Right. Although there was an article recently in Fast Company called the Rise of Sadvertising, about these ads that really grab your emotions. Yeah. That's a very good question. How general is this? That's the work we've done in the last couple of years. People can Google me and go to the website and download the scientific papers. You're welcome to read them and learn from them.

Anyway, we started looking at, first at public service announcements for two reasons. One is because there's tons of them out there and they're often about a cause but they don't ask you to engage in some behavior. I'm a big believer in observing behavior as opposed to ask you how you feel. Feelings, again, are largely unconscious and difficult to articulate unless they're extreme.

For this work we had people watch ads. We paid them if they paid attention to the ad. Then we gave them an opportunity to donate some of the money they had just earned to a charity associated with that cause. Don't drink and drive, maybe you could donate money to Mothers Against Drunk Driving. This way we got not only neurologic assay, but we got a behavioral assay. We wanted to link those two things together.

We found that they could be funny, they could be engaging, but basically ads that had an impact on you behaviorally, had to have two key components. One of those was attention. The brain itself is an economic system. Your brain has scarce resources, it takes about 20 percent of the calories you take in to run this three percent of your body mass. The brain wants to idle most of the time. If there's information in the environment, it'll attend to it, but only to the extent that it seems useful.

Ep #33: The Chemistry of Influence with Paul Zak

The first thing in that has to do we found is capture your attention and sustain that attention. I may capture it and then if it disappears in the first 15 seconds nothing much happens. After you capture that attention, if that ad has a sufficient storyline, engaging storyline, that connects you the characters in the ad, then people often will release oxytocin. It's the oxytocin that predicted this post ad behavior. I want to help people not die from drinking and driving or I want to buy life insurance or I want to whatever the people in this ad are doing.

Roger, when I teach, I try to piss people off. If you piss off students, they remember things so that the brain categorizes information based on its emotional valence. Anyway, one way I piss off students is I tell them that, like it or not, you have a lazy Republican brain. Your brain is Republican because its conservative. It wants to conserve energy and whatever pathways you've developed to do whatever task or interact with whatever thing in your environment, that's the default behavior until that response doesn't work very well. It's lazy because it uses systems that evolve for one purpose in our evolutionary history for other purposes today.

In this lazy Republican brain, I've got to really get you excited about something or I'm just going to kind of space out. In studies we've done on ads with very flat story lines, we see that attention wanes after about 20 seconds. We don't get this connection to the characters, we don't get an oxytocin response and we don't get post ad behavior that has to do with things like building loyalty to a brand, or trusting the message in that ad.

You really need that oxytocin response. It can come from funny ads, it can come from print ads. All these can do it,

Ep #33: The Chemistry of Influence with Paul Zak

but it's got to have somehow the emotional valence that is interesting enough to me. For most ads, that has to do with some kind of conflict or difficulty that a human being is having.

Roger Dooley: I know that Sands research does combined EEG and biometric studies of ads. One of their best ads they ever measured was the mini Darth Vader ad from Volkswagen that has the amusing story line of the little kid dressed up as Darth Vader who, near the end of the commercial, thinks he starts the car with the Force. It's a great punchline and it was both continuously engaging and also had pretty high emotional impact when it got to the punchline.

It would be interesting to see what, if you were able to test that ad, what that would show. That was an example of a humorous one that was very much of a feel good thing and perhaps was effective at selling Volkswagen. Although these things are really hard to measure in the real world to know there was a sales boost in the ensuing months. Was it because of the ad or because of some other totally unrelated factor?

Paul Zak: It is tough. What we do, we've done now commercial work. We've actually done a lot of work for the US Department of Defense which, surprisingly or not surprisingly, does a poor job of communicating to foreign populations.

Let me give you a concrete example. We ran a study last January right after the Super Bowl. As you may know, USA Today has for many years asked its readers to rank on a one to ten scale the Super Bowl commercials. It publishes the day after the Super Bowl-

Ep #33: The Chemistry of Influence with Paul Zak

Roger Dooley: Right USA Today ad meter.

Paul Zak: Yeah. Right. What we did is we took those top ten ads, we put them in random order. We had 16 people watch them and we collected physiologic data. This is data from the heart, the biggest nerve, the hands palm sweat. We've developed a number of algorithms with our work with the DOD that identify these potential components and this emotional engagement, oxytocin binding component. We combine these into a single measure that we call ZEST. An ad ZEST is its ability to sustain attention and have its emotional engagement. That stands for Zak Engagement SStatistic.

How much ZEST do these ads have and does that correspond to people's liking of the ads on self-report. When we ran these, we found absolutely a zero correlation between what people say they like and what tickles their brains. When you get a result like that you go, okay either we are really good or we're really bad. Just to be careful, we reran the study using the 2013 Super Bowl ads. We got exactly the same result.

We don't know what we like. I think from a marketing perspective, you have to wonder about what's happening when we ask people, gosh did you like that ad? Did you find that compelling? We don't know. It's like asking you, Roger, why you prefer vanilla ice cream over chocolate. If I forced you to tell me, you'll give me some BS story, but there's lots of deep neurologic reasons why you developed that preference.

Roger Dooley: Right. That's kind of been my drum beat for the last 10 years, pointing out that you simply can't ask people questions like why they do things, what their motivation was or will be, whether they'll buy something. There are

[The Brainfluence Podcast](#) with Roger Dooley

Ep #33: The Chemistry of Influence with Paul Zak

very few kinds of questions that you can ask that consumers can answer reliably. Perhaps, what did you have for breakfast this morning is a pretty straightforward question, but if you get much beyond that you're going to get really bogus results.

We had our, as a guest here a couple weeks ago, Robert Cialdini the sort of father of persuasion science. He is known for his famous six principles. One of those is reciprocity. If you do something for me, I'm more likely to do something for you or to be persuaded by you to do that.

It seems like this, although from the standpoint of the test work that Cialdini and others have done along these lines, it's been social science data sort of gathering various examples of this in the lab or in the field. I would guess that you would blame that all on chemistry, that really what's happening here is that the first stage of the reciprocity of one person doing something for another person, is the initiation of this trust sequence that's going to release oxytocin.

Paul Zak: That's right. The beautiful thing about this is it happens so naturally. You hold the door for me at the airport, I thank you, I smile at you, I feel good about how nice it is for me to be in Austin with you, or whatever. Yeah. It's the bad behavior that gets all the press, but I think from a marketing perspective, it does mean that this rise of giving away freebies, serving other people is the way to build strong brand loyalty.

I don't think it's hard to do, it does require a constant vigilance so that you're not degrading that interaction with a consumer. There's some principles we could talk about

Ep #33: The Chemistry of Influence with Paul Zak

from the neuroscience we've done that allow this to happen more naturally.

One of those, for example, is transparency. If I'm giving you really clear information about my brand, what I'm doing, how it works, then I've reduced this uncertainty which is an oxytocin inhibitor about what you're doing and why you want me to be here. Part of that is not just doing the what but understanding the why. Telling someone it's great to have you hear and I want to have you be a long term client of ours and we'd like to send you, for no cost, a copy of our recent book by our CEO or whatever. Great. Now I feel happy, right?

What's nice is that you don't have to do more than follow what your mom told you in first grade. Say please and thank you, look out for the other person, and then this system will kick in quite naturally.

Roger Dooley: Actually what you are saying reminds me of an experiment that was done awhile back, I think in the UK but I'm not sure. In it, experimenters ask people about their television at home. Basically ask for a rating of how much the subject liked it. These people were exiting a super market. Half the subjects, prior to the question, before they even approached the experimenter, were given a food sample. It wasn't clear that the two activities were related, but the other half weren't.

Interestingly enough, the people who had the food sample, were given the food sample, felt much better about their TV at home than the other group, which of course makes no logical sense that this food sample would affect their impression of their home TV. This perhaps sounds like, again, sort of a- perhaps an oxytocin

Ep #33: The Chemistry of Influence with Paul Zak

effect where there's sort of a general mood change from having been given something.

Paul Zak: What a fabulous neuroscience question. That's exactly right. It turns out that eating food causes moderate release of oxytocin. One reason we have meetings over meals is because we have- celebratory is very nice, we're multitasking, but also because it's easier to bond when you're eating food, digesting food, you have a small oxytocin response. That doesn't surprise me at all, that study.

Roger Dooley: Paul you've done- we've talked a lot about measuring oxytocin and the effects of different things, but you've actually done some experiments where you externally administered oxytocin to subjects to see what happened, right? Could you tell us about those a little bit?

Paul Zak: We did. There's a very short, funny back story which is- once we found- we measure oxytocin in blood, changes in blood. Oxytocin has a very ancient chemical as I mentioned. Under stimulus it's released both in the brain and the body. We started doing this work by doing serial blood draws, hence the vampire economics moniker that my dean at the time gave me.

We still do a lot of bloodwork. We really want to know what happens to brain naturally. Nothing in the brain or body happens in isolation. It was clear to me that we had to go in and sort of tickle this oxytocin system and see if we could replicate the behaviors we were observing, like trust.

Anyway, the FDA didn't allow me to do this in the US just for stupid regulatory reasons. We actually ran our first study in Europe. We developed this nasal inhaler which

Ep #33: The Chemistry of Influence with Paul Zak

we can spray about two milliliters of liquid up your nose and after about an hour, some of that oxytocin leaks into your brain. We can do placebo control drug studies to show that's the oxytocin and not something else going on in the brain that's actually causing you to be more trusting or more empathic.

We have done that in our consumer neuroscience work. In the study I mentioned earlier on the public service announcements, one variant to that study, we gave people oxytocin or placebo and we found that people were given exogenous oxytocin were more connected to the characters shown in those PSAs and they also donated about 50 percent more money to the charities that were associated with these different behaviors. It looks like oxytocin is this causal link between connection to the story and post story or post ad behavior.

Roger Dooley: At this point I'm sure that some of our listeners who are in sales are thinking, boy if I could only spray this stuff on my customers that would be awesome. Putting aside any ethical considerations about administering drugs without people's knowledge, which is probably not a good thing, is that kind of thing even feasible for influencing behavior?

Paul Zak: In a laboratory it is. No it's not. Let's do the serious part first then we'll do the fun part. Serious part is, this is a prescription drug, you need a doctors prescription to get it. It can only be used in controlled settings. I like to say, Roger, hugs not drugs. We've shown that touch releases oxytocin as I mentioned earlier, effective narratives release oxytocin, movies we've tested, TV shows that are very engrossing, connect us to those characters. I think understanding how the system works on its own is the most important thing.

Ep #33: The Chemistry of Influence with Paul Zak

You mentioned things like reciprocity being very important. I mentioned transparency. I think there is such a thing as brand love. Oxytocin is sometimes called the love molecule. It motivates us to nurture our offspring and care about our romantic partners and friends and those around us. I think building love for a product or a brand is not crazy.

If you like, I'll tell you about a little study we did about brand love.

Roger Dooley: Yeah by all means.

Paul Zak: Here's a little study we did. This is with a very nice ad agency in Orange County called Innocean. The study was that you came in and you brought a picture of your loved one and a favorite product. We hooked you up to these wireless sensors that pick up physiologic activity up to a thousand times a second.

We got a baseline physiologic activity on people and then they talked to me for 60 seconds about the person or the product. We use our algorithms then to generate this ZEST score and see how engaged they were. A couple of the people actually loved the product more than the person. Of course everyone said on the self-report, on a one to seven scale, I love my daughter or my spouse or whatever, a seven. I love my iPhone a six or something. They know the right answer.

It turns out the brain doesn't lie. There were a couple people who brought in products that had- they had very long deep history. One was a guy who played college sports. In fact he'd been playing this sport since he was a kid. He was in little league, this and that. He brought in a favorite baseball mitt. It was just full of stories. It was

Ep #33: The Chemistry of Influence with Paul Zak

custom made, he remembered playing in college and all the traveling and the crazy experiences they had. Then talked about someone in his family who- he clearly loved this person, but wasn't like aaah.

I think again from a marketing perspective, I think what it means is that story telling is a key to what we want to get out in terms of building brand love. There are people who just love these brands but when the brands showed more love than the person, it's because these brands had had such deep and long histories.

For me, I'm an Apple guy. I'm not getting rid of my Mac or my iPhone. I've taken my MacBook Air around the world a couple of times and dropped it in weird places. It's sort of part an extension of me and it would take a lot for me to start using a PC at this point. That's kind of what you want is to have this relationship in which now I'm seeing the brand as if it's a person and I'm building the same oxytocin love, connection, trust, relationship with the brand.

Roger Dooley: Are there any short cuts to that? Clearly if you have a long history with the product, you can develop an attachment to it. I think, certainly, that's part of Coca-Cola's secret for example of where they have this really strong emotional response associated with their brand and their color and so on. For newer brands or brands that are trying to increase their share of the market and the number of fans they have out there, is there any way of fostering that other than just grinding it out over the years?

Paul Zak: Right. The two things we found are really effective story telling. You know this from your own work that if you have a really great ad that just grabs you and you've seen it

[The Brainfluence Podcast](#) with Roger Dooley

Ep #33: The Chemistry of Influence with Paul Zak

enough. Again, think of the lazy Republican brain. I've got to be exposed to that ad a sufficient number of times. Then all of a sudden, I start making this association between that ad and the behavior and that love for the brand.

One of the things we're doing now actually is we're trying to identify two things in our laboratory studies. That is how much repetition you need before you internalize this message, and when can we actually change your beliefs? Is it possible with advertising to take you from, eh I'm neutral about Apple to, gosh I love my Mac. When does that inflection point occur? No one really seems to know.

Could you take it too far? One of the things we thought about is over saturation. I see 5,000 ads for McDonald's every month. Does that just turn me off? I just don't want to do it, I'm just overwhelmed. Anyway, marketers certainly have thought much about this. We're trying to come from this from the brain perspective. If we could understand these brain circuits for building this relationship with a brand, can we then reverse engineer the process and ask, at what point have you laid down these pathways where I'm connecting the Happy Meal at McDonald's to happy children to a happy experience. I think that's one of the big take homes we're working on now.

Roger Dooley: Even if the consumer doesn't have their own story about the brand, if they can perhaps see themselves as part of the story that the brand is telling-

Paul Zak: Perfectly put. Exactly right.

Ep #33: The Chemistry of Influence with Paul Zak

Roger Dooley: Thanks. Paul, your effort to commercialize some of this is O-factor. Tell us a little bit about the company and what it does.

Paul Zak: Great. Thank you Roger. One of this is consumer neuroscience that I've talked to you about. We have this wireless technology to pick up physiologic signals. For ever hour we test for 30 people, we get a terabyte of data. This is the world of big data and the algorithms allow us to extract out these very faint signals that tell us where an ad goes right or goes wrong. We've been able to do this work with a number of really interesting clients from Fortune 100 companies to advertising agencies.

The second is really applying this to management. Currently writing a book, what I'm calling Neuromanagement, which is I think really the most difficult management problem which is managing people. I can work out strategies, I can do the finance, I can do the accounting, but people are hard to manage and maybe they're inherently unmanageable. That's a social neuroscience problem to me.

We've been doing work for about six or seven years on applying what we know about the brain circuits that instantiate trust to build high engagement, high performance organizations. What we find is, in high trust organizations, people are more productive, they're happier, they're healthier and when they leave work, they're actually more fulfilled. They're better citizens, they're better parents, they're better people to be around and they're healthier too. They're a lot healthier.

Organizations that really are focused on the individuals who work there end up being more productive long term. Actually my, now late, colleague Peter Drucker, said this

[The Brainfluence Podcast](#) with Roger Dooley

Ep #33: The Chemistry of Influence with Paul Zak

in the sixties, that a organization's first responsibility is to the employees, not to customers. It was such a radical idea but we found the same thing. When you really invest in the employees, they're invested in the mission of the organization and you see this high level of performance. Yeah. That's what we've been doing with all my spare time.

Roger Dooley: Right. All of it right? Seems like spare time is at a premium these days. Anyway, Paul we're just about out of time. Let me remind our listeners that, first of all, we've been talking to Paul Zak and we will have links to Paul's book, his company, his other web presences, social media links and so on the show notes page at rogerdooley.com/podcast.

Paul, if our listeners want to connect with you, what's the easiest way online?

Paul Zak: The easiest place to find me is pauljzak.com. From there you can see the lab, you can see the consulting media stuff. I like to put everything online and people can sort through it and they can connect to me there. Be happy to engage with listeners.

We love the consumer neuroscience work. It's just a- it's fascinating. It's a wonderful test of our ability as neuroscientists to really understand what the brain's doing. We have a big chunk of our lab devoted to that work. Happy to share that with listeners.

Roger Dooley: Great. Paul it's been a real pleasure to have you on. I think we've got a lot of topics left to cover so maybe we can do it again in some point in the future. Thanks very much for being a guest on the podcast today.

Ep #33: The Chemistry of Influence with Paul Zak

Paul Zak: Thanks Roger.

Thank you for joining me for this episode of the Brainfluence Podcast. To continue the discussion and to find your own path to brainy success, please visit us at RogerDooley.com.