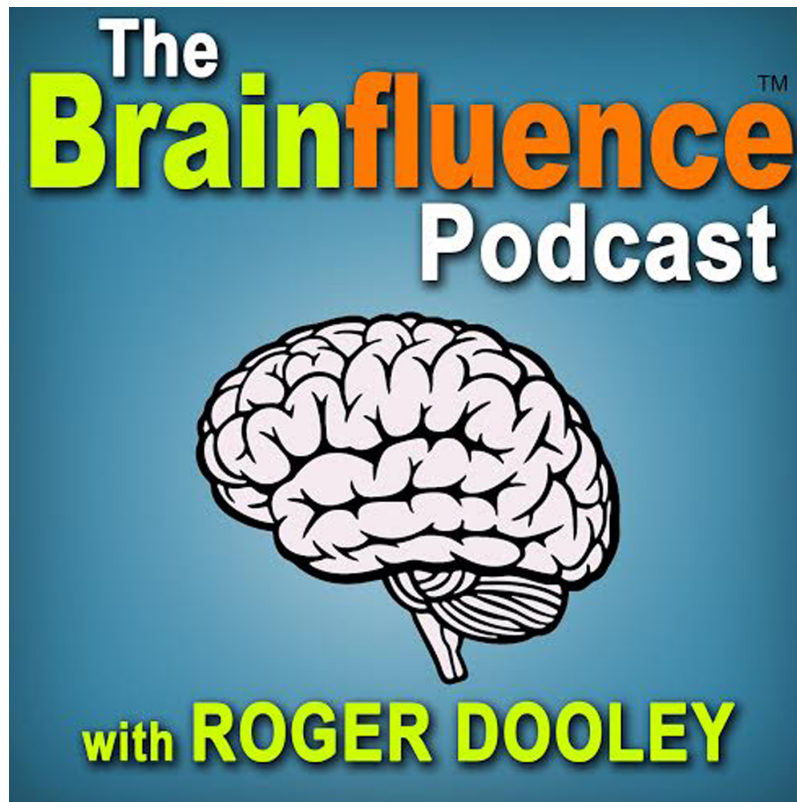


Ep #4: Multimedia Engagement with Carl Marci of  
Innerscope



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**Roger Dooley**

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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: Welcome, this is the Brainfluence podcast and I'm Roger Dooley. With us today we have Carl Marci. He is the Chairman and Chief Science Officer of Innerscope Research and also an M.D. Carl, I guess the first thing that I'd like to ask you by way of introducing yourself is what's a nice doctor like you doing looking inside people's heads to get them to buy more stuff? Tell me a little bit about your neuromarketing journey. How you ended up in the neuromarketing space?

Carl: It is a great question Roger. First of all, thank you for inviting me today. Sort of a different path, when I finished my medical training and my psychiatry residency, I did two fellowships with the National Institutes of Health looking at the neuroscience of the patient/doctor relationship.

I was very interested in how people connect in general, but also how patients and doctors connect to really enhance healing. I was very aware that while the functional magnetic resonance imaging and CAT imaging that were these amazing tools that allow us to look inside the brains of healthy individuals and mentally ill individuals were wonderful tools. It was very hard to put doctors and patients in simultaneously and have them do meaningful interactions like a clinical interaction.

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I was introduced to my mentors who were studying physiologic measures of the body's response to emotion and simultaneously doing fMRI and PET studies to look at what was happening in the brain. As you know, we have been collecting heart rate and skin conductance as measures of emotion for decades. It really isn't until the last 20 or so years where we have a neuroscience framework to really understand what is happening in the brain as our body experiences emotion.

I remind people all the time that there are no sensory neurons in the brain. You can do brain surgery on someone while they are awake. They don't actually feel the surgeon going into their brains. We experience our emotions in our bodies. Looking at the peripheral response to emotions made sense. It also allowed me to go into the clinic and actually measure patients' and doctors' interactions. I was looking at empathy as a measure of rapport between two people.

I was running around the hospital with a big box with a lot of wires in it. Someone said, hey, you should go over to the MIT media lab. They are doing some really interesting stuff with computers and biometric monitoring. We became very fast friends. The various investigators and scientists at MIT were taking small computers and doing what MIT engineers do. Taking them apart and integrating heart rate and skin conductance and voice analysis tools that you could use in a wearable form factor. This was amazing at the time. You have to consider portable, wearable, physiologic measures were not around in the mid '90s, turn of the last century.

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It got very exciting because there was not a lot of connectivity in looking at an integrated device that was wearable and portable that could run on a small battery and store data. Remember storage is an issue too.

We ended up testing not only depressed patients on an inpatient unit; but we also began to look at other things like social interaction during a negotiation, could we predict whether or not someone was going to win or lose a negotiation. We looked at poker playing; whether or not people were bluffing or not. Speed dating; whether you could predict whether a woman was going to ask a guy for their phone number.

There was a guy in a class I was teaching over at MIT named Brian Levine. He said, hey have you ever measured video and audience responses to that. I said, you know that's a really interesting idea, why don't we try it. When he graduated, he asked if I was interested in starting a company. I will tell you after 10 years of writing grants the idea of doing something a little more entrepreneurial was appealing, number one.

Number two, while I was very interested in how people connect with one another, I was becoming very aware ... you know we are so wired to connect, Roger, with one another and there is a fundamental, evolutionary reason for that. When a child is born, human child is born, they are the only mammal that more brain development occurs after birth than before birth. We really have to be able to connect with one another for a long period of time.

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What I realized is that we are so wired to connect that we don't turn the system off. We also connect with brands and products and services on a deep emotional way. The opportunity to measure emotional connection beyond the clinic was very appealing to me. That is how I ended up being a market researcher.

Roger: Well, that's a great story Carl. Were you able to improve the doctor/patient interaction at all with your studies?

Carl: Well I am happy to say that a colleague of mine who did some of the early work with me has very much carried on the torch. I have done some consulting with her and has created an empathy course for physicians to actually improve their empathic skills. One of the things that happens through medical training is medical students come to a medical school very enthusiastic and very empathic and over time it actually gets beaten out of them so to speak. Their training and the knowledge you have to carry around as a physician begins to intrude on our natural ability to connect with one another. What this colleague of mine is doing is actually trying to retrain physicians to use that network to connect with their patients again and having some great success.

Roger: That's really interesting. Going back to some of the stuff that Gladwell wrote about the studies that have showed that people's propensity to sue a doctor was totally related to the way the doctor interacted with them, rather than either the

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outcome or the skill of that doctor. That definitely goes straight to that point.

Carl: That's 100 percent correct. You could actually operate on the wrong leg and not get sued because you are a nice guy or gal as a physician. You could also do the perfect surgery and get sued because your bedside manner isn't very good. There really is no relationship between malpractice rates and quality of care which is to your point very interesting.

Roger: I guess what prompted this call to begin with was you folks did a study or perhaps in conjunction with some other people did a study of brain engagement on T.V. versus online which ended up winning an award from the Advertising Research Foundation. Congratulations on that.

Carl: Thank you.

Roger: Tell us a little bit about that study and the difference between T.V. and online and also how the two interact?

Carl: I'm happy to. We are very pleased to win the first Great Minds Award for a publication in the Journal of Advertising Research. This is an Editor's Choice so all the reviewers of all the papers in 2013 got to vote. We were really excited and pleased to hear that this paper won.

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I think it is a really important paper. The story of the paper actually does go back a number of years when Joe Mandese of Media Post actually called up and said, hey Carl, you guys at Innerscope you're smart when you think about the brain. How does the brain act differently, or does it act differently when it's experiencing media content on different screens? I said, you know Joe that's an interesting question. Let me think about it and get back to you.

We put our brains together and came up with a model that we called the Brand Immersion Model. That model is relatively simple. Let me describe it to you. Think about engagement, which is paying attention and having an emotional response. Meaning you are involved with media content has fundamentally two axes on a Cartesian plot.

On the vertical axis, have your audience imagine what we call immersive engagement. This is high quality video content, scripted drama, you are going on an emotional journey primarily. This is what neuroscientists refer to as a brain state that is bottom up processing so predominately emotion. What is important about this mental state or this brain state in immersive engagement is that someone else is the producer and the director of that experience. You are going along for the ride. You are going along for the journey.

Now contrast that with the horizontal axis, what we call flexible engagement. Now think about an online interaction or you are on your smart phone. Now you are doing more goal directed activity: you are searching for information, you are playing a

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game, or you are on social media. You, the individual user, become the producer and the director of that experience. That has predominately bottom down processing, what neuroscientists refer to. More cautious and cognitive centers are going to be involved with choices that you make along that path.

Our hypothesis was that these are fundamentally two different brain states and that there is a continuum from immersive engagement to flexible engagement depending on the device and depending on how interactive the experience is or how immersive the experience is. We thought that this was a pretty good idea and actually Media Post published some articles and I was a guest editor of Media Magazine and we wrote some talk pieces about it.

We never really had the opportunity to test the hypothesis. That's where Audrey Steele of Fox Television comes into the picture. We had been doing some work with Audrey looking at engagement to content in branded entertainment. We were telling her about this model. She said, you know that's really interesting because that is sort of how we talk about and sell our media. We talk about T.V. as being this really immersive experience and online as complementary because it is different and it's more interactive. Could we design a study that tested this theory because that might be really helpful for the industry?

It started off as an idea, question, and turned into a model and then turned into the study.



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Roger: What did you actually find? What were the key takeaways from that study Carl?

Carl: It was a large study with two phases, over 250 people. We used biometric monitoring which is heart rate, skin conductance, respiration, and motion, integrated into a measure of emotional responsiveness. Then we did eye tracking which is really important in both environments really, but particularly in the online experience. We looked at in phase one, T.V. versus online in terms of the emotional response. Of course, the model predicts that television will be much more emotionally engaging because you are primarily engaged at the emotional measures. That's absolutely what we found.

Phase two of the study then looked at synergy or this connection hypothesis that your experience of a brand at one point would influence your experience of a brand at another. The television literally primed the brain to be more engaging with digital content. That's exactly what we saw. The combination of T.V. and online was really the most powerful combination.

Roger: Very good. I don't suppose you figured print into the mix, did you? There has been some interesting work on print having a bigger emotional impact than online as well. Seems like maybe you've got a trend right there of media that might work together.

Carl: I think print is very, very interesting. You also have to include radio too. Radio induces theater of the mind. Although it is a

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very passive and auditory experience, we do engage very, very differently with radio. I think there is an opportunity to a point to expand the model to look at other types of interaction. One of the things that we are seeing and have actively studied for example with Time Warner is the differences in generations and how they engage with these two platforms.

One of the things we are seeing is the so-called “digital natives people” born after 1990 and only grew up and known a world of incredible connectivity. Those two different axes, the immersive engagement and flexible engagement, are starting to combine in interesting ways. I think the generation coming up today is just fundamentally going to be wired in a different way. That their ability to switch between an immersive experience and a flexible experience is going to be much higher than for example you and I.

Roger: That’s interesting. Very believable I think. We met last year at Sao Paulo at the Neuromarketing World Forum. One of the takeaways I got from that conference was that neuromarketing firms are starting to publish more data. This study being one example of that. Where for so long it would seem to be a rather secretive business where people would say, well we can’t really tell you what we do or what our results are because its proprietary, it is client data or it is secret sauce and we can’t explain that. I am seeing conscious steps toward more revealing information from a variety of companies. Do you think that is happening? Also, I guess you can give us a report from New York, whether you saw more of that there?

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Carl: I think there's no question it's happening more and more. I think that's really a function of time. With more time, there's more opportunity to do studies. I think as you know, Innerscope has been really from the beginning committed to trying to get as much as possible, data and validation in the public domain. It's challenging because unlike academics where my story started, you publish data as a form of currency. The more publications you have, the more respected you are, the faster you rise through the ranks. In business, the currency is a little different. It is much more about the growth of your company and whether or not clients come back and want to use you again.

We have had great success in that domain where well over 85, 90 percent of our clients come back and do a second study as one form of validation. I think the more important one and the one you are speaking to is getting data out in the public domain.

I will give you just some examples that we've been out there with in addition to the brain immersion study we just talked about. We talk in terms of, from a television advertising perspective, watch, talk and buy. What I mean by that is we did a study with TiVo where we were able to predict with our emotional engagement measures using the biometrics, the probability of viewing an ad in its entirety. Based on such a statement and we know that if engagement as we define it gets below a certain level, the probability of fast-forwarding that ad goes up 25 percent.

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On the talk side, in 2009 we published in the same Journal of Advertising Research magazine the Superbowl study we did where we used biometric engagement to predict nine months later the number of views and comments people would have online, so-called online buzz. It was great outcome measure for that.

On the buy side, just last year we published some more on movie advertisements and looking at emotional engagement in that. What we found is that the higher the level of emotional engagement to the movie advertisement, the greater number of sales on opening weekend.

What we are starting to see is a pretty consistent message that nonconscious emotions do drive important behaviors, that they are measureable, and they can predict important outcomes.

Roger: I think that's a really encouraging trend. I respect the work that you guys have done and put out in public too. Certainly one of the more productive companies in that space, I mean public space.

Carl: Thank you.

Roger: Looking at other things that you have written about or published on your website, I was fascinated by some work that you did for Intuit. I do a fair amount of work, or spend a lot of time in the conversion space with conversion optimization; people who are trying to get more leads or more sales or whatever from their websites. Neuromarketing traditionally has not really spent a

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lot of time focused on something like a landing page. I think in part because it is a relatively low cost activity to simply do say an AB test. If somebody has an idea that, gee let's change this picture from a dog to two people talking; then they can simply try that and may perhaps, depending on the busyness of the website, in a few minutes or a few hours I will have gotten some very good data on whether the dog or the two people converted better.

I was fascinated that you folks had worked on a conversion project with Intuit. Tell us a little bit about that.

Carl: Sure. That was a great study. First of all, you are absolutely right. The ability online to do a relatively low cost AB testing and the barriers to making change is very small compared to television advertising for example. It is an area where Innerscope gets involved when the stakes are very high. Companies launching a new branded website for example that costs an extraordinary amount of money to get right, they will test it with us.

Intuit had a clear problem. That problem was exactly as you point out, was conversion at a key point along the path along the TurboTax, which of course is a very timely conversation given that tax time is coming up right now.

Roger: Thanks for reminding me.

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Carl: What you might not know is that companies like Intuit have very sophisticated user experience labs. They have a number of Ph.D.s on staff. They are doing eye tracking as everyone should with online work. They still weren't able to get this one spot right. It really took the more sophisticated and sensitive measures that consumer neuroscience represents in an integrated way to get to a deeper insight.

What was interesting, Roger, about the study is that rarely do we recommend adding something to a landing page. Usually landing pages are overwhelming for consumers and have too much information. In this case, people were getting stuck at a critical point along their tax journey with TurboTax. What we found is that what they really needed were more cues that help was available and that they weren't yet having to commit to purchasing this product or this service that TurboTax was representing. Doing that in a way that was visually attractive, easy to find, and emotionally engaging turned out to be the key.

As you probably read on our website in this case study, we saw an enormous lift in AB testing; went up to ten percent, which is a huge number compared to the two or three percent they got out of their traditional testing. That study literally paid for itself in three hours with that level of conversion at a key time of the year for TurboTax. We were very excited not only to help this client do a better job servicing their consumers, but also that they were willing to get on stage and talk about it and share it. I think it is a great example of what consumer neuroscience can do for companies.

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Roger: That's really great because you are right; adding things to landing pages is rarely a good idea. Although I think sometimes that reassurance, particularly in say a checkout process or something, is important. I don't know about you, but I have gotten stuck on e-commerce sites where there is a continue button. I haven't really seen what the order is going to cost me yet, but I put in my credit card information and I am wondering okay if I click continue is this going to go straight to the warehouse. Sometimes, life will say you will have a chance to review your order before you place it. That really gives you the motivation to keep on going. Saying okay, well I can click continue with confidence knowing that if the shipping and handling is excessive or something that I will still be able to cancel or do something different. Very interesting.

Carl: That's exactly right. As you also know, online experiences and particularly electronic commerce is becoming more sophisticated and more popular. I think more and more going back to our brand immersion model, sure we want the flexibility to be able to find things online, but increasingly we also an emotional experience. We want to have T.V. experience and we know that that is going to trigger more satisfied purchases and greater fulfillment on the back end. I think we are going to see more of these kind of studies and I think we are going to see the online world continue to get more sophisticated.

Roger: I am curious Carl, do you work at all in the product design area? To me, one of the real promises of neuromarketing technology isn't just to make an ad perform a little bit better than another ad, but to actually effect the design of the products in the first place. It's company can create a product that

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resonates with consumers as some of the Apple products have for example; where their design is simply so elegant that people want the product even if its flawed in some ways. That that would be a big win. Have you gotten into that area at all?

Carl: Yeah, we do Roger. It is very custom work because every product engages people in a different way. It is not the kind of thing that we talk a lot about. I can give you one example. I believe actually we shared this with you when you had your call for the First Salvation.

This was some public data that we got working with a technology company that was building memory sticks. These are so-called Nemo Pods. What they were were customized or very fashionable, creative memory sticks that had little characters on them in different colors and different designs. The client, because there is unlimitless number of designs they could create for these USB devices, really needed some direction. Not only what were the best practices for their design, but also which design should they feature on their home page and the early selection pages.

We did a large study for them where we looked at a number of these different devices with different designs on them and then tracked in market which ones sold more and which ones sold less. Then we were able to show a strong relationship between the emotional connection to the high performers versus the low performers. Then we looked at the ones that were high performers and looked for commonalities. Things like more



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prominent facial features, color contrast were the kind of design direction we were able to give that company.

I love the story that the VP of Marketing tells about how they literally took the report that we gave them and the designers had it pasted up on the wall of their offices to inspire them and to remind them the kinds of things that worked well in that marketplace. I think that is one good example of where the nonconscious measures and emotional resonance can really break through.

Roger: That's a great example. Is anybody applying neuromarketing to social media yet? I think of all the ad dollars that are pouring into social media outlets now that were previously spent on T.V. I am wondering how that has affected the business world. Instead of perhaps just doing conventional 30 second spots, companies are trying different strategies; whether it is content strategies or advertising strategies to get noticed on Facebook and other social media sites.

Carl: Yes. Absolutely. One of the fastest growing areas of our media business is second screen work. Where we literally will have and recruit people to watch T.V. with us in the evening or during the day whatever is appropriate for that client. Have them bring their smart phones or their tablet computers. Then we videotape the experience. We obviously monitor them and we give them point of view cameras that they wear on their heads so we can measure them when they are head is up on the primary screen or down on the second screen. We can look at their emotional engagement. We can also look at their

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eye tracking and see exactly what they are looking at and what they are doing on that second screen.

That work has been going on for the last few months and stay tuned we are going to be able to talk about that probably in the later part of this year. Maybe I will come back and share some of the incredible insights we are finding with how social media is both helping and hurting and also creating new opportunities for traditional media.

Roger: That would be great Carl, sounds really fascinating. Let me close with sort of a big picture question, Carl. What do you think the neuromarketing space looks like five years from now in terms of acceptance by businesses, in terms of the kinds of companies that are employing these techniques, is it just big brands? Does it get economical enough that even very small organizations will have some kinds of tools available? Put your crystal ball in front of you there Carl, what do you think five years from now looks like?

Carl: It is a great question and I think that the answer from my perspective as someone who no doubt thinks a lot about this is really smaller, faster, cheaper. What do I mean by that? Well smaller, if you think about it, I described this box with a bunch of wires coming out of it when I first started doing biometric research. We quickly moved to a vest form factor. That then evolved into a belt. Later this year, we are going to be announcing a wrist form factor. That is sort of the shrinking of the technology. It is not just shrinking of the technology, but is also maintaining quality as the platform and the sensor ray

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actually get smaller. Smaller means more flexible and it means the ability to have a more natural experience. That is better for our clients and our consumers.

Faster means more automation. We are working diligently, for example, on more real time metrics. Taking our algorithms many of which are already automated, but linking them to the experience of actually getting data in real time and being able to create outputs that our clients can act on sooner rather than later. We know the world is always getting faster.

Then finally cheaper. We announced earlier this year an upgrade to our kiosk infrastructure we call Sensus. What Sensus allows us to do is to recruit people in malls and theaters, so the recruiting costs are lower. Take them to a standup kiosk that has a little chair. They are going to sit for longer experiences. We can measure from a single participant higher quality eye tracking, facial coding, biometric response, and get self report and then later this year even implicit measures.

The ability to integrate all those channels on an individual at roughly a third of what we charged just for biometrics five years ago, I think is really exciting. I think what we want to do is create a platform that is so compelling for our clients that they would be crazy not to add these unconscious measures to literally everything they put out in the marketplace.

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Roger: Well sounds like an exciting future ahead Carl. I want to thank you for being on here. For our listeners, can you tell them how to find you online and if they want to, how to connect?

Carl: Sure, absolutely. Our website, not surprisingly, is [www.innerscope.com](http://www.innerscope.com) and we have a contact landing page there that goes to our head of marketing and they can reach out. My contact information is shockingly easy to find online. We are LinkedIn and I am on Twitter. There really is no excuse for not connecting. We are always happy to take questions or reach out to folks for exciting opportunities. I appreciate your asking.

Roger: Thanks so much Carl. It has been great having you.

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](http://RogerDooley.com).