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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 Dooley: Welcome to the Brainfluence Podcast, I'm Roger Dooley. Back in the 1960s there was a TV game show, What's My Line, on the show celebrity guests would try and guess the occupation of a member of the public. The producers deliberately chose unusual occupations like an egg breaker in a commercial bakery. Today's guest would be a great candidate for the show should it ever get revived. Tedi Asher is a neuroscientist, which isn't that uncommon, but she's the first and only one to be an art museum neuroscientist.

> Shortly after completing her PHD at Harvard Medical School, she became the neuroscience researcher at the Peabody Essex Museum in Salem, Massachusetts. My initial reaction when I heard about Tedi was to wonder why an art museum needed a neuroscientist on the staff. Today we'll get the answer to that and other questions. Welcome to the show Tedi.

Tedi Asher: Thanks so much for having me.

Roger Dooley: Yeah. Tedi our international listeners may or may not know that little over 300 years ago, Salem, the city where your museum is, was the site of the famous Salem Witch Trials. And I looked at Google trends in the last couple of

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years, searches for witch hunter have been on the modest rise due to its use by a particular politician. Do you think Salem has seen any uptick in tourism due to the increased interest in witch hunts?

- Tedi Asher: That's an interesting question. I'm not really sure statistically speaking but what I can tell you is that, come Halloween, it's packed.
- Roger Dooley: No doubt.
- Tedi Asher: Yes.

Roger Dooley: Does your museum capitalize on that in any way?

Tedi Asher: We sort of don't address the witchiness of Salem too much, we sort of focus on the art and what we're doing in the museum, but we certainly are surrounded by throngs of people come October.

Roger Dooley: No doubt. Maybe there's a fundraiser idea there. To be clear your institution is the Peabody Essex Museum, there are also Peabody Museums at Harvard and Yale, beyond the name are they related in any way?

Tedi Asher: No, they're not.

Roger Dooley: Okay. Good, because I at first had not heard of your institution compared to the academic institution based ones. I guess there was probably a Mr Peabody at some point that was very generous with museum donations.

Tedi Asher: Yes.

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- Roger Dooley: So Tedi, I've been on nonprofit boards before and I don't recall an executive director ever coming to the board asking for a staff neuroscientist, what's the origin story for your position? Who's the first to think that getting a neuroscientist onboard would further the museum's mission?
- Tedi Asher: Sure. So the neuroscience initiative at PAM, which is what we call the Peabody Essex Museum for short, was really the brainchild of our CEO and director Dan Monroe. And according to Dan, all experiences are created by the brain, and he figured that therefore perhaps better understanding how the brain worked could help us to create more compelling experiences of art and culture, which is what we strive to do. That was sort of the initial origin of this idea.

So PAM put together a grant application to the Barr Foundation, which is a local philanthropic organization here in Boston or in Massachusets, I should say, and we were funded for a year to experiment with trying to apply neuroscience to running a museum. We've since received a second grant that includes funds for the neuroscience initiative from the Barr Foundation and so I've been able to continue that work.

- Roger Dooley: You may not have been on that at initial phase or perhaps you were but was that a difficult sell now to the foundation?
- Tedi Asher: I was not here for that, so I'm not particularly sure how hard a sell it was, but what I can say is that the Barr foundation has been extremely supportive of the work that

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we've been engaged in over the last year and a half, two years.

Roger Dooley: Well, of course now you've got some actual stories to tell us, we'll get to it a little while. Actually I see a similarity to what the museum is doing to what some large corporations are doing, except they're a little more focused on behavioral science, I guess than specifically neuroscience. At Walmart and Ogilvy, a couple of the big names that come to mind and governments have these nudge units now, many governments, I've seen a big overlap between neuroscience and behavioral science though.

> Sometimes they're treated as separate fields but to me it's kind of a continuum. In fact, I know Columbia is undergrad program, my daughter earned her degree, calls in their program neuroscience and behavior, so they inherently sort of recognize that duality. How would you compare what you're doing do you think, to what some of these sort of behavioral science units are doing?

Tedi Asher: Yeah, I would say that I agree with you that those divisions are more like points on a line, and what we're really trying to do is to make use of existing neuroscientific research findings. And I say neuroscience, but I'm including psychology as well, really anything that can inform our understanding of human experience. And so I think that include some of the behavioral stuff, it includes some of the more mechanistic neuroscience. There's really a range in what we consider.

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- I saw a slide deck that you had used in a presentation Roger Dooley: and your methodology doesn't actually differ that much from say Walmart's. We had Om Marwah who was then the director of behavioral sciences at Walmart and actually a future guest will be Jason Hreha, he's the current one. Their methodology is to start with a goal or some kind of an objective, then go to the research too, study the literature, come up with a hypothesis and then implement something and see how it works to know if the hypothesis was correct or not. And probably the main difference is that Walmart has got thousands of stores so they can do this in one store or a few stores to see what really works, where pretty much got one store to test in. But other than that, I see a lot of similarity between the two.
- Tedi Asher: Absolutely. I think our approach is quite similar to what you just described. It's variation on the scientific approach. I go both trying to do empirical research to better understand our visitors or our customers as the case may be. And so yeah, I think our approaches are similar in that way.
- Roger Dooley: I do visit art museums occasionally, I travel a fair amount for speaking and such, and when I can, if there's a good art museum nearby I always try and poke my head in. And it seems though that the standard art museum experiences fairly passive for most visitors except for maybe some specialists who might be artists or art historians or art students or something like that. People kind of wander through big rooms looking at paintings and sculptures, maybe focusing on something only when it catches their eye for some particular reason. Few may **The Brainfluence Podcast with Roger Dooley** http://www.RogerDooley.com/podcast

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wear headsets so there's some narration, but I guess the majority don't, and that doesn't seem like an optimal experience. I mean, that probably every one of those works of art has a story to tell, but most folks are just doing the most superficial glancing at them.

Tedi Asher: Yeah, I think you make a good point here and it's something that we talk a lot about at PAM is, the difference between what Daniel Kahneman defines a system one and system two processing. And we talk a lot about, how do we shift visitors from system one which does not require attention and is kind of an automatic pilot mode to system two which does require attention and is a much more focused conscious mode. And so we talk a lot about what are the elements within an exhibition that we can use to help visitors make that shift. I think were you to visit one of PAM's exhibitions what you'll notice is that, it's not just art on the walls with little labels next to them, we'd go to great lengths to create interactive experiences.

So for example, last year we had an exhibition on Georgia O'Keeffe and one of the types of art that was featured was the clothing that she had designed, and so we had a section where visitors could actually feel the stitches in the way that she used them, in the materials that she used. In our current exhibition that we have on now about the last emphasis in China, we have interactive experiences where you can sort of decode some of the symbols on the clothing that's exhibited within the exhibition. We try to engage visitors on a number of different levels, not just a visual level.

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Roger Dooley: That remind just a little bit of an experience that years ago when we were members at the Museum of Science and Industry in Chicago, great, great institution, huge place with amazing exhibits. Not an art museum, but one of the things that I thought was the best part of the museum was the children's room area where they had drawers and drawers of things that you could open up and kids could touch if you wanted to feel what a deer hide felt like or deer skin or bear foot or whatever, in fact, I think they had a stuffed polar bear in there at the time, probably that's long gone, it was looking kind of workout even when I was there years ago, it was so experiential compared to the glass cases everywhere else in the museum.

> I mean literally that museum was full of dioramas and other things that were behind a wall of glass. And so it's such a relief to get into this environment to which fortunately I had young kids at the time, so I had an excuse to go in there and actually do all these sensory things. It was great.

- Tedi Asher: We actually have a similar section of our museum called the Arts and Nature Center, which targets a younger audience, so children and families. And again, it's a very interactive space, but I feel like that mentality of trying to engage more holistically with what is presented to you is something that permeates throughout the museum.
- Roger Dooley: Yeah, and I guess I'd contrast that with the more typical art museum where every room has a security guard making sure you don't get too close to anything, which you know if you have priceless collection that makes sense, but at the same time, it's very much a hands off

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experience. Tedi you mentioned those little labels, one thing I've always wondered about, I actually do like to look at those labels when piece of art catches my eye for some reason, and they're always really tiny and little tiny print.

I assume the objective is not to distract visually from the work of art by putting a big billboard next to it, but it seems like more people might engage with the art if there was something that was a little bit more readable that you don't have to sort of bend down and get two feet away from it to read.

- Tedi Asher: Yes, I would agree with you. I think particularly in a crowded gallery that could be quite difficult, and it's something that we have discussions about is, how can we be respectful of the artwork while still providing information that is critical to helping visitors appreciate what they're seeing. It's very much, that's a very live topic here at PAM.
- Roger Dooley: I hope you come up with a great solution, may be some kind of augmented reality thing that people could either use or not use to view the art and find out more information about it without taking away, from just experiencing the art.
- Tedi Asher: Absolutely. Yeah, there are a lot of technologies emerging that allow for almost layers of content to be accessed through digital means. And those are things that we haven't delved into yet, but they're on our radar.

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- Roger Dooley: Your basic objective is to increase engagement by visitors, that's your biggest goal anyway. I'm sure you have multiple goals but how do you measure that engagement?
- Tedi Asher: I should start by saying that we have a neuroscience advisory committee and one of the members of that committee is a former guest of yours, actually, Carl Marci, the chief neuroscientist at Nielsen Consumer Neuroscience.
- Roger Dooley: Yeah, very smart day.
- Tedi Asher: Yes, absolutely. And Carl kindly shared with us a formulation around engagement that he's derived based on his many years of research in that realm. And what Carl postulates is that engagement occurs when attention is captured or directed in a way that elicits emotion and leads to the formation of a memory. So those three elements of attention, emotion, and memory are really central to this idea of engagement, at least in the way that we've been thinking about it. What we've done is to adopt some physiological biometrics and couple it with eye tracking so that we can monitor where visual attention is allocated using gaze or eye tracking mobile technology.

We can get a read on emotional arousal or the level of emotional intensity of a particular experience using biometric measurements such as the Galvanic Skin Response or GSR. And then we can begin to probe short term memory formation with self report measures such as an exit survey after leaving an exhibition. With those sort of three methodologies in hand, we've started to run some

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studies and tried to assess engagement in a few different contexts using those metrics.

- Roger Dooley: And that is very similar to what a retailer might do. I'd add that using those same techniques, only there they'd be called neuro marketing or consumer neuroscience quipping people as they might enter a store and then seeing what they pay attention to, what attracts their gaze and so on and then what impact it has on their emotional state, if any. It's great to see these tools applied to enable people to engage more with art. Given that you have a way of measuring it, for some may you Tedi, what does this test look like? Do you just get a random visitor and say, hey, would you mind while you're viewing our museum wearing this getup? Or do you recruit people specially for that? Or how did you actually do that?
- Tedi Asher: I should say that all of this is a work in progress, and so we're still experimenting with the best ways of going about things like recruitment of these studies. For the two studies that we've run to date, we have recruited via social media. We've just posted on Facebook and Instagram that we're conducting these studies using this kind of methodology. We give a little bit of information about what might be involved for any participants, and then we provide an email address that people can write to if they're interested in participating. And that was a pretty successful for our first two studies.
- Roger Dooley: Very good, that makes a lot of sense. Once you say, okay, well, we want increase engagement and we have a way of measuring it, what kind of interventions have you been testing?
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Tedi Asher: Sure. In some cases we do have an intervention and in other cases there is no intervention so to speak, but we rather just observe how visitors are reacting to the design elements within a show. So I can give you an example of each. In the case where we did sort of intervene in the experience of viewing the exhibition a little bit, we were testing a hypothesis that giving visitors a viewing goal or a purpose with which to look at a work of art might help them to engage better with that piece. And this hypothesis was formulated based on the approximately 50 years of research showing that viewing goals really do impact viewing behavior. That is the way that we move our eyes over an image for example, and this dates back to Alfred Yarbus back in the 1960s.

> Our hypothesis again, was that if we provide visitors with a viewing goal like a search task, notice the compositional element in this painting or a judgment task, are you moved by this painting or a free viewing task which for us took the form of a historical fact about the piece of art that they were looking at. So basically we provided visitors with one of those three viewing goals or viewing tasks at designated works of art, and then observed how long they spent at that work of art, what their galvanic skin response was at that work of art and how they rated that work of art in a self report survey as a function of those viewing goals.

What we found is that, well, let me first tell you that part of our hypothesis was that, those judgment goals, those goals that required you to make a judgment about what you were looking at, do you like it, does it move you, anything that causes you to relate yourself to the work of **The Brainfluence Podcast with Roger Dooley** <u>http://www.RogerDooley.com/podcast</u>

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art, we hypothesized that that type of task would be the most effective at helping visitors to engage. And the reason we thought that is based on a study by Ed Vessel and colleagues from a few years ago, which showed that when participants in their study had what they consider to be an emotionally moving aesthetic experience, their default mode network was relatively activated or derepressed. What we know about the default mode network is that it's known to be involved in mediating self referential thinking.

What these researchers posited is that perhaps that process of engaging in self referential thinking might be a critical element to having a moving aesthetic experience. We therefore are positive, okay. If we can get people to be self referential in that way by asking them to make a judgment, maybe they'll be more emotionally engaged with what they're looking at, and that's actually exactly what we found. Visitors who represented with the judgment task at a particular work of art spent almost twice as long at that work of art as participants who did not receive a prompt, and they also demonstrated significantly elevated galvanic skin responses.

Roger Dooley: That's interesting. It seems like that could have application in commercial fields too if you want to get people to pay attention to something in particular, if you can sort of guide their viewing in that self referential way, it might be more effective. I was gonna also gonna interject the thought that, if anybody doubts the power of that sort of setting a viewing goal or directed viewing or reviewing tasks, the classic invisible gorilla study really provides that evidence in spades where people view a **The Brainfluence Podcast with Roger Dooley** http://www.RogerDooley.com/podcast

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video, which I'm sure you're familiar with Tedi, view a video of people playing a game of basketball or passing a basketball around and you're supposed to count the number of passes. And in the middle of it, a person in a gorilla suit walks across the court, waves in the middle and walks off. People who are accounting those basketballs by and large, don't notice the gorilla where anybody who was simply told to, hey, watch this video would spot the girl every time. So if you can direct somebody's viewing, it can really impact what happens.

- Tedi Asher: Absolutely. And that's exactly what we were trying to do, was to help people to engage in a mindset that would be conducive to the meaning making that I think a lot of people desire when they go into a museum.
- Roger Dooley: Are there any other things that you've tested?
- Tedi Asher: Yeah, that was our first study. Our second study, we ran in a photography exhibition this past fall, and that study was based around a question that came up for me while sitting in on a lot of design meetings. And that question had to do with what the impact of putting a figurative work of art next to a non figurative work of art is. So for example, if you hang a portrait next to a landscape, what will the impact of that portrait be on our response to the landscape? Will we pay attention to the landscape because it's been shown repeatedly that the human form attracts a great deal of attention, and so we often demonstrate a facial or a body bias where we divert most of our attention to the human form that's depicted. One possibility is that that landscape just won't be attended to as highly if there's a portrait hanging next to it.

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I might also imagine that the portrait could possibly engender a more emotional response than the landscape, which could be sort of distributed across to our perception of the landscape. So we just really didn't know how figurative and non figurative works of art hung together would impact the visitor. And so we had an exhibition in which it was just a perfect design to test that question.

There was a section of the exhibition where there were photographs of churches in the south that did not have people in those photographs, and those were interspersed with portraits of various people. Then in a subsequent section, those churches were repeated, different churches but in the same style, but there were no portraits. So we could then compare how people responded to the church photographs in the context of portraits and in the absence of portraits. And to be honest we're still analyzing the results of that study, so unfortunately I don't have an answer for you just yet.

- Roger Dooley: That's interesting. I would think that just the contrast effect might increase engagement a little bit because if I'm looking at an exhibition of pictures of churches alone, say just the architecture, interior and exteriors and such show with no people, by the time I got to a number 20 or 21, probably will be sort of zoning out a little bit on that unless there was something exceptional where if you intersperse something different each time the concept changes a little bit. I would think it would serve to wake up the brain a little. We'll see how good that prediction turns out to be.
- Tedi Asher: Yeah. I'm very excited to see what the results are for that.

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- Roger Dooley: Yeah. I'm even thinking that, for example, I've certainly seen exhibitions of architectural photography or the works of Frank Lloyd Wright or something like that. If you have interesting results there, it could be that making every second or third picture on not yet another building, but a picture of Wright's studio with him at work or something would serve to increase overall engagement with the exhibition.
- Tedi Asher: Yeah, I think the results of this study could have implications for various design elements in exhibitions exactly as you've articulated. It comes up a lot in our meetings, what is the impact of grouping similar objects together, and I don't think we have a particularly direct answer to that yet. We're hoping that this study will help to address those kinds of questions.
- Roger Dooley: One of the findings I saw in your slide deck was that, as people get to the last gallery that they're visiting, the end of their tour of the museum, they're moving quite a bit faster than they were at the beginning. I guess I can totally see that, I'm sure my behaviors reflected that way, particularly if there's a lot of sort of sameness to the exhibits. After you've seen 200 paintings on the wall and you get to that last room and it's more paintings on the wall, unless there's something that's just phenomenally different than what you've seen, I can see sort of just kind of glazing over them and system one saying nothing different here, explain that finding a little bit.
- Tedi Asher: So just to give you context on this particular finding, it was from a study that we performed in a three gallery exhibition. What we found is that, as you said, participants

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significantly increased their speed upon entering that last and third gallery in the exhibition, relative to how fast they were moving in the first two galleries. And just as a side point, which was of interest us given our hypothesis in this study, we observed that participants who received viewing prompts or viewing goals moved more slowly than participants who did not. And that difference in speed could not be attributed only to the reading of the prompts that only contributed about 25% of the difference, so there must've been something else sort of cognitively or emotionally going on that was prompted by those viewing goals that the unprompted participants didn't experience. So that's just a side point.

But back to the main idea that transit speed increases as you move through an exhibition. This is not the first time that's been shown, it's been shown in other studies that dwell time at a particular object or at a given object decreases over the course of an exhibition. And I believe there was also an EEG study showing that attention sort of declines over the course of an exhibition. I think, in the museum field there's this term known as museum fatigue, and I think that's what those results are manifesting.

There is this idea that it's physically, emotionally and intellectually kind of exhausting to spend hours in a museum setting. This is something that we think about a lot because it raises the question, so what do you do in that last gallery? Do you try and wake people up? Do you do something big and grand and sort of attention grabbing? Or do you sort of go with what seems to be the natural evolution of their attention and emotional energy and sort of stay kind of more calm and more low key.

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That's a question that we wrestle with still and that I hope to address in some of our upcoming studies.

- Roger Dooley: Yeah, I can see both approaches making sense. Like if you have stuff that you want to draw the attention to, you probably don't want that when visitors have already speeded up and they're looking forward to getting a snack in the snack shop or something, at the same time, if you put something really amazing at the end, that could well change their behavior. Something else that, I think we're setting ourselves up for a future conversation here Tedi.
- Tedi Asher: That's great.
- Roger Dooley: I assume that your a gallery has a gift shop, but have they asked you yet to help increase sales?
- Tedi Asher: No, they have not.
- Roger Dooley: Well, okay.
- Tedi Asher: Although, I will say that I contribute to sales.
- Roger Dooley: Well, explain that.
- Tedi Asher: I really love our gift shop.
- Roger Dooley: I see. You are their best customer?
- Tedi Asher: Yes.
- Roger Dooley: Yeah, I know. Art gallery gift shops—I guess it's a law that every art gallery has to have one, but the stuff there often tends to be pretty unique and hard to find anywhere else. So I share your love for that sort of thing, I've got a pair of

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Rosetta Stone cufflinks from the British Museum and they are one of my more treasured pairs. So while we're on the topic of marketing, what about the development side of things? And you know nonprofit fundraising and volunteer outreach have always struck me as being a very psychological activity, there's no direct benefit to giving somebody else your money for to use for their own purposes. All of the rewards are sort of in the donor's head, have you helped the development team at all?

- Tedi Asher: I've participated in development events to some extent, but I have not tried to apply neuroscience findings to the process of engaging donors. So I said at the beginning that the idea behind this neuroscience initiative is to let neuroscience sort of inform many different aspects of a museum's functionality, but I should say that where we've begun is really with exhibition design. And so that's sort of where my focus has been for the last two years.
- Roger Dooley: Sure. I'm certain that folks who gave the grant weren't focused on better fundraising techniques, or maybe were setting up here for continued life beyond grants too, because there is a whole discipline of applying various types of behavioral science and so on to fundraising activities, volunteer outreach. It could be something, if you have any spare time that could actually have a significant impact on the museum's finances. Let's see, I think that's probably a pretty good place to wrap up. Today we're speaking with Tedi Asher, neuroscientist at Peabody Essex Museum. Tedi, how can our listeners connect with you?

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- Tedi Asher: You can always visit the Peabody Essex Museum's website at Pam.org, and in the next couple of months we hope to be posting a neuroscience initiative specific webpage on that website and you'll be able to link to it from Pam.org.
- Roger Dooley: Great. Well, we will link to those places and to any other resources we spoke about on the show notes page at Rogerdooly.com/podcast, and we'll have a downloadable transcript there too. Tedi thanks for being on the show.

Tedi Asher: Thanks so much for having me. It was fun.

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 <u>http://www.RogerDooley.com</u>.