The Neuroscience of Change with Thomas Ramsøy

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Full Episode Transcript

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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. Today, Thomas Zoega Ramsøy joins us for the second time. Thomas has been a pioneer in neuromarketing and consumer neuroscience. His academic background includes economics, neuropsychology, neurobiology and neuroimaging. He founded the Center for Decision Science at the Copenhagen Business School. He's also the founder of Neurons Inc, an applied neuroscience company.

Today, we'll spend at least some of our time on a somewhat different application of neuroscience: organizational change, transformation and innovation. Thomas' latest book co-authored with Kyle Nell and Nathan Furr is *Leading Transformation: How to Take Charge of your Company's Future*. We spoke with Kyle Already. If you missed that episode, check it out. Kyle offers some interesting stories about how Lowe's went from being a stodgy home and building products company to being an innovator in virtual and augmented reality.

Welcome back, Thomas.

Thomas Ramsøy: Thank you. Thanks, for having me again. It's great to be here.

Roger Dooley: Thomas, before we get on to the ideas in your new book, I'd be interested in your take on the state of consumer

neuroscience, neuromarketing if you prefer. You've got both an academic and a business perspective on this. How has the field changed in the last few years? Or has it?

Thomas Ramsøy: Yeah, I think it definitely is changing. Maybe not at the pace and the direction we always hope it will but, and for the better. I think the general take home is that it's going better than we've seen these kind of hype cycles through the couple of decades or 15 years or so. We see today that the vendors are becoming better at demonstrating exactly what their metrics are and how they have validated those metrics. We also see that the clients on the client side, people are getting much more educated on how to use applied neuroscience and consumer neuroscience methods. We also see that the science itself is moving forward. I think that, on all these counts, there have been ... We've been lagging behind some kind of optimal standard.

For example, in academia, there's been long between ... There's been a lotta publications but many of the publications have been mostly theoretical and meta theoretical, so they looked at the possibilities of consumer neuroscience. Now, we see more and more of that and applied researchers coming to the fore. People are actually demonstrating the added value of neuroscience and consumer psychology.

Roger Dooley: Mm-hmm (affirmative), so you're actually seeing academic publications now dealing with this? I think for a while, academics were scared of the field because it was sort of a pseudoscience thing that, if you started trying to do some serious work in that field, your work might get dismissed as being superficial or somehow questionable. Is that attitude changing?

Thomas Ramsøy: I think so. I think that, on the long side, we see ... Still, of course, we're meeting academics that still think that, if you're doing anything that has a flavor of commercial uses, then they shy away. We also see the other thing, which surprises me a little bit, is when we work with clients, which is ... Most of the time it's in the U.S. but we do have clients that are, for example, scientists or even neuroscientists themselves. Then, when we're doing studies for them, they are actually proactive in terms of trying to get these data out and published. That comes back to this idea that there should be a divide between applied science and basic science and I don't think that's the case.

This year, for example, in 2018, I think we're running something like almost 10,000 people that we have tested this year. A lot of those data we are actually allowed to do publications on by the clients. I think that's a great step forward.

Roger Dooley: Mm-hmm (affirmative), yeah, that really is. Particularly with the large sample sizes because many of the academic studies that I've seen tend to be very small. They use FMRI, which is a great technology but it's hard to scale that technology to large sample sizes. That's really encouraging, Thomas.

Thomas Ramsøy: Yep, yep, and I'll also say that almost data today is becoming a currency. That also means that, when we have these types of data, we can actually establish collaboration with the academic partners who are very interested in publishing on the data as well. That's something we do here in Europe, for example. We're looking at an E.U. funded project that we put up on a network that these data can be part of academic publications as well.

Roger Dooley: Yeah, I think these cooperations between academics and business can be really valuable. I just was listening to another

podcast that talked about a collaboration involving Uber, where Uber obviously has massive amounts of data because constantly there's, I don't know, tens of thousands of rides a day, hundreds of thousands of rides. I'm not sure but huge, huge dataset and they allowed some academics to access that and do some analyses. It's a sort of scale you just can't get in a lab in a university.

I think both sides can benefit, because obviously the business gains some new insights that they wouldn't've had without perhaps that academic input. At the same time, the academics get to do some work that is really significant in scope, so it's great. Glad that's continuing and happening.

Thomas Ramsøy: Yeah, absolutely, me too.

Roger Dooley: Now, so how do neuroscience and behavioral science complement each other, Thomas? It seems like, in the early days of neuro marketing, there was a divide that, if it's not somehow a hard neuroscience tool like EEG or FMRI, it's just not neuro marketing or consumer neuroscience. I've always thought that it was sort of a continuum where the tools of neuroscience give you an understanding of behavior, but the two fields really work together. What's your thought on that?

Thomas Ramsøy: Oh, absolutely. I think ... The way I tend to think of it is we do see that in industry, that a lot of people are talking about behavioral design and behavioral economics. There's a huge mapping effort that has been done to map out the different biases that we have, a variety of different types of behavior where we're biased. I think the behavioral economics has been extremely successful. I also think that we have skipped over some questions along the way. We've been very

focused on what types of biases we have as humans and been able to pinpoint when that happens and how that happens.

We basically haven't tried to ask the question of why. Why does it happen in the first place? Why do we have these biases? I think that's one side that neuroscience can contribute through a more biological approach, even a tentative and revolutionary approach, to say this happens because this and that. That's at least one step.

The other thing is also that you can think of when we are doing behavioral design, for example we're creating some nudges or some kind of framing effects, it's really important that those effects are present, they are attended, and they have an impact. You can make the best possible behavioral design but, if people don't see it, then it's a waste of time and money. That's one way to think about this neuroscience as a measurement stick, so to speak, is all to say do people actually pay attention to your behavioral design and the elements that you have put so much focus on.

The second thing is do you see that type of response that people have that you want them to have. That's hard to ask people, just ask them a question. It's much easier to do that through passive measurements.

Roger Dooley: Mm-hmm (affirmative), yeah, I always felt it was like a black box with a machine inside it. When neuroscience opens up that black box, it doesn't mean that the machine operates in a different way. Is it like ... Some yearly neuro imaging studies, psychologists will again say, "We knew that for the last 50 years." You knew it but you didn't know exactly what was going on. Maybe this greater understanding will help you understand

more in the future or perhaps even design interventions and so on.

Do you think there's any kind of a backlash brewing about either behavioral design or neuro marketing? There's certainly a feeling that some companies are exploiting this to hook their users, if you will, to (particularly kids) addict them to games and such. What's your take on that? So far, this isn't really a majority opinion. It's been more of a, I think, a small group of folks agitating about this. Do you think there is a danger for bigger backlash developing?

Thomas Ramsøy: Yeah, I definitely think that we do have an issue. The way I see it most is that things like the smartphone ... I think that the smartphone is probably the best example of things that are expertise is put into the smartphone to drive your attention away from whatever you're doing onto the smartphone. You can think of the smartphone as an attention device, an attention-stealing device. That's what it is. It's very good at allowing the apps and the different services that are on the phone to automatically grab your attention.

Now, so I think that one thing that is a problem is that we have become very used to thinking in one respect that we are very much in control over the smartphone. The actual behavior shows that we are responding extremely well to the nudges, the micro nudges, that the phone is giving us for grabbing attention. Even though it takes just a fraction of a time, just a few seconds, to peer down at the phone, it still takes us away from other things that could have been creativity or deep thinking, or just being in the moment for that sake.

I think that is a problem that we see today and I think that people have subjective reports of, let's say, that people have a

poor time in focusing and for deep learning for example, I think that this has been known for some time, as we say. We had a study in the preceding National Academy of Sciences in, I think, 15 years ago. It showed that people who are multitasking a lot with different devices, when they are giving people psychological tests for concentration and attention and learning, we see that those people who are heavy multitaskers actually performing worse. That indicates that multitasking between devices is not necessarily a good thing for your concentration.

Roger Dooley: Yeah, so let's talk a little bit about the new book. Thomas, was it a challenge working with your co-authors? I'm just finishing up my second book, second major book, and doing it solo is its own challenge. I would think that coordinating with other folks, particularly since you're more or less the science guy compared to the other two ... Was that a challenge for you or did it just flow?

Thomas Ramsøy: That's a good question. I haven't had that question before. There's a push and pull when it comes to enforcing your science at the cost of good story. Of course, that's a part but I think that we've been very much in line from day one. The back side of the story here is that Kyle and I, we started working together for many, many years ago. I think 2012 or 13. We have been building up this momentum for some time. Then we learned to know Nathan as the professor who had put what we had been doing for many years into a more, a better, storytelling frame so to speak, and then more, to some extent, academic frame. Nathan has been publishing books on this topic before as well. That was ... I think that we had a great ping pong on the freeway ping pong in generating this story.

I don't think, in most terms, that we've had any issues. Actually, most of this was done in Paris, when we met in Paris to do some jamming and carve out the chapters of the book.

Roger Dooley: Interesting. I'd love to learn more about your methodology, but let's get onto the content of the book, which is probably most interesting to our listeners. You talk, in the book, about applying tools of neuro marketing or consumer neuroscience but not for evaluating ads or marketing, but instead using them to understand how folks operate in organizations and how they respond to change and so on. I want you to describe what tools you used and what sort of things you did.

Thomas Ramsøy: Mm-hmm (affirmative). I think, from the get-go, I think it's important to say we call this more like applying neuroscience, which is more a broader definition of the application of neuroscience tools and insights into applied or a commercial interest for example. Neuro marketing and consumer neuroscience is a part of that but we also are using basically the same approach to innovation, R&D, product testing, for example.

Basically, what we have been doing is that ... As Kyle probably mentioned as well, is that there is a challenge in innovation, especially when you want to understand completely new technologies, and especially when you want to test new technologies, how consumers are responding to it. Sometimes you want to test things at the conceptual level. This is when things are just on the drawing board and you just want to understand if consumers are comprehending what's it's about. Do they like that? Does it fill any needs for them?

The second is when you're making prototypes, so early versions of the V.R., the oculus or the HoloLens, for example, or a 3D printer or things like that, before it became a thing. How do people respond to that? Do they understand the functionality? Do they understand the introduction to it and do they adopt it?

Lowe's started doing this. They soon discovered that, just asking people gave you a very limited kind of response. Typically, people would say something like they loved the experience. They thought it was very interesting. They also recognized that people didn't really understand it properly, but they also didn't seem to show later interest in it either. Just using self-report was a poor predictor of actual market responses.

Kyle Nel, he reached out to me in 2012 to see is it possible to use neuroscience as a tool, like a measurement stick, to test these different versions. We went basically back to the drawing board and said, "What can we reliably say from a scientific perspective that we can say, that we can build metrics around, that are open and well-documented and validated through scientific means, and then also that is scalable so it allows us to do testing in as more natural settings as possible?"

What we ended up with was a combination of mobile eye tracking glasses and mobile EEG system. Then I started off with a few metrics, of course intentional metrics, such as how much time people are spending with something or how many people are paying attention to a certain part of a device or a screen. Then, also looking at their emotional and their comments and responses as well, and then combining that with memory scores and, down the line also, with more sophisticated metrics as well.

Roger Dooley: Yeah, so why don't you dig into that just a little bit deeper, Thomas, and explain how a typical test might run. What people'd be seeing, what would they be looking at and how would you understand whether it was a good thing or not?

Thomas Ramsøy: What we can share, for example, is that we tested ... One of the things that Kyle will probably talk about in the broadcast is well is that he established what he called uncommon partnerships. That means that Lowe's had established a collaboration with Microsoft and with Google for example to test the news technologies that they had. Google were working on their Tango, which became part of the A.R. kits. Then, Microsoft, of course, were working on the HoloLens. From a home improvement company, Lowe's had a very specific idea that how can we use these systems to visualize things that people otherwise would have to imagine.

In order to be in the store, show things how they look in the store or in their homes, and then how do people respond to that technology? By using HoloLens for example, or other A.R. devices, and compare that with the Google Tango for example, we can first of all look at how does that stack up relative to being in the sore environment. Standing in the store, looking at different kitchen vignettes and try to imagine how this looks at home is a pretty difficult task because you have to use your mental rotation. You have to think about it, imagining how this looks in your home.

A lot of the time, you're spending imagining and even negotiating with your spouse, for example, how this will look in your house. Instead of using these technologies, you can actually see how it will look in your house. Then it becomes the question how do people respond to these different devices. What we found was that some of the more novel A.R. devices

were still better than being in a store environment but people had this overload response.

One of the measures we have is a cognitive load measure. If people are showing too high cognitive load, it means that people are overloaded with information and they're just stressed out. Typically, that leads to a negative emotion response. That's what we very often found when people were trying out these very new A.R. devices. With more phone-based devices, such as the Google Tango, people are used to using their phone. I think that was part of the explanation that we say, that when they used the Tango version, for example, the overload went into more what we call a sweet spot response. People were not stressed and they showed a positive emotional response. They also subjectively supported that by saying that this was a good experience. That allowed Lowe's to navigate both the choice of devices but also iteratively improve the platform again and again.

Roger Dooley: Yeah, in another part of the book, you talk about using the implicit association test, which is pretty common in a whole variety of applications, ranging from academic research to consumer neuroscience and so on. What application did you use that for? Maybe it'd be good to just explain what it is briefly.

Thomas Ramsøy: Sure, so implicit association test is a highly standardized test where people are normally ... At least the standard version of it is that people are given a task to report whether a word is positive or negative. It could be love or hate for example. You respond whether something is positive or negative to them. Showing something prior to that, it could be a word. It could also be a stimulus. Or a brand, for example, can have an impact on how people respond, both in terms of how many errors they make but also in small adjustments like in a

few hundred milliseconds of adjustments that they make in their responses to the actual task, the word they get.

For example, if you're given the word love, you're inclined of course ... You should be responding that's a positive word. If you have just seen a negative word or a brand that you hat, then you are in this micro-emotional state and then it takes you just a slight few hundred milliseconds to readjust and then report that the love word is a positive word. That is so reliable, so to speak, that you can use that as a measurement of implicit attitudes if you like. This has been used for implicit racism. It's been used for in-group/out-group comparisons traditionally. We also see it a lot being used in branding.

Roger Dooley: I'll just interject in Malcolm Gladwell's book, Blank, he talks a lot about that and how he found that even he had some racist leanings, although, the were ... He was not aware of them and certainly consciously was a very liberal, accepting guy. More lately, it's been in the news too we have these issues of police perhaps treating different races differently, and with some fatal results occasionally. That too gets pegged by this implicit testing where these officers may not be consciously discriminating against minorities or they may even be minorities themselves, but still there's this pre-supposition of maybe what a criminal looks like that ends up influencing their snap decisions. The implicit association test is one way of measuring those attitudes.

Thomas Ramsøy: Yeah, yeah, exactly. I think one interesting finding was also that, in the same early days that they found this what they call a racist bias, by just fitting people with red and blue t-shirts, they found that, if I was wearing a blue t-shirt, and the people I was watching were wearing red and blue, regardless of their gender and race, I tended to have a more positive attitude

to those people who have the same colors t-shirt that I had. It's more like an in-group/out-group ...

Roger Dooley: Yeah, it sounds like Tajfel's research in in-groups and out-groups. Interesting.

Thomas Ramsøy: Exactly. Yeah, but you also asked about the type of method we're using. Of course, this is possible to do in an online scenario but we don't really work in an online scenario. This is something that we program and we are running ourselves as a pretty straightforward way to program. We run this in one way or the other. It could be an open sesame program for example, so a python-based program. Because the only thing we need to have is a reliable presentation of the stimulus and then we need to have reliable assessment of the response time that people have.

One interesting thing that we've found, and this isn't published yet but this is something we hope to publish very soon, is that, when we have done combination of the response time implicit association test and done EEG recordings at the same time looking at emotional responses, we see that there's actually a slight diversions between what response time-based measures are showing. It seems that, when people are doing the response time measures for the implicit association, that seems to be a little bit more rational rather than emotional. We see that the implicit association changes that are happening looking at the EEG responses seems to be slightly different. Some potential interest in finding there, we're going to dig a little bit into that as well.

Roger Dooley: Mm-hmm (affirmative), yeah, I would guess that implicit association could be great for measuring things like attitudes toward a brand. Or even like in some of the stuff you're talking

about, where people may say they like a new product, describe, "I'd really love to put on virtual reality goggles and see what my kitchen would look like," but if they ... They might have a different feeling internally or unconsciously that, oh, man, this sounds scary or complicated. IAT could end up showing.

Thomas Ramsøy: Yeah, exactly, and I think one thing that is interesting with that is that we even have people understand the concepts and they're very excited about that, and that's great. Then the execution ... For example, if you do this in an oculus, let's say that the execution of it is horrible and it's buggy and it's laggy and people actually ... It's not enough for people to put their finger on that. In several studies we've done for Erickson and Vodafone, for example, we found that delays in different contexts, on a smartphone or if it's a V.R. headset, those subtle delays are enough to trigger a horrible response to people. It actually leads to a negative response to people's brand emotions afterwards as well.

Roger Dooley: I'm curious, since the IAT is basically just like a little timing test, it seems like something that would be very inexpensive to do. If any of our listeners want to try this, do you know are there any free or really cheap tools that people can use to set up their own IAT tests?

Thomas Ramsøy: I know that ... We know the Sentient Science people. They definitely have demos that they can go online and see. Then, I think that there are certainly, if you just google implicit association test, there are several different types of testing they can go to as well. On top of that, through the book page we have, which is called LeadingTransformationBook.com, there are ... We're going to put up some links there to different types of tools like that as well.

Roger Dooley: Great, awesome. Thomas, talk a little bit about neuro prototyping. That sounds like a new word for the dictionary. What is neuro prototyping?

Thomas Ramsøy: It basically is what it is, what it says. It's the use of neuroscience as a way to measure how people respond to prototypes. This goes back to exactly Lowe's' challenge, for example, or Ikea's challenge that we tested a year ago, which was how do people respond to completely new prototypes that they haven't tried before. Or how do they respond to concepts of prototypes, a new innovation, that they have not seen before. You can imagine, the smartphone before the smartphone or even television before television, for example. How do people respond to technology they have not conceived of before? How does that translate into whether they will adopt it or not?

We've used to since 2013 and 12; 12/13. We've been using this tool to test virtual reality, augmented reality, 3D printing, human/robot interaction and many, many other types of inventions, to see how people and consumers in particular, are responding to these new devices. It's basically using the same kind of metrics that we use in neuro marketing. It's attention. It's emotional responses. It's cognitive responses, but it's now applied to how people respond to these new solutions.

Roger Dooley: Thomas, in the book, the whole consumer testing piece is a subplot in the overall thrust of the book in having to do with transforming organizations, creating an innovative culture. Changing the way an organization does things isn't easy. I think most people tend to be somewhat resistant to change, particularly as it affects their own behaviors. When a leader proposes new approaches, new ways of doing things, you can almost visualize the antibodies gathering to attack the unfamiliar idea. What were your insights on how to deal with

this and produce change in a way that's positive and doesn't require changing out to people?

Thomas Ramsøy: Right, I think the first thing I had to learn ... I came to this field, innovation, assuming that the companies that I was meeting were just completely in control when it came to innovation. We're not talking about just incremental improvements on existing solutions. That would just be another app or anything. This is disruptive new innovation. If you take a little step back and say, "Why do these big fortune 50 and fortune 500 companies and big legacy corporations ... Why are they doing disruptive innovation?" Part of the motivation for doing that is because they are ... I wouldn't say freaking out but they're at least ... They're very aware of new technologies and new solutions that are generating every single day, that are posing as a threat to them, to their very foundation of existence.

The good examples here being Kodak being overrun by Instagram for example, and Nokia being overrun by the iPhone in its time. These are classical examples. That's the ... At the c-suite level of companies, you have ... How can I put it? A lot of interest in ensuring that people ... That they're not overrun tomorrow, that they're not taken over by some new innovation.

The problem was, when I came to this field, was that I assumed that people were totally in control. What we found out was that ambiguity in itself, that the thing about thinking about the future, not just one year down the line but 10 years down the line, five years down the line, is very uncertain. If it's one thing that the brain is responding negatively to, it's uncertainty. We see that even studies have looked at how the brain is responding to uncertainty.

We see structures like the amygdala for example being more engaged by uncertainty and uncertain decisions rather than risky decisions, and also a lot of avoidance behaviors and loss aversion behaviors for example.

Roger Dooley: Yeah, so, just to repeat that point, what you're saying is that a known risky situation may be more appealing to our brain than a less risky but more ambiguous situation.

Thomas Ramsøy: Yeah, they're both negative, so to speak, but the ambiguous situation does trigger a stronger response, a fear response if you like and a stronger fear behavior, or avoidance behavior.

Roger Dooley: Okay, good.

Thomas Ramsøy: You can think of ... You have these companies saying, "Oh, we need to do some disruptive innovation." Then they start thinking about the future and it seems unsurmountable. We even talk about this as moonshots. This is not just your incremental step for improving something. It has to be a moon shot. They're feeling, to a large extent, that this is a hugely ... It's very uncertain whether they will fall flat on their back or whether they will succeed and it feels extremely uncertain. Now, one thing they have that we have worked very hard on is to provide some measurement sticks along the way. We call this future KPIs, which basically means that, when you use validated metrics to measure your way all the way through, so you put out a whole testing paradigm and a whole study paradigm where you say, "Okay, we need to test this at the concept level. We need to test this at the prototype level. We also need to test it throughout the many iterations we have, all the way including the marketing level for a certain solution."

That allows us to have the same language along the way and it allows us to have measurement sticks along the way. We're breaking that moonshot down into smaller jumps. I think that's been the big leap in what we have proposed as neuro prototyping, as a measurement stick for big leap innovation.

Roger Dooley: Basically, trying to reduce that ambiguity.

Thomas Ramsøy: Yeah, exactly.

Roger Dooley: Right, and I would imagine, too, some of the other ... Any time that you can assign data to stuff or do a demonstration in a lab, that would also, I think, have that same effect, where it's a little bit more tangible than speculating when you can actually ... Even if the test is not totally representative or if ... It doesn't have to be perfect but if it ... It's like I recall research showing that, when you included a chart in an academic paper or an article, it was seen to be more credible than without the chart. Actually the same thing for brain scans in neuroscience articles, that even if they were not relevant, somehow they increase credibility. Not that you're trying to manipulate your audience but I think that, if you can provide some data, it will reduce that fear of ambiguity.

Thomas Ramsøy: Absolutely, and I think that what we have seen throughout this entire process as both with the creative teams, the executive teams, having data ... It's not that it solves everything for them but it helps structure the discussion around the table. Instead of having everyone has their own favorite around the table and then it's a discussion about what do we like and what do we don't like, it becomes a structured discussion, in terms of your solution here is great but people don't pay attention to it. Or people do pay attention to it but

they're confused, cognition load is off the charts. It helps structuring that discussion.

Roger Dooley: Very good. I want to be respectful of your time here Thomas, so let me remind our listeners that we're speaking with Thomas Zoega Ramsøy, co-author of the new book Leading Transformation: How to Take Charge of Your Company's Future. Thomas, how can people find you and your ideas?

Thomas Ramsøy: The easiest is to go ... on this book, is to go to leadingtransformatoinbook.com. That would be a lot of things related to the book. I think there's even the color version of the or a cartoon version of the book, there as well. People can go check it out. The other thing is to go to neurosinc.com. That is a company webpage that I founded and it's actually driving a lot of these actual tests that have been part of this book. Otherwise, I'm happy to connect on LinkedIn and that would be ... I think it's T. Z. Ramsøy is my handle.

Roger Dooley: I think it'll be easy to find but, in any case, we will link to all those places and to any other resources we spoke about on the show notes page at Roger Dooley.com/podcast. We'll have a text version of our conversation there as well.

Thomas, thanks for being on the show. It's always interesting and informative to talk with you.

Thomas Ramsøy: Great. Thanks, Roger. Always a pleasure to be here.

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 http://www.RogerDooley.com.