



Conscious Life presents

Psychedelics Experiences Without The Drugs

Guest - Tom Galea

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[00:00:05] Alexander Beiner

Hi, everyone. I'm very happy today to be speaking with Tom Galea. Tom is a mechanical engineer by training, and he's the co-founder of an app called Lumenate, which uses something called sensory entrainment to create an altered state. And it's done all using the flashlight on your phone. So Tom, thank you so much for joining us.

Tom Galea

Thanks. Thanks for having me.

Alexander Beiner

Pleasure. So I'm excited about this conversation because this is a little bit different to some of the other conversations we've had. We're still talking about something psychedelic, I would say. Psychedelic means mind manifesting. And you are one of the founders of a company called Lumenate. You have a really interesting app that uses the flashlight on your phone to induce an altered state. So maybe you could explain how that all works and what exactly it is.

Tom Galea

Yeah, of course. I think it's probably great to start from a little way back because I think it ties really nicely into that mind manifesting mission that you were talking about. Me and my co-founder actually met 12 years ago at university studying engineering and quickly moved on to work at Jaguar Land Rover doing far-future concept design.

Here we got exposed to this idea of trying to identify underlying human desires, and design experiences or solutions to meet those. Soon we realized the corporate world was a little bit of a challenging place to make a real difference to the world. So we started chatting about if we were to do something else and pour this energy elsewhere, what would we try and do?

And we came to the idea of just going after a vision, so no idea of a product or service, but diving into that. And we started with "inspiring people to live more fulfilling lives." From there, we did a

load of research speaking to people about what fulfillment meant to them. We'd left our jobs at this point, so really jumping in at the deep end. And we narrowed it down to this idea of inspiring people and giving them a new perspective.

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From there, as engineers, we ended up building this model with 16 categories of inspiration. But the one which ends up linking into where we ended up going was this idea of exploring your own subconscious, or as you would say, something being able to manifest from your own mind.

So, yeah, we got really excited by this, one, from a personal level. I'd been following the psychedelic renaissance pretty closely. I've been super-excited by what I'd been doing. But unfortunately, it had this issue of not being hugely accessible. And other ways that people can enter these states have also been generally quite inaccessible to most people.

We set about on a mission trying to understand how we could create an accessible way for someone to enter an impactful altered state of consciousness. We ended up looking at all the different neurology of this, reading up on shamanic trance states, dream states, psychedelic states, bought our own EEG, and set about running months of our own experiments to try and understand what the brain is doing in these states and how we could recreate some of that using technology.

It was around then that we found this one un-peer-reviewed paper looking at strobes as a way to induce an altered state of consciousness. It spiked our curiosity enough to start diving down. I think everyone also has a little bit of a weird story of how they got to the strobe space.

I always remember when I used to go to university in Liverpool, there was this one fence. Whenever the sun was at a certain position. When I walked past it, it would flicker at this certain rate. And so I was like, "What is happening there?" And it sparked that memory back. And we were like, "Okay, maybe we can go back to that."

So, yeah, from there, we started developing this technology. And it's essentially using a flashing light to synchronize your brain waves and then allow you to guide the brain into an altered state of consciousness. We ran loads of our own EEG studies.

We were lucky enough to get invited by Robin Carhart-Harris to come and speak to his team at Imperial and present our research. Got some of those guys on board and been working with Graham Campbell, the psychiatrist who was also working at Imperial at the time on a DMT trial to work on our script and how we can make this as impactful as possible.

And from there, we basically started developing the app and got our heads down. And Jay taught himself app development. I taught myself everything else from music production and all the rest of it. And through lockdown, we built Lumenate.

Alexander Beiner

Yeah. And I mean, what's great about it, obviously... Goes without saying, it really works. As a seasoned psychonaut, I was very curious to see, "Okay, what's this going to be like?" And was

really, really fascinated by it. And it's probably worth mentioning. There's, of course, the flickering light, which is the juice of it, I would say.

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But also the music is a really, really important element of it as well. It's kind of immersive... And the narration, which we can talk both about. Maybe you can talk a little bit about the music. Because obviously in any psychedelic experience, sometimes the music is called the second therapist or the third therapist. It's such a key part of the experience. I think in my experience using Lumenate, I think it is there, too. What are some of the considerations you had when you were approaching, okay, what music are we going to use for this?

Tom Galea

Yeah, sure. I would really echo that. I think very much within both stroboscopic and psychedelic states, there is this... There's a view that I quite strongly agree with, but they're almost a catalyst for change. They themselves don't necessarily drive the value, but they open you up in a way and give you a new perspective in a way that that value is more easily found.

Within Lumenate, that's how we use the music as well. We typically try to offer up a range of different emotions for our sessions, and we have different sessions for different topics. Some which are driven to be more energetic and more euphoric. Euphoric release is one of them, which is specifically aimed at that. Others are a lot more open and expansive. So offering up all sorts of different emotions, and people will tend to latch on to whatever feels most relevant to them at that moment.

Another interesting aspect of the music and how we... So we compose soundtracks for all of our sessions. Another interesting part is that when you have more rhythmic elements, it tends to be a more intense experience, but a less explorative one.

We tend to find that we aim to pair that intense rhythmic part and then release into a slightly more expansive open area, where it's almost like you are driving towards a high energy epiphany. And then you have a little bit of time to actually think that through and integrate it and see what's come up for you within that. And that's another interesting area that we like to play around with.

And that idea of taking on an emotional journey is actually... So recently out of Freie University in Berlin, a paper which actually got published properly two days ago showed that under this stroboscopic altered state of consciousness, people's emotional response to music was significantly enhanced. The paper actually replicated a study which had been done in Imperial College using LSD. And they found the same result, not too shockingly.

Then this team in Berlin, with a bit of support from us, went through and thought, "If we replicate this experiment exactly, will we see a similar effect?" Actually, the effect was really quite strikingly similar in terms of which emotions and which particular areas were particularly lifted. And the effect size in total was about half a degree of LSD.

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Again, as you say, that music is a third therapist. This really opens up some interesting pieces for us in terms of how we can use music to drive therapeutic value when someone is in this more open and receptive altered state of consciousness that the strobe can place them into.

Alexander Beiner

Yeah, that's fascinating. And of course, anyone who's had these experiences will know what that lived experience of... For example, when the music is more intense, the experience is more intense, and when the music is more slow and expansive, you have a little bit of space. People who... Having run psychedelic retreats, we guard our playlists very carefully because it's such a huge part of it.

There's also narration, and one of your narrators is quite well-known is the actress, Rosamund Pike. And so how did.. a) her narration is lovely, obviously being a professional actor. But how did that come about? How did she get involved in the project?

Tom Galea

We're so wildly spoiled to have such an amazing actor who comes in and does virtually all of our voice-over now. She actually ended up... So one of our investors snuck her onto our beta testing list, and we weren't aware. But all of a sudden we kept seeing this dot appearing. And at this point, we only had about 40 people using the app. So we pretty much knew what every dot in analytics was and who it was. We kept seeing... And we were like, "Who is that?"

And eventually she reached out to us and said that she'd been absolutely loving the app and had found it really impactful for her and asked if there was any way that she could help out. And initially we thought maybe we'd do a guest session or something like that, but as the conversation went on, she really wanted to help out and asked if she could come in as our creative director and have been the voice of all our sessions since.

She also helps quite a bit with the editing of the scripts and a few other pieces as well. I feel like a lot of people see a celebrity working on a project and imagine that they're just a face for it. But I could even think of days where I've been absolutely knackered, and got on a call with her. She's been like, "Tom, you look tired. What on your to-do list can I take off and do for you?" And stuff like that. She's an absolute star.

Alexander Beiner

That's really sweet. That's great. No, it seems a really nice fit because her voice really lends itself to this kind of journeying. On that note, maybe you could take us through, what exactly is an average experience? Someone gets the app on their phone. What happens next?

Tom Galea

The first thing we do is go through a safety screening. Obviously, with the use of stroboscopic light and flickering light. It is not safe for everyone. If someone has any visual epilepsy, then we

obviously screen out for that. As we go through, we then go through a few instructions, teach people how to set up.

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It's a little bit of a clunky process to explain to someone, "Yeah, so you need to turn your phone so that the flashlight is facing you instead of the screen. Close your eyes to use it, and hold it right by your face." It's not typically how you use an app. So we run through that and take them on this first discovery experience where it just gives them a bit of a feel for what the experience is.

You then come into our main library where we've got about 40 different experiences which are on all different topics. Some of these are music only, so really leaning into that music to drive that emotional exploration and journeying and that side. Others have the voice guidance as well. I think the thing that really unites all of the experiences together is this real focus on immersing someone in the present moment.

This is the thing that comes up again and again from our users. We hear it from people who have been teaching meditation for 10 years and people who have never meditated in their lives or done any of these experiences. But it really just pulls you into that present moment and quietens that brain chatter and allows you to gain a more observer-like perspective on thoughts and feelings that you're going through within that point. I guess almost like hyper-sensitizes what's going on in that moment with the music and pieces like that as well.

But yeah, all of our experiences are between... I think we've got some that are down to two minutes, but I would strongly recommend starting at least a 10-minute session up to about half an hour. And yeah, they're just done in the dark with a flashlight facing you. It's music and light. You can expect to see visual hallucinations with it. Colors, patterns, and feel that slight reduction in sense of ego, time, body. Things that are also associated with psychedelic states.

I would say we sit somewhere in between a psychedelic state and a deeply meditative state. We're not quite either world, but somewhere in between them.

Alexander Beiner

Yeah. I find it fascinating that it involves technology that we use every day, but then takes us somewhere that's not like looking into our phones. Actually, the first psychedelic article I ever wrote I think was in 2006 or something, and I was in university. It was called Psychedelic Technology, and made the argument that psychedelics are like a technology.

What's interesting about Lumenate is that you're also playing with, well, how can technology enhance this experience more? And one of the new things you have, which I've been using, is this AI assistant to help you prepare for your experience. Now, this is interesting because there is talk in the psychedelic world of how AI could play a role in a therapeutic or preparatory or for integration.

Not that many people are talking about it yet because it's quite new. There's somebody researching it at Imperial, I know there's a couple of other people looking at it. The benefit that you have at Lumenate is that you have a live user base and you can do it for people who are having this

experience with the flickering and the sensory entrainment. Tell us a little bit about what it is exactly? What does it involve, and what are you noticing so far?

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I know it's early days, but yeah, it'd be interesting to hear.

Tom Galea

Yeah, of course. And this is a feature I'm super-excited by. I think when we look at the world of psychedelic therapy, the importance of this preparatory work and the integration work. I mean, typically that takes an awful lot more time than the actual experience itself in a psychedelic therapy environment.

And within Lumenate, we've had some emphasis on this. The voice guidance and bits we use there are also trying to help with that preparatory work. We've always had a journal after the experience to try and encourage people to do some form of integration. But it's been an area where I really wanted to try and enhance the experience.

We've started working with Graham and a couple of other psychiatrists, looking at what is important within that and how we can possibly generalize and bring that into a personalized experience. So from there, we just looked at these different chat options. We tried some image-based pieces as well.

But essentially now we have the option before going into an experience where you can basically say that you want to work with this AI chat, and it will help you prepare for the experience. It will help you explore what might be going on in the day for you and try and pull out some form of intention or something for you to be going into the experience focused on and thinking about.

Currently, we have it in two different forms. There is one way, you can pick an experience and then it will step in. There is another way you can come in not knowing what experience you want to do, and it will work with you to select that experience and bring that integration and then do that intention-setting piece.

We're now working on version 2 of that. So this first piece, we launched it and found that it was increasing engagement for those who worked with... Who used it, and also increasing impact ratings from the experiences. We also run a load of user interviews to understand what impact it was having and have just been super-excited and blown away by the results.

Yeah, so we then decided to double-down on that and start working on version 2. Version 2 expands on this a little bit and has a slightly more intensive intention-setting where you can set what you're coming in initially with. Whether you're trying to relax, whether you're trying to explore something in particular, and it will have slightly different variants of that intention-setting chat. And we also got an integration at the other side where it basically checks up on that intention at the end of the experience and asks you how it went.

[00:16:16] Alexander Beiner

Yeah, great. It's a very interesting time for this kind of technology. I've used Lumenate and that function actually after breathwork, for example. I'm training as a breathwork facilitator, so breathing pretty much every day. Obviously, I'm breathing every day. I'm doing breathwork every day.

What's interesting about that is something that I think we're going to be seeing more and more as psychedelics go more mainstream and are decriminalized increasingly, especially for medical practice. But beyond as well, is the combination of different practices together. That's what my work has really focused on a lot.

The scientist, John Vervaeke, talks about an ecology of practices. There's not just one practice that fits everything. We can't just meditate, and that's going to fix our depression or our anxiety or help us find purpose in life. Every practice has a different purpose, let's say. Enables different things in our lives. What are you, looking to the future... What are you excited about? About this technology? About other technologies? What's the beginning of a vision for the future?

Tom Galea

Yeah, I think all of these different things are really exciting tools. So it's to help people explore in different ways. Yeah, as I said before, this state is somewhere between deep meditation and a psychedelic state. It doesn't really do either, and it's definitely not a replacement for either.

It's really exciting seeing these tools progress. And I think what we offer is a really accessible way to immerse in that present moment. I think more so than any other option out there, it really drives that forward. I would love in the future as well to start exploring how we can start integrating things like breathwork within what we do, too.

We have been speaking quite a lot to different neurologists around this and around the possible safety risks, because obviously both have an association with seizures in vulnerable individuals. And we're trying to understand how that works, is that additive if people use stroboscopic plus breathwork and whether there are routes down that side, too. And I think, hopefully, as our intention-setting and integration tools get stronger as well. It could be... There could definitely be space for us to offer those up as a stand-alone.

So for people who want to do other experiences, to still be able to be working with the intention-setting and integration tools that we provide. But yeah, overall, it's just super-exciting to see how many things are developing in this space. Every time I take another look, someone's got a new idea. And I think the toolset for mental health and mental well-being is just growing all the time with loads of really exciting options.

Alexander Beiner

Yeah, absolutely. And something you said just made me think about the difference between... A difference I think about a lot because I do a lot of facilitation online and a lot of facilitation in-person. And the difference between that. I know you have an in-person device that you can put on your head. I wonder if you've thought about this. Could there be retreat centers that are using

this technology? And perhaps there's lots of other things going on at the same time. Is that something you've looked into?

[00:19:31] Tom Galea

Yeah, quite possibly. In fact, quite likely at some point. I think the optionality to be able to have these more group-like experiences and the connection that comes from it is super-powerful. I think a project which did this really well was the Dreamachine in the UK, which basically did a stroboscopic experience in a similar way. It was an Arts Council-funded piece of work and did have that group element around it, too. It was an amazing experience. I went to it like three times and thoroughly enjoyed it.

But yeah, I think there is definitely the optionality to explore the group side of things. The challenge for it right now is we've always been pushing for having as much access, as much impact as possible. Right now through our app, we are able to reach a really quite significant audience. And I guess the difficulty of hitting that size of impact through other means... It's not impossible and we could definitely get there. But the work required to get to that scale of impact in any other way is pretty significant.

Alexander Beiner

Yeah, absolutely. That's often the trade-off. I find it's a similar dynamic with running courses and experiences online. There's no way you could ever have an... Or it'd be very difficult to have an event with people from 50 different countries coming together.

It's also interesting. Online, people really value that and there's something very special about being in a breakout room in a Zoom with people from three different continents and different backgrounds and different perspectives all coming together to have this similar experience. So it's similar, even if they're not talking to each other with lots of people connecting with Lumenate on their phones. I imagine you have a somewhat of a community forming around that.

Tom Galea

Yeah, we actually have a [Facebook community](#), which is pretty active, where people talk about their experiences, share ideas. We see all sorts of weird and wonderful ways that people are positioning their phones. But yeah, it's a really interesting place to take a look.

Alexander Beiner

And so the last thing I wanted to touch on was just a little bit zooming out and just getting your perspective on... You talked about the mission, or part of your mission, being "helping people lead more fulfilling lives." Where do you see... As well as Lumenate, but also psychedelics... What's your hope for the future of all these different practices and approaches? What's the psychedelic future that you would like to see?

[00:22:02] Tom Galea

Yeah, that's a great question. I think from my perspective, there's a real mix. Because there's one side which is alleviating suffering, which is a very sharp and very tangible aspect of what I hope these tools can deliver. There are a lot of people who are really struggling with a lot of things, and there's definitely that side.

But there's also, I guess... More on the well-being side of things, allowing people to feel comfortable and confident and clear in what they want to be doing and what they're achieving with their lives. I think our idea of "more fulfilling lives" really came down to the success of personal growth cycles. Where someone's growing towards what they want to become in life and having that feeling of momentum towards that.

And that, I guess, comfort in knowing that you're doing what you want to be doing and moving in the right way. And that's so different for so many different people. And it's something that we've often struggled with when we're writing content and how much we want to lead someone into what our view of fulfillment and success is, and how open we leave that slate for people to attach whatever they want to that.

But yeah, I think there's the two-fold side. There's definitely that alleviation of suffering, but then also that increase in sense of fulfillment and that sense of positivity and confidence in oneself.

Alexander Beiner

It's such an interesting point around what's called priming in psychedelic research. Everything that you might say to someone who's about to have a psychedelic experience is in some sense priming them for a particular type of experience. And it's not possible, in my view, to not prime someone in some way, so that you have to be ethical about how you're approaching it.

I even remember mentioning to a participant on a retreat in our one-to-one. Offhand I mentioned something about Australian football because he was into that and had a friend who was into it. And then in his experience the next day, he'd spend like an hour in an Australian football-related visions. And I was thinking... Yeah, that's really... No way you can avoid it. But it is super-important how you frame it.

Tom Galea

For sure. That comes back, I guess, to what I was saying earlier in the sense that these states are a catalyst for change. In a way, I almost see them as great confusers of the mind, where the mind is suddenly looking for something to latch meaning onto and some way to almost hallucinate up a reality for itself.

And that means it suddenly pulls on all sorts of memories, ideas, and offers those up. It goes, so if you're feeling happy, you're more likely to see happy imagery. If you're feeling this, you're more likely to see all these different pieces. I think that touches on that part of the brain that offered up Australian football. And the brain latches onto it and goes, "Yeah, that's what I'm experiencing. It must be Australian football."

[00:25:10] Alexander Beiner

It's this deep mystery, isn't it? Also, that same dynamic means that if we're feeling a bit more happy, we might have a happier experience or vice versa. It's also where I think a lot of the transformation comes from because...

The mind, given a sufficiently complex set of variables, like the introduction of the stimulus of the flickering light or a psychedelic, will go where it needs to go very often. It just needs the nudge. It just needs the excuse and also the capacity and the interruption of normal consciousness. There is this general theme in the psychedelic world of non-interference.

But there's also a dynamic, and this is research my wife does, of there is sometimes where you do need to give some guidance and it's helpful for the person. So it's interesting what might lie ahead for tools like the AI guide. Have you thought of that actually going into the experience itself in some way?

Tom Galea

Yeah. So we've actually built an internal demonstrator where we played around with whether we could have it live generating a script and running that way and having that voiced into the experience. And I think the technology is not quite there at the moment. I think ultimately our assessment was that, yes, the personalization adds value, but it doesn't add sufficient value for it to be better than a less personalized but well-written human version.

And therefore we decided to take that out and just have it suggest the most relevant content off our existing library. But as these technologies progress forward, I think that depth of personalization throughout experiences will be really powerful. I really see that in this stroboscopic and psychedelic state, there is just this openness of the mind where if you offer up the right things, it can be really valuable for someone.

Alexander Beiner

Absolutely. So fascinating stuff. And I think a lot of people watching will probably really want to try it out. So how can people try out Lumenate?

Tom Galea

Well, that's one of the easiest bits. So it's available on the [App Store](#) or [Play Store](#). And if you just search for Lumenate, it's free to download. We always, again, wanted to push on the accessibility side. So we made sure that there are a set of sessions which are free and will always be free. So it doesn't suddenly lock down on you. And then, if you really love what we're doing, there is a subscription within the app as well, which you can then unlock all the rest of the content that we've been working on.

Alexander Beiner

Brilliant. And yeah, I recommend it. It's been an interesting addition to my ecology of practices. So Tom Galea, thank you so much for taking the time.

[00:28:01] Tom Galea

Not at all. Thank you.