



Transcript of “Jamie Wheal & Steven Kotler: High Consequences, & Hacking The Flow State - #216”

Bulletproof Radio podcast #216



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Dave: Hey, it's Dave Asprey with Bulletproof Radio. Today's cool fact of the day is that if you feel like you've been coughing a lot or maybe that you have a case of black lung, it could be the laser printer that's next to where you sit at work. You wouldn't really notice, but when laser printers print they create this cloud of toner in the air which can lead to something called siderosilicosis which is the same respiratory disease that coal miners get. I probably said the name of that disease wrong by the way because I'm not an expert in black lung. I do know that sitting near a laser printer is not a great idea, and there are actually studies out there pointing out which brands and which models create more dust than others. If you're stuck in the mailroom next to the laser printer, hold your breath.

Today's guests are not strangers to Bulletproof Radio or to Bulletproof in general because we have Jamie Wheal, the executive director of the Flow Genome Project and Steven Kotler who is a New York Times bestselling author. Both of these guys are the men behind the Flow Genome Project. Steven was the keynote speaker at last year's 2014 Annual Bulletproof Biohacking Conference, and we're planning this coming conference as well. You can sign up for it now at bulletproofconference.com.

What drove me to ask these guys to come and not only to have Steven speak about The Rise of Superman and how we get into a flow state, but Jamie was there as well. Jamie helped to build an amazing adult playground. We have a 20' tall swing where you could swing all the way upside down and literally scare the crap out of yourself in order to push yourself over into a state of flow and a bunch of other things that just create uniqueness and create neurochemistry that for our people who attended the conference actually got to hack their flow state in person.

Jamie's the creator of some of this stuff. Jamie and Steven have partnered in the Flow Genome Project, which is there to crack the kind of genetic ... it's not really genetic, but to crack the code of what makes people go into a flow state because it's so important for what makes us

human. I'm happy to have you guys on the show. Thanks for coming in. For people who haven't heard our previous podcast together, can you guys just walk through what is a flow state? Give me the precise definition of it and why people should care about flow states if they're not supreme athletes or something.

Steven: For sure. The technical definition of flow is an optimal state of consciousness, a state of consciousness where we feel our best and we perform our best. Flow refers to those moments of total absorption. We get so sucked in by the task at hand that action and awareness start to merge and everything else just disappears. Your sense of self vanishes. Time passes strangely. Sometimes it slows down. Other times it can speed up, and throughout all aspects of performance go through the roof. While flow is most traditionally associated with athletics being in the zone, runner's high, all those terminologies it's actually ubiquitous. It shows up in anyone anywhere provided certain initial conditions are met, and it doesn't really matter where it shows up. Wherever it shows up it massively amplifies performance.

Dave: Flow is a state of mind or a state of being where there's neurochemicals involved, but the commonality is that it makes you kick more ass whether you're skiing or whether you're giving a speech or writing a poem, accurate?

Jamie: Absolutely. In fact we've just crunched the numbers on one of our big citizens' science projects which is helping over 6,000 people around the world take a test and figure out what their flow profile is. We have 4 different personality types. One is a hard charger which would be the quintessential red bull athlete adrenal sport junky, which most people think of but also the flow go or the more yoga and meditation type person, the sort of crowd pleaser which would be the classic extrovert that gets their juice from immersing themselves in a TED conference or a concert or a fraternity or sorority or football game.

What's interesting is that 48% of that 6,000 people around the world that have taken our flow profile to date test as deep thinkers. They actually get into flow not through any of the kind of flashy, splashy stuff but actually through quiet considered reflection, creation. This could be

someone who is an artist. This could be someone who's a computer coder or a programmer, someone who's a solitary musician, someone who enjoys gardening, hiking, walking. It's been fascinating for us to realize that despite where our own passions are and have come from in our roads to flow that almost half of the folks out there who have experienced it actually come to it through the quiet and creative introspective pursuits.

Dave: That's the first misconception about flow that a lot of people have partly probably, Steven, because you're always trying to catch up to all those professional skiers you like to hang out with on the slopes and just because of this idea of athletic flow, running until you drop into the ground in some sort of a flow state. If a huge number of people are getting into flow from a cognitive perspective, we're saying there's a state that may or may not be tied to what you're doing physically with your body, that it may or may not be tied to your brain.

Rather than what causes flow what are the core elements of flow that anyone listening to this podcast could care about? After you tell me that I'm going to talk about why I'm actually backing the Flow Genome Project because it's pretty big news, at least from where I sit. What are these common things that everyone's going to get out of it? What does it have in it whether you're a skier or whether you're a coder or whether you just want to do whatever your art is best?

Steven: Here's what we know, Dave. A lot of things go in the brain during flow. There's lots of changes including as you mentioned this kind of profound neurochemical cocktail. As a result of that neurochemical cocktail, flow massively amplifies motivation. It's now referred to as the source code of intrinsic motivation, which is a fancy way of saying the state is really, really addictive. It feels really, really good. It's very, very addictive. Whatever produces the state we want more of it.

Motivation is fun. Think about what's going on in American work today. In a recent Gallup poll 71% of American workers are disengaged or actively disengaged on the job. They hate what they do with their lives essentially. The other 29% have jobs that produce flow. They can't wait to get back to work. They're charging into their day. Motivation is

fundamental. Creativity is massively amplified in flow. What that really means under the hood is we take in more information per second and we make connections between that information more quickly and we make more long distance connections.

In studies that we've done at the Flow Genome Project people are reporting a 500% to 700% boost in creativity in flow. It's a massive uptake, and other people have found similar numbers. Even better with creativity through some model that Harvard figured out that heightened creativity outlasts the flow state itself. It'll extend into the next day, the day after which suggests flow may actually train the brain to be more creative over the long haul.

You've got motivation. You've got creativity. Most importantly flow accelerates learning. The more neurochemicals that show up during an experience, the better chance that experience moves from short term holding to long term storage. Flow, this huge neurochemical cocktail that we talked about, cements things automatically.

For example, studies run by the US military and our friends at Advanced Brain Monitoring figured out that soldiers in flow, snipers in flow learn 200% to 500% faster than normal. When they redid that experiment with novice marksmen, they found the time it took to train a novice up to the expert level in flow was cut in half. Flow can amplify learning 500%. Malcolm Gladwell will say 10,000 hours to mastery. The research shows that flow can cut that in half. For anybody out there today doing anything motivation, learning, creativity is astounding.

We also know ... and this is research from back in the '60s and '70s. This is extremely well validated. Essentially that people who have the most flow in their lives score off the charts for life satisfaction and well-being. You could basically say they're the happiest people on earth. Though happiness is a kind of misnomer because it's in the moment, and this is overall meaning and life satisfaction.

Dave: That seems a little bit valuable. People have gone literally to the ends of the earth. I'm thinking particularly of surfers who've really valued flow and they get their flow from engaging all of their faculties in the next set

and figuring out what wave and where to be and then being in it. That kind of an environment people will literally go put on a dry suit and surf in Tofino, on the island where I live, where it's basically arctic waters all the way down to Guatemala where the coffee comes from. It doesn't matter. You can follow those waves anywhere. Because it's so important they want to drop everything and change your life because you want to be in that state.

The mission of making it easier for people to be in that state without having to fly to Central America or without having to drop everything and being able to do what you want to do and still be in a flow state, it seems like one of the most precious things out there, which is why I've actually formally backed you guys with a syndicate on AngelList. If you're listening to this and you're an investor on AngelList, this is actually something you can back.

The reason that I backed it and the reason that I'm backing specifically Steven and Jamie is that this idea that it can be easier is a core part of everything that I do because I'm really lazy. It's a strategic laziness where I don't want to spend more time. I don't value struggle. I only value struggle if it was a minimal amount of struggle for the maximum amount of learning or gain. If we can remove the struggle or at least reduce it significantly to allow ourselves to be in this magic flow state more, this has broad reaching societal implications that go beyond whether you want to kick ass all day. It goes down to do we want to live in a world where most people kick ass most of the time because I think that'd be a very different place than the world we live in now.

Jamie: Yeah, absolutely, and to demystify it because the truth claims do sound almost outrageous. The simple thing, as Steven was pointing out, the research is increasingly in that it is the sort of sufficiently advanced technology that looks like magic is actually just technologies. It's just techniques. Think of it more as sort of just a fifth gear on car. It's still the motor. It's still the same road, but you are able to move faster and more efficiently when you can access this state on demand. To just connect the dots back, Dave, to your original talk about the athletes being ... that they were the subject of Steven's Rise of Superman, and yet not everybody gets to flow that way.

What we're really fascinated by is that the action sports athletes did seem to get into flow faster and more often and more predictably with greater results than almost any other population on earth. After doing all of that research and interviewing them, we came to the conclusion that it was due to 3 reasons, which is that they were in very rich environments. They were fun, engaging, stimulating, and novel which does a whole lot of things on the neurochemistry. They were in positions of deep embodiment meaning that they weren't just heads on sticks. They were actually engaging their proprioception, their arms and limbs in space. They were engaging their vestibular sense, which is way up, and they were feeling the forces of gravity.

Lastly, back to feeling the forces of gravity they were in environments where there were high consequences. There's no lurching in a high consequence environment, and it forces your attention into the immediate now. Those three capabilities—the rich environment, the deep embodiment, and the high consequence—that has become the core pillars of our curriculum, and they are translatable to a lot of different environments and situations that everybody can gain access to.

Dave: Creating high consequences is basically shorthand for saying you could die, right?

Jamie: For those guys, but not for us.

Dave: What's a high consequence for someone who's not a pro athlete or an extreme motocross guy or something? What's a high consequence for a business guy in a flow state?

Steven: A great example, your brain cannot tell the difference between social fear and physical fear. Physical risk and social risk are processed by the exact same structures in the brain. For action and adventure sports athletes you need to take physical risks. Laird Hamilton has to paddle into a 50' wave at Jaws to pull the high consequence trigger. For the average business guy they just have to stand up at the business meeting and start talking because the brain can't tell the difference between physical fear and social fear. It sounds crazy until you realize that back 200, 300 years if you get banished from the tribe, you screw up socially

and get banished, it's capital punishment. Nobody survived outside of the community. We process these things in the same place.

The cool thing about physical risk that the action and adventure sports athletes use if you can hack it by taking emotional risk, creative risk, social risk. It doesn't have to be physical. More importantly in the environment that we're creating, the flow dojo, which is the project you're backing on AngelList, we created the flow dojo so we could create an environment where we could put people into a high degree of perceived risk, a rich environment and trigger deep embodiment in the same environment. We essentially are suspending the consequences of gravity. Anybody can play on our equipment. At your conference I think there were kids as young as 10 all the way up to people in their 60's and 70's were playing on our equipment and getting kicked into the flow as a result of these triggers.

Dave: Building a mini flow dojo in the conference ... one whole end of the conference hall was basically these giant structures. There's videos of me on ... I don't remember which big TV network, but I'm in this giant human gyroscope, which is an amazing workout. You're spinning upside down, and you're spinning backwards. Our bodies when you're spinning backwards without being able to see what's behind you, it creates a real sense of discomfort which it's supposed to because you could be falling backwards off a cliff or into the jaws of a tiger. We feel comfortable moving forward and uncomfortable moving upside down and backwards. To do that over and over with all sorts of weird gravitational pulls it really does stress the body, but it's a positive kind of stress that makes the brain do something different.

Watching the 10-year old ride basically a skateboard-like swing in a pyramid kind of structure where there's strange things being projected on the walls it's incredibly visually stimulating. You can see from the hundreds of people who tried out the equipment that all of them are having an altered state experience and a beneficial one.

I believe that ... in fact I don't even have to believe. You can just know high performance for human beings is an altered state because if it wasn't altered, it wouldn't be high. Average performance is a non-

altered stated. What you're doing though is trying to tease out the very definition of that state and then all of the inputs that might create it. I think you've already done a huge amount of science there. Turning that science into a set of basically flow dojo things for do this, then do this, then do this, and then you're going to be in the state. That unlocks your ability to create, your ability to function and perform at whatever it is that you like to do. Maybe someday we'll see Aerosmith go to the flow dojo before they go on stage because it unlocks that extra bit of creativity or something like that.

Is that the vision or is there ... do I have it quite right? I'm a backer, but I don't necessarily know all of the guts of the things you guys are thinking about. Fast-forward to 2020 when we've cracked the flow genome. You know all this stuff. How are we going to use it?

- Jamie: Just again to orient listeners who haven't seen some of the visuals. Picture a series of giant geodesic domes and inside it's equal parts Cirque du Soleil meets X Games with a quantified self-layer on top of it. Everything that's going on is being tracked with real time, neuro, and biometrics, just the baddest ass training incubator for Iron Man/Star Fleet Academy. That's the intent to create this-
- Dave: You just totally lost my grandmother, both with what you're saying and what you're describing.
- Steven: Yeah.
- Dave: How applicable is this to most people in the country?
- Jamie: That's the whole point. Our mission is to take the extreme to the mainstream. Say those action sports athletes they have these wonderful rich experiences, and they level up their body/brain connections and their ability to access these states more or less at will. For the rest of us who might be a little more squeamish, a little more averse to hospitals, giant risk taking; don't have the equipment, skills, or knowledge the whole point of the flow dojo is to let everybody learn to play again. You can make a case that what is a functioning definition of play. It's

fundamentally the ability to make mistakes without fear. It's just rapid iteration.

That's true in lean startups, Silicon Valley. It's true when I learn to do a new dance move. It's true, as Steven said, most of us as we get past our 20's we get a little fear resistant, risk averse. We don't want to look like fools or hurt ourselves, and so we just stop. We stop playing which is really just rapid cycle time learning. In the dojo the intention is to yes, there's the sort of daring young man on the flying trapeze affect when everybody goes to Cirque du Soleil and plunks down 150 bucks just to watch and imagine. We're saying let's stop just imagining. Let's get out of the audience, and let's start being participants.

One of the key components of our equipment design and progressions is that yeah, you get inspired, but there is an on ramp. Wherever you are there is a place to start, and it starts with rehabilitation because most of us have accumulated the bumps and scrapes and imbalances of life. Then it goes to integration meaning let's add some complexity, and let's start upping the challenge level and then ultimately to transformation what's new, next, or different that none of us could've anticipated.

Steven: One other point, Dave, that's worth making is flow is essentially a focusing skill. It's a very particular way of training the brain to focus to drive attention into the now and marshal a bunch of resources. The more flow you have, the more flow you have. When I go out as a skier onto the hill and I get into flow, it means that the next day when I come back to my computer and I sit down to write, it's easier for me to get into the skill. I've strengthened those muscles.

The flow you're getting in the dojo while you're playing, while we're using these triggers that we know are really robust translates the next day and the day after and the day after until you come back to the dojo to train again. The skills immediately transfer out. It's not like oh, wow, I can get them into the flow in the dojo, but I can't do it in the real world. One supports the other.

Dave: That makes sense. Once you're more comfortable with the flow state, it's easier to get into it. My own experience is that way. I tend to go in the

state of flow when I'm giving a public presentation. I can just bring it. Things are easier than they otherwise would be. Partly that comes from training, and it's a state that I know I can help to generate. It helps to have some social risks where like if you go up on stage and you don't know what to say and you look like an idiot, then it doesn't feel very good.

My grandmother, she's 94. I visited her last week. She was watching videos on calculus. I'm not kidding. Actually there was a YouTube video where they were doing equations and graphing them out, and she was having a great time, which actually probably puts her in a flow state but doesn't put me in a flow state. If you watching, hey, Grandma.

Let's go down a level to my mom. She's about 60, and she has a cane. Is the Flow Genome Project going to be something that people there or people who are 50 but not necessarily in at all physical shape, carrying an extra 40 pounds like half of Americans, are they going to be able to take advantage of this? Or is this like you need to be young and lean and strong? I'm wondering where's the upper limit, or how would you apply this new set of knowledge that we're generating to helping people of all shapes and sizes and ages? Where are the balances to the benefits that come from this?

Jamie: The Scandinavians have a beautiful concept that's known as 3-generational play. They're starting to build in a lot of urban centers, a lot of learning parks, and that kind of stuff basically, "playground or physical fitness equipment that children, parents, and grandchildren can all use and derive value from."

Dave: Cool.

Jamie: Right, yeah. It's awesome. We very much subscribe to that. The idea is that as we said everything starts, everything we do ... Yes, there's the big, flashy, extreme playground equipment that we have, and it's wired for light and sound and biometrics so that we're not having to look at our watch to see what our fuel points are or something goofy like that. We're just experiencing it in the moment.

Yeah, those are the obvious things people think about when they think about the flow dojo, but the real point is to say hey, how do we become fully integrated, alive, and alert in these bodies and brains of ours. It's not that that's the only thing to do to make performance happen. It's just generally a weak link when most of us spend most of our days heads on sticks sitting and staring at screens and that kind of stuff. It's a huge place of maximum leverage. Our goal is to say hey, look, can we rehabilitate our bodies and brains, then can we up the ante and start progressing, and ultimately can we get to places of, as Steven was saying, those places of heightened creativity, inspiration, and connection.

To give you a couple of examples you mentioned the young boy who came to your Bulletproof Conference, dragged his parents, did all that wonderful stuff and spent every morning, in fact every day surfing on that surf swing where you go back and forth. He loved it.

We had a woman who was in her probably mid to late 50's who had told us that she had been a very high performing athlete in an earlier stage in her life ... as very much in line with some of your advocacy, Dave, had had an exposure to some chemicals in her later years that just rocked her world, and she had not been able to move or be in any way comparable to what she had in the past. She got on that swing and struggled as most folks do when they just first get used to novel motion, and then something clicked for her. When it clicked, she started crushing it. I mean she was sky-ing. She was getting as high up and back on that thing as possible. Her face lit up and beamed.

When she got off, she had tears down her face. She said, "I'd forgotten that I could move like that, and I never thought I could again." Literally the movement of her body unlocked memories and a knowing in her self-system that she hadn't had access to until she had a safe way to basically get sensations and motor inputs that normally would require a roll of the dice in risk. That was beautiful.

Then there was an army ranger who showed up in a wheelchair. He had been clipped by an IED in Afghanistan. He was just drawn to the music, the commotion, the interest, the fun. We reached out to him. We said,

hey, how can we find a way to help you play? We ended up bringing him over to one of the stations where there is cup stacking, which is almost upside down juggling with Solo cups. Is the quickest descriptor of it, but it's slightly more advanced equipment. There's touchpads for time. You get measured down to the hundredth of a second how quickly you can build and take these patterns down.

We had EEG headsets on. He was able to wear an EEG headset to be able to track his neuro electric activity that was nudging him into a flow state while performing a fine motor task, again skills and challenges.

Our big invitation is it is quite literally a big ten. It is the permission for everyone to play. The idea is inspire all of us with the feats of the avatars, the incredible folks, the double backflip off the cliff, or the freehold breath divers, or the amazing things that humans do. Then say hey, if you're inspired, you want to play, here's the onramp, and there's a spot for you to begin.

Dave: That's really well put. The fact that you're bringing up the cup stacking there's all sorts of fine motor skills that if you do them with a time pressure that can also put you in a flow state. What do you think of poker? Is that one of those things?

Steven: Our buddy, Rafe Furst, would absolutely agree. Yeah. There seems to be a tremendous amount of poker in flow. You notice more in flow because literally there's norepinephrine and dopamine. These are focusing chemicals. You're taking in more information per second. You're literally if you're in flow and you're playing against the competition, it's a huge edge. There's also better pattern recognition in flow. Yeah, there's a huge edge. Yes, the flow dojo will train up your poker game.

Dave: I coach several world champion poker players like World Series of poker guys and league guys on human performance. They're into the whole how do I make my nervous system work better, and how do I expand my perception, and how do I be in that state because it is a high consequences thing like oh, I just lost a million-dollar hand; that kind of sucks. I could've been number one, but I made one bad decision. I think it's that high consequence that does it. When I'm looking at things that

are sedentary but mentally challenging, I'm guessing chess might be another thing that could put people in flow.

Steven: Yeah. The very first EEG study ever done on flow was done on chess masters.

Dave: That makes so much sense. You can almost see someone who's really engrossed in a task go somewhere else. Then the other obvious thing would be video gaming, right?

Jamie: Yeah, and Red Bull is' doing a lot of studies. They're calling them digital athletes now. They do all kinds of studies. I think there's a certain game that's really popular in South Korea, and I'm going to mangle it. It's something, something 2. It's basically like multidimensional galactic chess, but they get-

Dave: Mortal Kombat 2.

Jamie: These dudes they carry their keyboards around in violin cases like they're Stradivariuses.

Dave: Wow.

Jamie: It's unreal. They were basically measuring them at Red Bull on the number of rapid decision makings and fine motor movements they were executing in a minute. It was something north of 6,000 discrete tasks or activities. It's absolutely off the charts. As far as the chess example, Josh Waitzkin ... I think is his name. He was the Searching for the Bobby Fischer feature. He wrote a great book called The Art of Learning. Steven, to your point of the more flow you have, the more flow you have and you're actually hardwiring your brain to be able to do that he translated those early skills he had into an illustrious martial arts career. He's basically making an argument that once you know how to crack the code in one domain, you can transfer it to anything else you do.

Dave: The other obvious nonphysical manifestation of this would be musicians doing a jam. My dad's a bluegrass guy, much to my chagrin and-

Jamie: Friends don't let friends play the banjo then?

Dave: Banjo jokes we could go all day. Okay, I've got to tell you one. What tool do you use to tune a banjo?

Jamie: I don't know, Dave, what tool?

Dave: Wire cutters. Anyway ... I'm sorry, Dad. I've seen him host jams at his house. What happens is these groups of people get together and they're just making random music, but they're all going into flow state. You can sort of see it. When everything syncs up, they'll describe it. Time slows down and all these things that are classical things that are happening with flow. Why do they drive an hour and all get together on a Friday night to go do this? Because they're getting in a flow state. Why do a bunch of teenagers get together or hop on their mountain bikes, drive 2 hours to the ski lift and then go 40 miles an hour downhill? Because of flow state. Why do people get together and play poker?

It's all there, and we build this into our societal rituals, but we don't know why. We just know that it feels good. If you guys can make that easier, then maybe some of the high risk activities become still fun but less necessary. Or maybe it's just easier because you're like well, I didn't have time to go to the ski slope today, but I still was in a flow state and my life rocks. That's the kind of direction that I'm hoping that we take Flow Genome.

Jamie: Yeah, and that's one of the key parts. The tricky thing is obviously if flow delivers us into these moments of blessed nonself-consciousness, we're no longer forcing it. The question is how on earth do you force something that's effortless? That's been the stickiest wicket of the whole project for a long, long time. That's why there's the pop psychology and self-help movement. That's why there's the whole Western Zen thing, fundamentally all of these efforts to get out of our own heads. It's a really hard thing to do to get out of your head by using your head. One of the reasons that we call our organization the Flow Genome Project is just like the Human Genome Project and Craig Venter or just like Pandora with their music genome project in unpacking the core components of songs to match them for things we like.

Our interest is in what is the genome of a flow state. What are those building blocks? What is the neuro electric profile? What is the cardiac rhythm? What is the endocrine profile? What hormones are on or offline? What other respiratory rhythms or practices I might be using? What is my postural awareness, and even what are my cognitive maps and models of how I make sense of life in the world. Our interesting thing is by reverse engineering ... that's not just a buzzword ... we're literally saying do it backwards. Instead of using my ego reading a self-help book to get rid of my ego, which is a very low hit rate, why not just optimize the knobs and levers in my self-system and then ding see who's home, and who's home is generally more resourceful.

It's that old adage if you don't ever answer the question what is the meaning of life, you just stop asking it because you're so immersed in living it that it's no longer a relevant inquiry. That what's were interested ... We're interested in helping relieve people of the narcissistic trap of self-reflection and just say just go do it. Conduct the experiment and go have fun with it.

Dave: Craig Venter when he said, "I'm going to spend \$100 million and sequence my own genome," probably wasn't sure how he was going to make a living doing that. I think he already had \$100 million. He was doing all right. I could be completely bastardizing that story. The bottom line is I don't think there was a very clear business model. It was an academic model for the Human Genome Project. It spun out huge amounts of knowledge and information about humanity and massive drug discoveries and just more knowledge than I think we know what to do with right now, which is awesome and amazing.

I had a chance to ask Craig recently at a Peter Diamandis event. I said, "So, Craig, given all this knowledge that you have and this \$100 million, could you give me some best practices today to keep me from dying or something? Or should we just drink pizza and beer until we have permanent proof?" His answer was, "Well, let's talk that over a pizza and beer. I don't want to give advice until I'm 100% certain." Number one, kudos to Craig for saying let's talk about it over pizza and beer because it was funny.

The bottom line was there's a bunch of behaviors that we think are pretty good, and we can study those behaviors. The analogy here there's a bunch of gene behaviors that we think are pretty good and somethings we think change our gene so we might as well do the things that are directionally maybe right. It seems like with the flow state you have a lot of similarities here because I don't think it's clear how the knowledge that you are generating and that investments in your company are going to generate how all the different ways that that is going to change... change society, but I think that there's such big, low hanging things there that it's likely it'll make a difference.

What I want to know is ... I don't think Craig knew necessarily how it was going to make a lot of money. He probably thought about drug discovery or something. How are you guys by cracking the human genome thing, by teaching people to not have that narcissistic thing, how are you going to turn that into a business? How are people going to pay for this? Or what's it going to build?

Jamie: I think the first thing is just to say who's already interested. We have been privileged to be working with world-class elite performers in virtually every vertical. That's from hedge funds and financial traders who want to find their edge for guys moving large amounts of dollars. It's not unlike the poker players where even a 1% bump in their impact matters. Special operations community same thing, how do we put our teams into group flow so in the real time live fire combat those mistakes don't happen and those guys come home alive. Leading companies in the tech space, leading companies in even professional and management consulting who are pitching 7 and 8 figure deals and their ability to read a room, their ability to drop into the present moment, and their ability to hit that 5th gear instead of grind the gears is going to make the difference.

That's the reflections we're already getting back from the marketplace that basically anybody who is already invested in top 10% talent or even top 1% talent is desperate to stay ahead and wants to use these techniques to train and up level their people.

For us as an organization it's a 3-step model. What the flow dojo represents is it's the world's first research and training center for optimal human performance. Once built what that allows us to do is a) train elite high performers. Anybody who's interested in taking their top 10% and making the top 1% or beyond that's what we'll be offering high end, deeply immersive, high impact trainings. That's step 1. As we're doing that we're gathering data.

What happens with most academic research projects is a couple of fail points. One is they're limited in their sample size. They have to coax and cajole undergrads and dirt poor graduate students to come through 1 at a time, 10 at time, etc. Their sample sizes end up relatively small versus what could we do with large scale impacts. The other is they scrounge together their research money. They're usually doing it in some dank academic basement. Their tools and their technologies are really limited. They're probably put together with baling wire and duct tape.

Our sense is what happens if you up the sample size massively and you have thousands and tens of thousands of people coming through and capturing their data, and what happens if you create an absolute bespoke environment, one that is completely designed top to bottom to precipitate the very states and experiences that we believe are of interest. For us it's the flow state. Then can you create it in a modular way that lets users that lets us that lets other researchers shift and combine things in new variations. As we establish that dataset and seed the next generation of research, what's up with an i-Flow app? What the ability to scale this to basically the digitization of this such that it's like the Tricorder X Prize which was the prize to say who could build the single device that could diagnose illness as well as a panel of board physicians.

What's the i-flow tricorder? What is that handheld device? Likely a smartphone with minimal peripherals that lets you get into a flow state. It's not just about illness; it's about optimal wellness. For us it's the big data play on helping that. It's software play in being able to create the app. Then if we have unlocked the source code of human motivation, what are the implications? What are the implications for the health insurance company across a portfolio of aging baby boomers that never

like to floss their teeth or do their pushups but love to play? What's the opportunity in organizational training? What's the opportunity in education?

We're basically creating a vertically integrated incubator for optimum human performance by controlling the spaces and the places, by innovating the gear and the equipment, and gathering really rare and precise data to then convert to everything from neuro marketing to Wellness 2.0 to a scalable app and software programs that let people anywhere at any time do it. That's our progression, and the flow dojo is the crown jewel and the hub of that ecosystem.

Dave: ... opportunities here like different things you could do with this. You could go in all those different directions, but I look at Quantified Self. I've spoken at a couple of Quantified Self Conferences. I've been a fan. I did my first stick-on bio monitoring device company in 2003. I started working with a Kleiner Perkins backed company saying how do you get the data off of a heartrate monitor into the cloud and analyze it so you can look at risk? That's 12 years ago.

What's happened with Quantified Self is like all these disparate chunks of data, but like you said, sort of how many points did I get today. It hasn't really come together partly because the goal of what to do with all the data was sometimes missing. The goal is to quantify myself. Okay, now you've got like an extra filing cabinet full of records of yourself, but did you derive value from that? The answer if you used it to motivate yourself to exercise more, which isn't well correlated with looking good compared to eating well, you probably didn't achieve very much, but you felt good that you took 10,000 steps a day. It doesn't change anything. It does change knowledge of yourself.

The idea that we have all these things, say, from our friends at Advanced Brain Monitoring, ABM, they're gathering data about brain states. We're getting little pockets of academic knowledge. You guys are the first people I've seen who are looking to put it all together and not to make money as a Quantified Self data portal ... that business model has come and gone ... but you're looking to pull this stuff together as what do we do with it to create a state that is really valuable and then once we do

that, how do we spin other potential opportunities out from that. Opportunities that I don't think only you are going to leverage.

If this works the way I expect it will, when the knowledge gets out there, there will probably a hundred startups working at ways to take the course of knowledge that comes out from here and then to leverage it. Yeah, there might be neuro marketing people doing evil things. There might be people like a sociologist looking at ways to encourage behavior change that's positive for people using the same sort of knowledge. It's the sort of knowledge that missing today. You've just identified enough points, these extreme athletes and chess champions and everything else, to get a signal and then all of these bio signals on top of it.

It's a harder problem than the human genome problem I think because you're dealing with exposome, which a term that Wired Magazine published probably about 4 years ago. The exposome is the set of all the environmental inputs that we're exposed to throughout the course of our life. It's way bigger than your genome. Your genome you can copy. You can swab your cheek and get your genome, but you can't swab your cheek and get your flow genome. You have to look at your life. Then you have to look at the signals. You have to look at the neurochemistry and maybe even some harder to notice things like what are your intrinsic motivations or why are you doing this? Is there an active service involved here? Putting all that together into a big data system is like a nontrivial thing. I think it's going to take a little bit longer than until 2020 though. Isn't that a bit audacious?

Jamie: That is our big hairy and audacious goal for sure.

Steven: Dave, I've got to tell you a biophysical based flow detector, something that maps the psychology onto the neurobiology onto the physiology, which even when we were first putting this together 4 or 5 years ago sounded kind of crazy. Because networks and sensors are advancing exponentially 5 years later the technology is coming online a lot faster than we thought. ABM just came up with a pretty good group flow detector, and that was something I didn't think we'd see in our lifetime. They came up with a new idea around it and got some great results. The stuff is moving along very, very quickly. You know measuring

neurochemicals in the brain are going to be tricky. There are pain points along the way, but it does seem like when we start connecting enough of the data together and having a big enough sample size, we will get there a lot quicker than we think because that's what we've seen so far.

Jamie: Dave, even at the Bulletproof event we crowdsourced a bunch of our friends and colleagues folks in the cardiac measuring space, the neuro electric space, all across the realm of the best sensors we could get our hands on. Without even programming it, just by having the dojo we had this kind of crosspollination. Suddenly we realized oh, this sensor doesn't work well upside down or with a lot head movement, but this other one does. We can get clean data here, and there's an algorithm that lets us cross-reference it. Now we suddenly have cardiac data that's giving us an inferred correlation with is our prefrontal cortex active. You suddenly see the acceleration and innovation happening.

We just came back from an event where we co-created an event with Advanced Brain Monitoring for a major athletic company and their innovation team. The innovation team want to know how do we stay on the cutting edge of what's next in creativity. Just by having those 4 or 5 folks, companies and Den-tech folks together playing together we were starting to break down some of the silos. If we get to the place to your point, Dave, the Quantified Self data for data sakes means very little. George Dyson I think said we entered the area of big data when the cost of keeping it became less than the cost of making the decision, sort of big data by default.

Our intention is instead of just gathering data or metrics or converting them to half ass patent pending, fuel point ... I keep saying that. I shouldn't keep saying that, but you know what I mean ... corporately designed ersatz renditions, what we're trying to do is back it up from what you actually care about, which is I care about when I feel my best and I perform my best. Let's start with that. Let's have that be the metric, and everything else is just hidden inside. When you said it's a tall order and there's all ... I forget what your term. It wasn't exposome was it? What was the term?

Dave: It was exposome.

Jamie: Exposome. The flow dojo is built very much on Montessori education principles, which is the idea that a deliberately designed environment ... which takes a hell of a lot work, takes all the work you just described, but every user doesn't have to go through it themselves. Once that environment is done and the learner walks in, then their learning experience is effortless, and the teacher is invisible. It's experiential architecture that we're really excited to be playing. Because then done right then the learning is just effortless and inevitable, which it should be for a flow place.

Dave: I'm sad that we're up on the end of the show, but I'm happy that I got a chance to hang out with you guys again. I'm really excited to be backing the Flow Genome Project. If you're on AngelList and interested in this stuff, it's angle.co/flow-genome-project. You can find out more about this. I'm becoming a syndicated investor on AngelList. That means if you're on there and you like the deals that come across my desk, the ones that I've started backing in a relatively small personal way mostly to support entrepreneurs that I think are doing amazing things, there's an opportunity to do that including to support Flow Genome.

It's worth checking that out if that's the sort of thing that you're into. If not, watch what these guys are doing and check out their work. What is the URL that people should go to, Jamie, to learn more about the Flow Genome Project if they're not interested in the investment side on Angel?

Jamie: You're welcome to come check us out. Follow us on Facebook at Flow Genome. Check out our website, which is [flow\(F-L-O-W\)genome\(G-E-N-O-M-E\)project.com](http://flow(genome)(G-E-N-O-M-E)project.com). We're all over the place. We teach and train in different places in the real world. We also offer a digital training, 6-week self-paced flow fundamentals. Feel free to jump into that and just reach out. We are growing our community around the world of flow hackers. Our commitment is to create the largest citizens' science project in optimal well-being in history. We're at 6,000 data points. We need to get to 10,000 to crack that mark. Once we do, we want to be able to open source it to the world. Love to see you there.

- Dave: Right now is the time when I should be asking you what are your top 3 recommendations for kicking more ass, but I think I've already asked you guys that. What are the 3 easiest things people can do tomorrow to put themselves in a state of flow?
- Jamie: Steven.
- Steven: Thanks, Jamie. First thing you're going to need is a helicopter and a couple of elephants.
- Dave: Oh, good, I've got those.
- Steven: There are 70 different flow triggers that we've identified. These are preconditions that lead to more flow. All of them are things that drive attention into the moment. Anything that grabs and holds your attention deeply, go in that direction. You're liable to find flow there. The first thing maybe is go to the Flow Genome Project website and take our free flow profile, and it will tell you which direction in your life you're most likely to find flow. Step 1, that's my suggestion. Over to you, Jamie.
- Jamie: Good deal.
- Dave: Nice. There's no social pressure here. You just went into flow state when you did that, Steven.
- Steven: Yeah.
- Jamie: I think I had 2, but now I've only got 1. Such is the nature of adrenaline. I think the first one is breathe. Most of us forget to breathe and forget to breathe fully. Anytime you're finding yourself in a struggle situation or a tense or stressful situation, return to your breathing and good relaxed air exchange. The next would be novelty. Go do something new, something different, something that scares you just a little bit. Then potentially, lastly ... and Dave I know you're a huge advocate of this, which is nap, sleep. We do not get into flow when our batteries aren't charged. Pay just simple attention to your energy levels by recovering and sleeping deeply and cleanly.



Dave: Nice. Recharge those batteries. That's a good idea. Guys, thanks for coming on Bulletproof Radio again. I'm sure you'll be guests as you're doing other new stuff. I'm planning to have you guys on regularly because I believe in what you're doing. I think it's really important work, and there's a bunch of similarities between what you guys are building in the Flow Genome and what I'm putting in my backyard. The Bulletproof human hacking lab here is for me and my kids and a few of my clients who end up making it up here to Vancouver Island.

I need that novelty in my life in order to perform at the levels that I expect of myself and to do the things that I'm doing. To build novelty and to have a float tank, to have a zip-line ... which I'm putting a zip-line in my backyard and not a small one either. Why? Because those reasons you just talked about in your reason number 3. I think that the world needs a few more places where people can push their limits a little bit, and I'm looking to live in one of those places. I think that you're building it so it's accessible to people. I couldn't be more excited about backing you guys, and thanks for being on the show.

Jamie: Thanks, Dave.

Dave: If you enjoyed today's episode, you know what to do. Head on over to iTunes and say you like it. If you already did that, you could do it again. If you already did that, check out a new copy of The Bulletproof Diet book because if you haven't already bought The Bulletproof Diet book you're missing out because you can learn about how to recharge your batteries so you can be in a state of flow even better. If you already have The Bulletproof Diet book, it's totally a good idea to buy it and give it to your mom. That's what I did. Have an awesome day.

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