

The Flow Dojo

STEVEN KOTLER & JAMIE WHEAL · STEALING FIRE EXCERPT

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Across the board, we're seeing an explosion in technologies that provide more people with more access to ecstasis than before. We now have sports equipment that gives mere mortals the chance to cheat death and chase flow, sound systems that entrance and entrain hundreds of thousands of people at once, immersive art that transforms waking reality into an interactive dream state, and biohacking tools that steer us towards tech-enabled transcendence. Each of these breakthroughs makes stepping outside of ourselves, easier, safer, and more scalable than ever.

Despite these developments, there's still a lot of untapped potential. Part of the trouble is that all of these disciplines—sport, music, art and biotech—have distinct subcultures and favored applications. While it's fairly common to see a couple of these combined—music and visuals are an obvious pairing, as are athletics and wearable sensors—putting them all together into one deliberately designed experience isn't typically done.

But it can be. As powerful as these advancements are independently, when blended together, their impact is amplified considerably. It's why, over the past several years, we've been collaborating with some of the top experience designers, biohackers, and performance specialists to help develop the Flow Dojo— a training and research center explicitly designed to merge these technologies in one place. Equal parts Cirque du Soleil, X Games, and hands-on science museum, it's a learning lab dedicated to mapping the core building blocks of optimum performance.

In the fall of 2015, we had the opportunity to bring a prototype of the Dojo to Google's Silicon Valley headquarters and engage in a joint-learning project. For six weeks, a handpicked team of engineers, developers, and managers committed to a flow training program, and then capped that off with two weeks in a beta version of the training center.



Travis Brewer, American Ninja Warrior, on the looping swing at our pop-up Flow Dojo.

The premise was simple: if you train your body and brain, and manage your energy and attention, you'll be able to get into flow more frequently and perform better at work and at home. Each day, participants engaged in a range of activities, from sleep tracking, to diet and hydration, to functional movement (designed to undo the imbalances of deskbound lives), to brain entraining audio and respiration exercises. With just those

basic practices, subjects reported a 35–80 percent increase in incidents of flow during their workdays. The bigger surprise for the engineers was that they also experienced more flow at home, where family dynamics were frequently less rational and predictable than the algorithms they played with at work.

Once that foundation was in place, we got to the interesting part—the Dojo itself. In our research for *The Rise of Superman*, we had interviewed over more than two hundred professional and elite adventure athletes to figure out their secret to getting into flow so readily. Time after time, they told us it came down to two things: the right triggers and gravity.



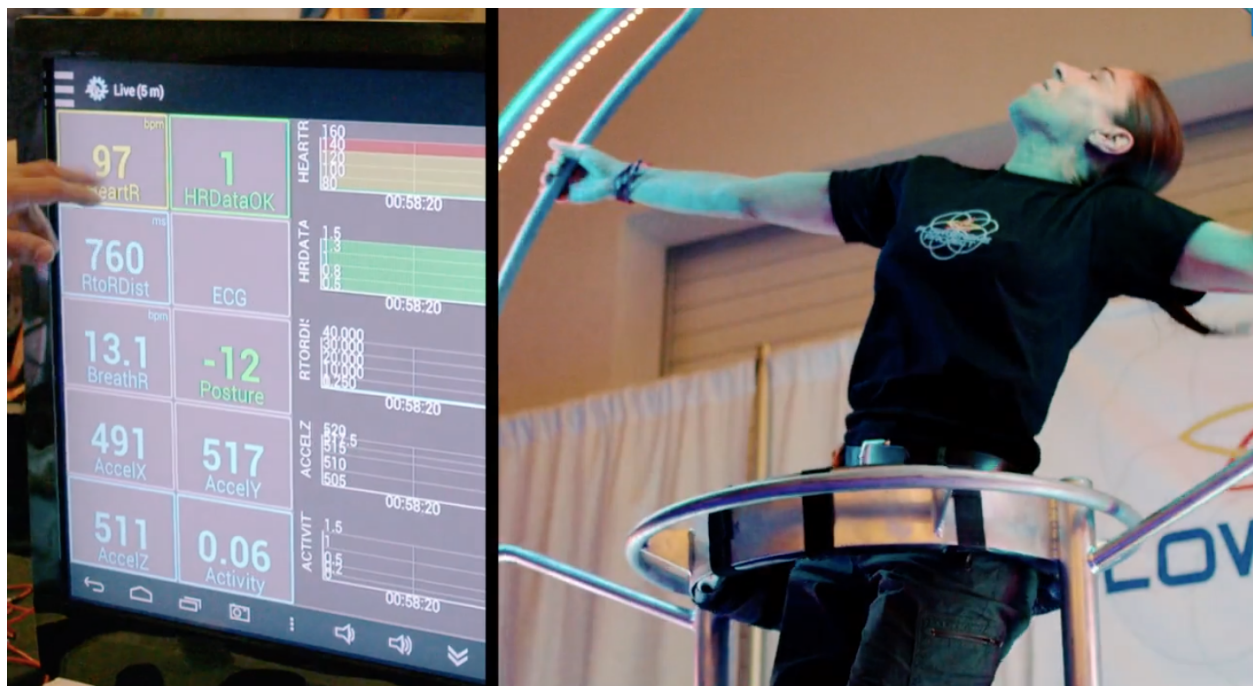
The LED and sound-responsive Gyroscope at the Bulletproof Biohacking Conference.

And that's where the team began the design of the Flow Dojo. Was it possible to use technology to simulate those conditions in a safer and more accessible way? Could we take a page out of Alan Metni's *iFly* book and re-create the embodiment, and consequences that the world's best flow hackers relied on, to give regular folks a taste of the state? By combining Tony Andrew's sound design, Android Jones' digital imagery and Mikey Siegel's brain tech, could we construct a novel and interactive environment?

If so, we could guide users into peak states, and researchers could capture invaluable data along the way. This would provide a unique opportunity to study the impact of wearables, experience design, and user biometrics, all in the same place. We could literally start reverse-engineering the genome of peak performance states.

So, we brought together a team of engineers to develop kinetic training gear that could deliver those experiences—think extreme playground equipment built for grown-ups. Giant looping swings that send you upside down and twenty feet off the ground, and pull more than three g's when you push through the arc's bottom. Momentum-powered gyroscopes and surf swings, complete with Doppler sound effects and LED cues, that let you flip, spin, and twist without risking a hospital visit.

The designers also integrated sensors and audio and visual feedback into the gear, so users get real-time data on physics (like g-force, RPM, and amplitude) and personalized biometrics (like EEG, HRV, and respiration). Taking that kind of data off smart watches



and laptops—and away from the conscious mental processing of the prefrontal cortex—gets users out of themselves and into the zone with less distraction.

Real-time data and personalized biometrics on the Gyroscope.

Even so, when Sergey Brin, one of Google's cofounders, stepped up to the looping swing, we were unsure how it was going to go. Sergey is an action sports enthusiast, pursuing everything from BASE jumping to kitesurfing. At the TED conference a few years ago, he also topped the leaderboard on an EEG mindfulness training demo. So, while he already had some experience in both the physical and mental elements of this training, he had never put the two together.

First, we hooked him up to a heart rate variability monitor to establish a cardiac baseline. Then he strapped into the kiteboard bindings and began pumping the looping swing higher and higher. Most people encounter two limits on this device. The first is when they reach the highest point they ever attained on a playground swing, typically about 50 degrees. If they can push past that last known safe zone, the next limit is actually when they're straight upside down and needing to drive their weight forward (against all better judgment when you're twenty feet off the ground) to push the swing through a full revolution.

Sergey pumped past both of those limits, looping the swing (only about 5 percent of subjects manage that feat on their first attempt), and then proceeded to stall the swing at its apex, and loop it blind and *backward*. When we compared his biofeedback data from his sessions to his baseline, he had lost coherence when he was initially exerting himself, but had regained an organized brain and heart rhythm once his body-knowledge figured out how to adapt and adjust. His only comment when he returned back to earth? "I want one in my backyard."

Brin's instinct to keep training these skills is supported by the data. Embodied cognition research shows that we become more flexible and resilient when we train our bodies and brains together, and in increasingly dynamic situations. It's why the SEALs say "you don't ever rise to the occasion, you sink to your level of training"²⁸ and then proceed to overtrain for every scenario possible. It's a more advanced corollary to Amy Cuddy's power-posing advice: Once you get the basics down, start upping the ante. Try remaining centered under more challenging conditions (like managing heart and brain activity while swinging upside down). If we want to train for stability in all conditions, the science suggests, it's essential to practice with instability first.

Later in their visit Google's other founder, Larry Page, gave one of Mikey Siegel's newest creations a try: a mix of 3-D surround sound and visual feedback designed to prompt connection between people. Sitting in an enclosed dome, he and his wife put on small backpack subwoofers (so they literally felt the bass through their bodies, not their ears). They then watched two digital flowers blossom and contract on the screen surrounding them. But there was a trick to the setup—Larry was feeling his wife's heart beat and watching his flower pulse to her heart's rhythms, and she was watching and feeling his. By deliberately crossing the feedback loops, the installation creates technologically mediated empathy, no talking required. So absorbing was the experience that when the nighttime sprinklers came on and accidentally sprayed them, they just assumed it was part of the simulation.

While the field of immersive experience design and training is in its infancy, early results, like this project at Google, suggest that by combining all of the advancements in technology (movement, sound, light, and sensors) with an embodied hands-on training program, you can trigger a range of nonordinary states with far more precision and with much less risk. In the past, to get a glimpse of “no-self,” it might have taken a high-risk wingsuit flight, a decade of monastic isolation, or a heroic (and possibly reckless) dosage of an unpredictable substance. Today, we can use innovations like the Flow Dojo to skillfully tweak and tune the knobs and levers of our bodies and brains and get similar breakthroughs with a fraction of the breakdowns.

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