



LOGLINE

An immersive trip across time and space.

TRAILER

<https://vimeo.com/drBoulton/cosmictrailer>

DIRECTOR

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SYNOPSIS

Cosmic•Atomic synchronizes the short film Powers of Ten with its ancestors/descendants, placing the viewer within a 360 degree kaleidoscopic ring of mirrored ascent/descent. The journey begins in the Netherlands with Kees Boeke's Cosmic View: The Universe in 40 Jumps, a 1957 book exploring outer space and our inner selves through orders of magnitude. It then takes us, in turn, to Miami for Charles and Ray Eames' 1968 "rough sketch" film adaption of Boeke's book, to Montreal in that same year for the National Film Board's Cosmic Zoom version, to Chicago in 1977 for Powers of Ten, the Eames team's final draft commissioned by IBM, to Venice in 1996 for the IMAX remake Cosmic Voyage, to the Googleplex for the 2012 Cosmic Eye smartphone app, and, finally, to the Adler Planetarium for the European Southern Observatory's 2016 "Blueprints of the Universe." It's been said that Charles Eames hoped Powers of Ten would give ten-year-olds a "gut feeling" of the dimensions of scale by taking them on an interstellar zoom of ever-increasing speed and expanding perspective before plummeting them all the way back down to a single proton. Cosmic•Atomic compresses the sixty years of scientific imagination that preceded/ followed Eames' vision and invites you to feel them all at once.

VIEWING OPTIONS

Cosmic•Atomic is best experienced on a headset while seated on a chair that swivels, but, if viewed on a computer, arrow keys can provide smooth rotation. Available (through private links) in 4K: <https://vimeo.com/dr Boulton/cosmic4K>, 5.7K <https://vimeo.com/dr Boulton/cosmic5k>, 8K: <https://vimeo.com/dr Boulton/cosmic8K>, and Google Cardboard on YouTube: <https://www.youtube.com/watch?v=0Ei-OOhTDK4>

DIRECTOR SHORT BIO

Dr. Boulton has produced for Mister Rogers' Neighborhood, Discovery Channel, Travel Channel, and Court TV. His films on sports, science, dance, and memory have screened at over ninety venues all over the world and have won awards from Orlando, DocsMX, Thomas Edison, Sunscreen, CineGlobe, and Melbourne Documentary film festivals.

DIRECTOR LONG BIO

As a scholar-filmmaker, my creative work asks critical questions about identity, inequality, and memory. *Life After Life* (2018), a feature-length documentary about physically integrated dance, challenges stereotypes around race, age, and ability. *Every Body Dances* (2020) extends the accessibility of that project by adding captions and audio description for the hearing and visually-impaired. *Salvage* (2020), an experimental film about power, aesthetics, and the consequences of taste, revives old objects to critique consumer capitalism's historic asymmetries of gender, ethnicity, and class. And *Cosmic•Atomic* (2022) is a 360 video remake of my short film *Power Trip* (2018), an immersive journey across space and time compressing 60 years of scientific imagination. My work has screened at over 90 film festivals all over the world and won Best Video Essay at the Orlando Film Festival, Special Mention at DocsMX in Mexico City, a Director's Choice Award from the Thomas Edison Film Festival, Best Short Documentary at the Sunscreen Film Festival, Best VR Interactive Documentary at the Melbourne Documentary Film Festival, Best Immersive (Jury and Audience) at CineGlobe in Geneva, and was published in the *Hyperrhiz Journal of New Media Cultures* and the *[in]Transition Journal of Videographic Film & Moving Image Studies*.

"MAKING OF" STATEMENT (video version: <https://vimeo.com/dr Boulton/cosmic-b-t-s>)

Cosmic•Atomic was a long time in the making. It began in 2017 as Pop Science Cinema, a conference presentation where I analyzed Powers of Ten as it played behind me in real time. And then, similar to how Charles and Ray Eames took nine years to refine their black and white "Rough Sketch" into the full color Powers of Ten, I revised my presentation by removing the voice-over and synchronizing the Eames' source material and remakes. I even animated still images from the book that started it all. I called this version *Power Trip* and released it as a short film in 2019.

Two years later, I began adapting the film for VR in the hopes that the new technology could help recapture the initial awe and wonder people felt when they saw Powers of Ten for the first time. My original concept was to use the six sources to create a virtual box inside of a VR headset, like a camera obscura, so the viewer would feel the walls, floor, and ceiling pulling away all around them. But, when I tried it, the result felt claustrophobic. The screens were too close. So, in order to push them back to a more comfortable viewing distance, I developed a ring concept and doubled the screens so each had its mirror opposite at 180 degrees. In sum, *Cosmic•Atomic* is a remake of a remake of many remakes.

DIRECTOR'S STATEMENT

I made Cosmic•Atomic as an artistic response to the startling rise of anti-intellectual or “post-truth” populism in the United States and around the world. In the face of widespread climate change denial and vaccine conspiracy theories, I wanted to find a new way to defend the scientific method against the kinds of cynical disinformation campaigns so successfully peddled on social and traditional media by opportunistic grifters, corporations, and politicians. Clearly, when it comes to winning the “war on science,” it isn’t enough to simply have the facts on your side; most of us make meaning through stories. So, I started with my own.

My dad was a minister with a PhD in theology. He loved God and respected science and raised me to value both religion and education. These two strands came together while I was attending a Christian men’s conference during a break from graduate school. Sitting in a dark arena, surrounded by thousands of people, I encountered Powers of Ten for the first time. With our eyes all looking up at the same glowing screen, the film pulled us out into the stupendously large and then back down towards the infinitely small. Along the way, my mind boggled as the vast expanse of outer space mirrored the incomprehensible depth of our innermost selves. As a Christian, it was deeply thrilling and profoundly humbling, stretching the capacity of my mind and spilling over into awe, wonder, and reverence. But when one of the speaker’s came on stage and praised the film’s majestic enormity and exquisite detail as evidence of intelligent design, the scholar in me bristled at how a film based on empirical data could be so easily converted into a propaganda tool for creationist pseudoscience.

Like my father before me, I am now a professor. Only my field is communication and, as such, I’m painfully aware of how the academy often resists translating our theoretical and technical lexicons into more accessible and compelling stories capable of reaching and persuading broader audiences. All too often, our expertise circulates only amongst ourselves, keeping valuable knowledge wonky and obscure. For instance, while studies have repeatedly shown that around 97% of climate scientists agree that human behavior is driving climate change, the Pew Research Center recently found that only 27% of Americans are aware of this overwhelming consensus. This ignorance is exacerbated by counterfactual “controversies” manufactured by the fossil fuel industry to confuse the public and stymie any policy reforms that could hurt their bottom line. It’s also the product of a sustained (and largely successful) effort to fuse conservative faith and politics: if God is in control of a world that is intelligently designed, then the environment is self-correcting regardless of human behavior. Of course, climate scientists would beg to differ, but their increasingly urgent messages are still having trouble getting through. Which is why we need more artists telling science stories that compel and persuade audiences through creativity, meaning, and emotion. And the stakes are only getting higher.

Alarmed by anti-science sentiment, I made Cosmic•Atomic as a nostalgic love letter to the past in pursuit of a more #OpenScience future. I wanted the experience to remind people of what it felt like to see themselves and their place in the Universe for the very first time, whether in a library, a classroom, or an IMAX theater. Cosmic•Atomic is a living archive of our collective history of inquiry and exploration, an accessible demonstration of the iterative nature of knowledge creation, and a call for more personal and subjective defenses of the scientific method. It syncs together Powers of Ten’s sources and imitators, collapses their chronology, and juxtaposes their soundtracks to create an immersive and emotional experience of scientific storytelling that uses emerging technology to reboot those initial thrills of discovery. In these turbulent times, as we enter the Webb Space Telescope era, I hope, beyond hope, that Cosmic•Atomic can help inspire new ways of looking up at the sky and down to earth.