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Why Care About the Higgs Boson? 'Cause We Love Movies

Adam Leipzig · Thursday, July 12th, 2012

The Higgs boson and movies have a lot in common: most people wonder if they're relevant.
I'll reveal my geeky side, and explain why the Higgs boson matters, why the scientists at CERN wept with joy. And I'll explain it in fewer than 200 words… about as many words as *The Amazing Spider-Man* takes to explain why a spider bite gives Peter Parker superpowers.

Science guesses at how things work, then tries to prove them. Physicists have been guessing that the universe operates according to the "Standard Model," which describes energy and mass. Einstein taught us that energy and mass are the same. Until now, there has been a lot of proof about energy – and energy is something we can see, it's practical: it's the electricity powering your laptop screen, and the light bouncing off it so you can read these words.

Mass is different

But mass…mass is different. There hasn't been as much proof on the mass side. Most mass in the universe hides; it's so-called "dark matter," matter that we haven't been able to measure, but matter that must be there, because something's got to be holding the universe together. All this mass is called the Higgs field (named for Professor Peter Higgs), and if the Higgs field could be proved, it would explain why matter has mass.

Think of the Higgs field as a kind of invisible glue that fills the universe. When particles interact with the Higgs field, they get mass – the stronger their interaction, the more they get stuck in the "glue," the more mass they have.

So proving the Higgs boson exists proves that dark matter really can be out there, even though we can't really measure it yet. It means the universe has glue.

Movies and physics have always had a lot in common. The movie projector was invented in 1896; the electron was identified in 1897. Movies are all about photons and electrons. English filmmaker John Boorman once said "Movies turn money into light."

Dark matter of movies

Still something lurks. I call it the dark matter of movies. As movie attendance continues to fall every year, we have to ask: Do movies matter anymore? Or to put it another way – is there something, some kind of glue, which holds the movie-going experience together?

Relevance is the gnawing fear that permeates Hollywood today. One studio topper told me, "This is a dinosaur business, but I'm going to ride it all the way to the Tar Pits."

Do movies matter? Sure they do, in the abstract sense, just as any culture expression matters. But do they *really* matter to us? To you and me, personally?

Less and less so, I believe.

Movies may turn out to be a temporary phenomenon, lasting perhaps 150 years. This is actually

what many in Hollywood fear – studio executives especially. They look at the numbers, the declining attendance rates, the way movies don't appeal to 18-24 year olds the way they used to. Yet these same executives aren't fired up with real R&D entrepreneurialism. They aren't moving with innovation to make and distribute movies for all kinds of audiences, especially niche audiences, and especially for loyal, movie-loving Baby Boomers, who, in their passing, may take the Age of Cinema with them.

They aren't looking to find the dark matter that binds it all together, for the Higgs boson of cinema, for the proof there's something deeper and more permanent in the work. They're content to make their movies one at a time, anecdotally, focusing only on the project at hand instead of the bigger picture.

A movie boson?

Most filmmakers, on the other hand, would agree that there is dark matter in the cinema. Humans love extended narratives. We look at our lives that way. We have a need for long storytelling, for stories that that take a couple of immersive hours to experience.

The challenge for the movie business today: Will it be capable of finding its own Higgs boson, its own proof of its own mass? Hollywood desperately needs its own CERN-like research project – a project that would pour money into the filmmaking innovators and deep thinkers to reinvent the movie business and its relevance for audiences.

Physicists have now confirmed that dark matter is out there. The stories we watch in the dark matter, too. *Tweet this.*

Image: An example of simulated data modeled for the CMS particle detector on the Large Hadron Collider (LHC) at CERN. Here, following a collision of two protons, a Higgs boson is produced which decays into two jets of hadrons and two electrons. Source: Wikimedia Commons

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